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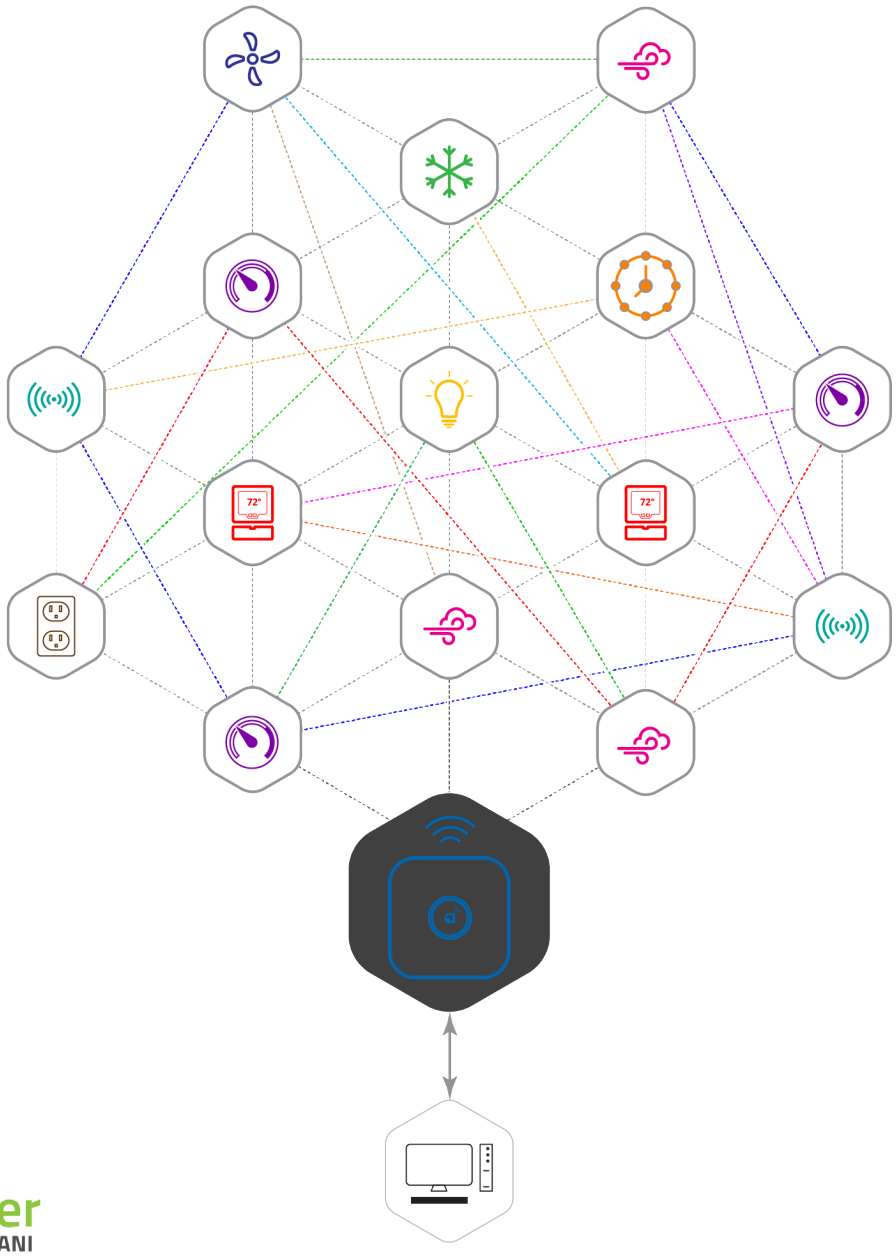
autani
building controls

User Guide

EnergyCenter®

Tasks Common to all Applications (Zigbee)



EnergyCenter BY AUTANI

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1. EnergyCenter® Module Overview

1.1. Understanding EnergyCenter®

Autani's Integrated Energy Management System includes both hardware and software. It combines key areas of energy management into an integrated, demand response ready system with wireless communication.

EnergyCenter® is the software that runs on the Autani Manager appliance. EnergyCenter® modules can be deployed individually, as a combination of modules, or as a fully integrated application.

EnergyCenter® software can be used to:

- Control heating and cooling, lights and lighting levels, fans, sensors, meters, load, and controllers.
- Monitor or calculate the amount of energy used by various devices or systems during a particular shift, day, or other time frame.
- Analyze trends in energy use.
- Calculate the cost and carbon footprint of energy consumed.
- Determine modifications that could be made to ensure optimal energy usage

1.2. Understanding EnergyCenter® Software Modules

Autani's energy management products can be deployed individually, as a combination of products, or in a fully integrated system. A completely integrated energy management system includes all the Autani products and corresponding EnergyCenter® software modules listed in the table below.

All EnergyCenter® modules can be accessed locally or remotely via the Web.

Table 1: Products and Related EnergyCenter® Modules

Standalone Product	EnergyCenter® Software Module	Used To
HVAC	HVAC Management Module	Program, monitor, and control thermostats and temperatures based on occupancy, schedules, and events
Lights	Light Management Module	Program, monitor, and control lighting based on occupancy, schedules, events, and natural lighting
Fans	Fan Management Module	Configure, program, monitor, and control fans from a central location based on occupancy, schedules, and events
Meters	Meter Management Module	Manage meters, track demand and energy consumption, and analyze reported raw data
PLUS	▪ Plug Management Module ▪ Load Management Module	Based on occupancy, schedules, and events: ▪ Control Autani SmartLets and the electrical devices plugged into them ▪ Control Autani load controllers and the devices wired into them.
Any single product or combination of products	Access Manager	Access and monitor multiple Autani Managers, software modules, and system devices.
Any single product or combination of product	Portfolio Manager	Access, monitor, and control multiple Autani Managers, software modules, and system devices.

1.3. Understanding EnergyCenter® Setup Tasks

A number of common tasks are required to set up the application. Other steps are recommended to facilitate setup and management of devices. See the following table for both required and recommended set up tasks.

NOTE: These steps are normally completed by the technician during system installation.

Table 1: Products and Related EnergyCenter® Modules

Task	Description	Reference/Link
Complete hardware setup tasks	▪ Install the Autani Manager ▪ If needed and appropriate: □ Install devices □ Install relay controllers/gateways □ Install sensors □ Connect Autani load controllers	Installation instructions for the device

Table 2: EnergyCenter® Setup Tasks

Task	Description	Reference/Link
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 ▪ Selecting temperature unit of measurement ▪ Entering utility billing rates for electricity and/or natural gas ▪ If appropriate, selecting meters as a source of energy consumption data	*Modifying Settings*
Create groups of devices	Group devices together by location or other logical characteristics Assign schedules, overrides, and curtailments to multiple devices quickly	*Creating a* Device Group
Create custom schedules with events	▪ Schedule changes to device settings, such as when to: □ Raise or lower the temperature □ Turn lights ON and OFF ▪ Create exceptions to settings based on: □ Schedule (overrides) □ Circumstances (curtailments)	*Using Schedules, Overrides, and Curtailments*
Create alerts	▪ Specify email recipients to receive alert messages ▪ Define alert triggers	*Defining and Monitoring Alerts*
Get Help	PDFs of EnergyCenter® User Guide modules **NOTE**: Updated versions may be available at www.autani.com.	*Accessing Device* Inventories

1.4. Controlling Devices

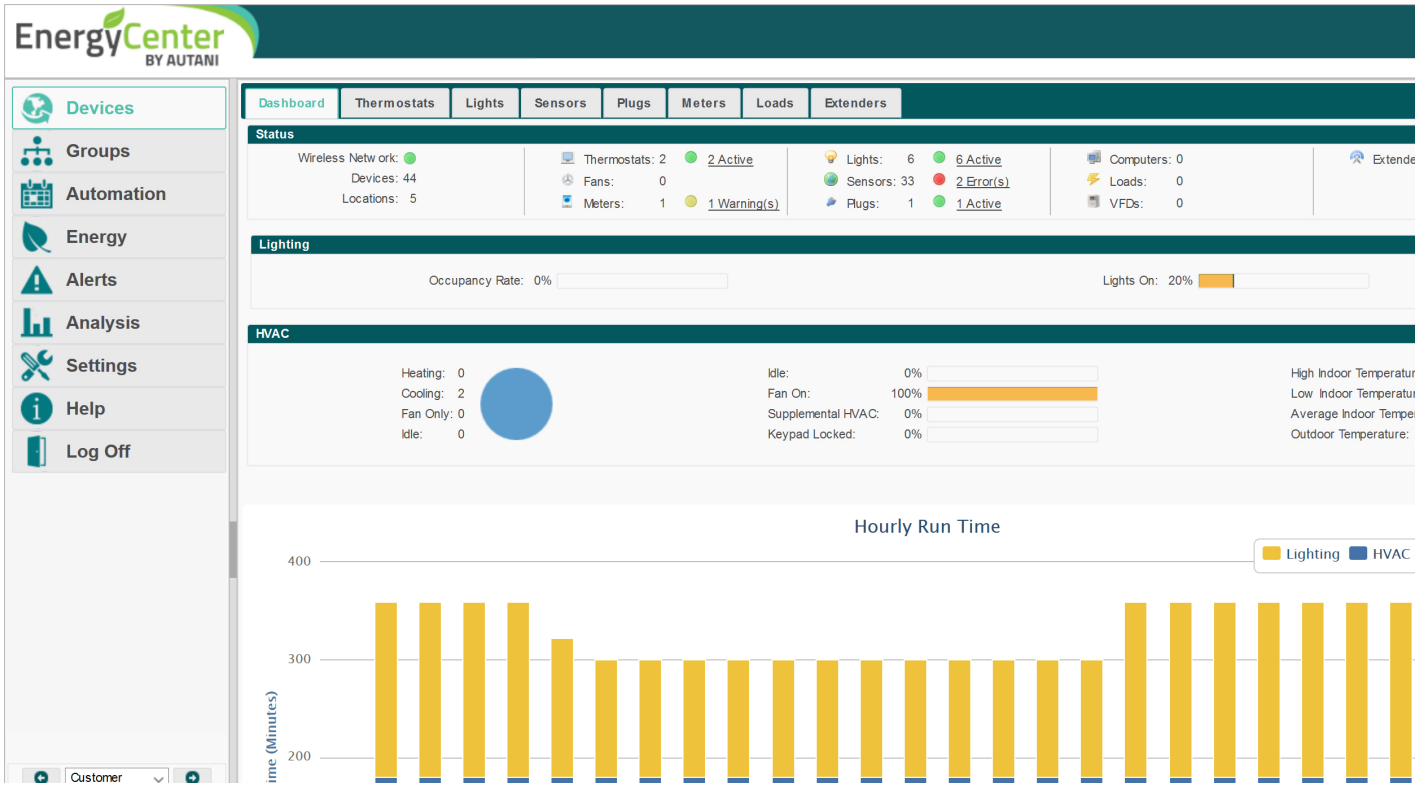
EnergyCenter® and its software modules use a wireless network to monitor and manage multiple systems, including heating and cooling systems, lights and lighting levels, fans, Autani SmartLets, meters, load controllers, and the energy they consume. If network connections are lost, the system continues to control devices and can be managed locally.

Occupancy sensors can be used to determine whether or not there is activity in a space. If sensors are not a part of the system:

- Devices can be operated either manually or by using on-demand application settings.
- Occupancy can be defined by using the application to create schedules.

1.5. Finding Information

1.5.1. Using the EnergyCenter®, Site Map



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

NOTE: To view a list of the tabs that appear when a device selection is made, refer to the User Guide module for that device type.

Table 4: Site Map for Entering Data or Selecting Options

Devices	Automation	Settings
▪ Dashboard ▪ Thermostats ▪ Fans ▪ Lights ▪ Sensors ▪ Plugs ▪ Meters ▪ Loads ▪ Extenders	▪ 24/7 Schedules □ Thermostats □ Lights □ Fans □ Plugs □ Loads ▪ Calendar ▪ Advanced	▪ Customer Information ▪ Contractor ▪ System ▪ Data Maintenance ▪ Energy ▪ Security ▪ Device Setup

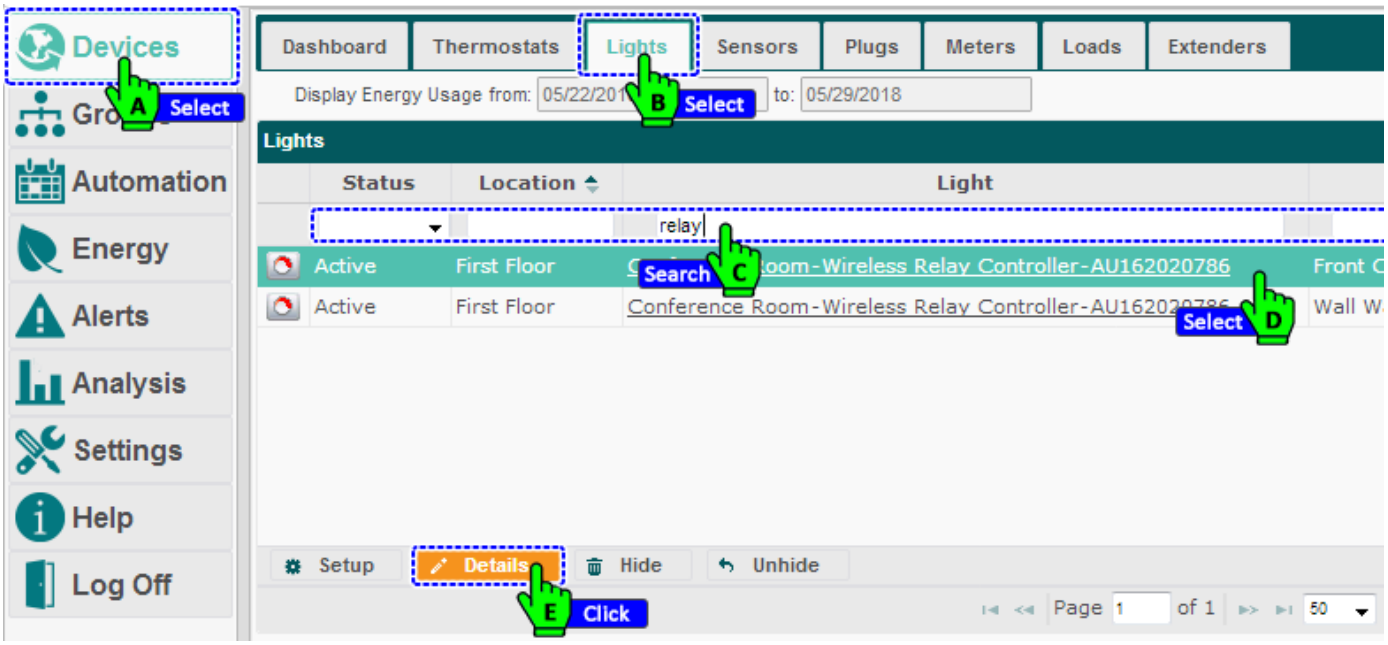
Table 5: Site Map for Viewing Data or Information

Groups	Energy	Alerts	Analysis > Reports	Help
▪ Groups list ▪ System views	▪ Data display ▪ Chart	▪ Recent Alerts ▪ Alert Setup	▪ Analysis: Consumption Comparison ▪ Energy Consumption: Billing Report ▪ Energy Consumption: Usage History ▪ Lighting Analysis: Energy and Cost Savings - Detailed by Day ▪ Run Time Report: Lighting ▪ Lighting Analysis: Energy and Cost Savings - Detailed by Light ▪ Digital Meters: Raw Data Report ▪ Run Time Report: Thermostat Relays ▪ Devices: Device Inventory ▪ Devices: Detailed Device Inventory ▪ Plugs: Consumption by Day / Hour ▪ Sensors: Monitoring, Report	▪ User Guide: ▫ Tasks Common to All Applications (Zigbee) ▫ PRO - Custom Scripting ▫ HVAC Management ▫ Lighting Management (Bluetooth) ▫ Lighting Management (Zigbee) ▫ Meter Management ▫ Fan Management ▫ PLUS Module: ○ Plug Management ○ Load Management ▪ About

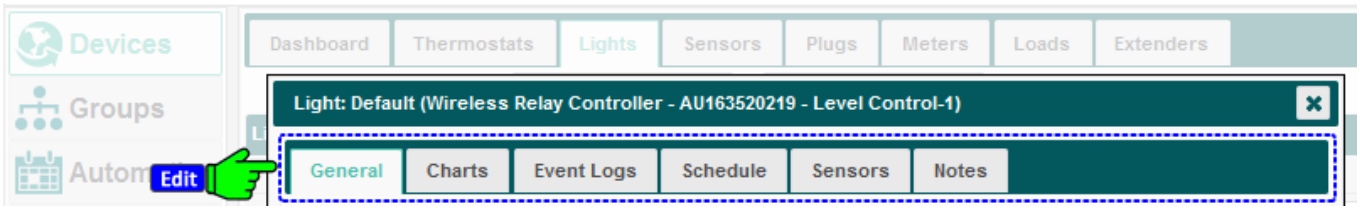
1.5.2. Using the Device, Site Map

To access available device data:

1. On the left navigation bar, click **Devices**.
2. Click a **device** tab.
3. To access additional data, click the device name link, **double-click** the row of the device, or click the row of the device and then click the **Details** button.



The **Details** screen appears with General tab selected. Modify the settings as needed across the tabs.



NOTE: These instructions are generic. For more information click **Help** section on the left navigation bar and select the User Guide specific to the device.

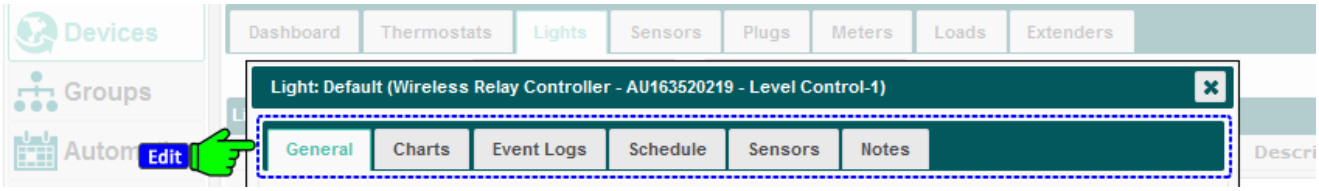
The table below indicates the additional tabs that are available per device.

Table 6: Site Map of Tabs for Individual Devices

Device	General	Charts	Event Logs	Consumption	Schedule	Sensors	Notes
Thermostats	x	x	x	NA	x	x	x
Fans	x	x	x	NA	x	NA	x
Lights	x	x	x	NA	x	x	x
Sensors	x	x	x	NA	NA	NA	x
Plugs (Autani SmartLets)	x	x	x	NA	x	x	x
Meters	x	NA	NA	x	NA	NA	x
Loads (Autani load controllers)	x	x	x	NA	x	x	x
Extenders (Gateway's)	x	NA	NA	NA	NA	NA	x

Device	General	Readings	Voltage	Power Factor	Frequency	Current	Demand	Consumption	Notes
Meters	x	x	x	x	x	x	x	x	x

1.5.3. Using Common Device Tabs and Settings



The following table summarizes the common data found similar tabs per device. For more information:

- See the EnergyCenter® User Guide module for specific settings per device.
- Click the link in the table for general information contained in this module for 'Tasks Common to All Applications (Zigbee)'.

Table 7: Common Device Tabs

Tab	Common Settings/Data	Device-Specific Settings/Data	Link
General	▪ Device name ▪ Description (endpoint name) ▪ Location ▪ Current Status data applicable to device type	▪ Thermostat Current Setpoints and Filter Maintenance data ▪ Fan speed and direction settings ▪ Lighting settings ▪ Sensors: occupancy, Illuminance, contact, temperature data ▪ Plugs: Change State, Usage today ▪ Meters Usage Today data ▪ Loads (Autani 6Pack controllers) Change State (mode) setting ▪ Extenders (Gateways): Current status.	*Changing Name, Description, and Location Settings* *Change Device Settings*

Tab	Common Settings/Data	Device-Specific Settings/Data	Link
Charts	▪ Start Date ▪ End Date ▪ Chart of device/endpoint transition changes	NA	*Changing Device and Group Status Screen*
Event Logs	▪ Start Date ▪ End Date ▪ Recent Events listing	NA	*Using Event Logs*
Consumption	Energy consumption charts	NA	*Using Energy Consumption Data*
Schedule	▪ Schedule name ▪ Description ▪ Disable checkbox ▪ Events per schedule	NA	*Using Schedules, Overrides, and Curtailments*
Sensors	Checkboxes to indicate sensors to be used to report occupancy-related motion data	NA	*Using Occupancy-Related Data to Determine Device Behavior*

1.5.4. Using the Left Navigation Bar

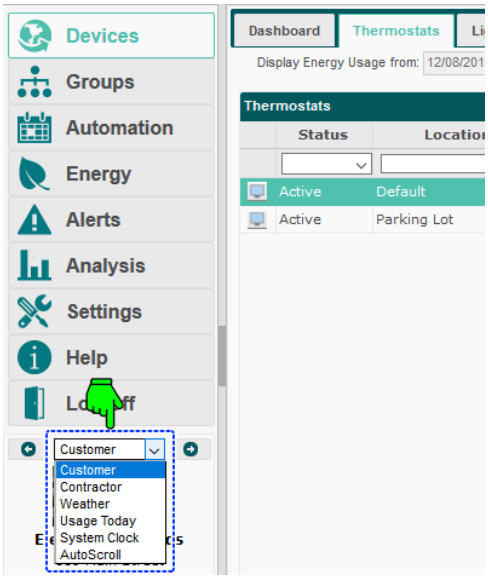
EnergyCenter® is a web-based management tool designed to make it easy to manage device options, schedule events, and monitor energy consumption.

To access data or enter information, use the commands on the left navigation bar. To view a site map for EnergyCenter®, see *Using the EnergyCenter®, Site* Map.

NOTE: To view a device-specific site map, see the documentation for the corresponding EnergyCenter® User Guide module.

Under the left navigation bar is a drop-down list with the following options about the system and energy consumption for the day:

- Customer Information
- Contractor Information
- Current Weather Conditions
- Usage Today
- System Clock
- AutoScroll



1.5.5. Enabling the System Dashboard

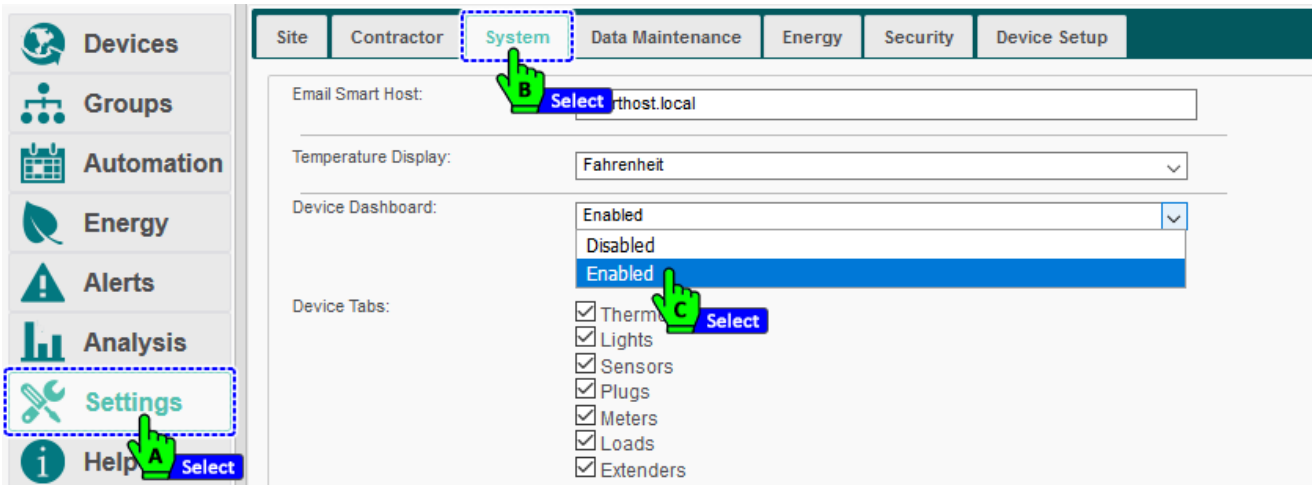
The *EnergyCenter®* dashboard provides summary information about the condition of the system including:

- The type and number of devices in the system
- The status of devices
- Details about lighting and HVAC performance, if those devices are a part of the integrated system
- A chart displaying run time data for the last 24 hours for lighting, heating/cooling, fans, and/or loads depending on the devices in the system

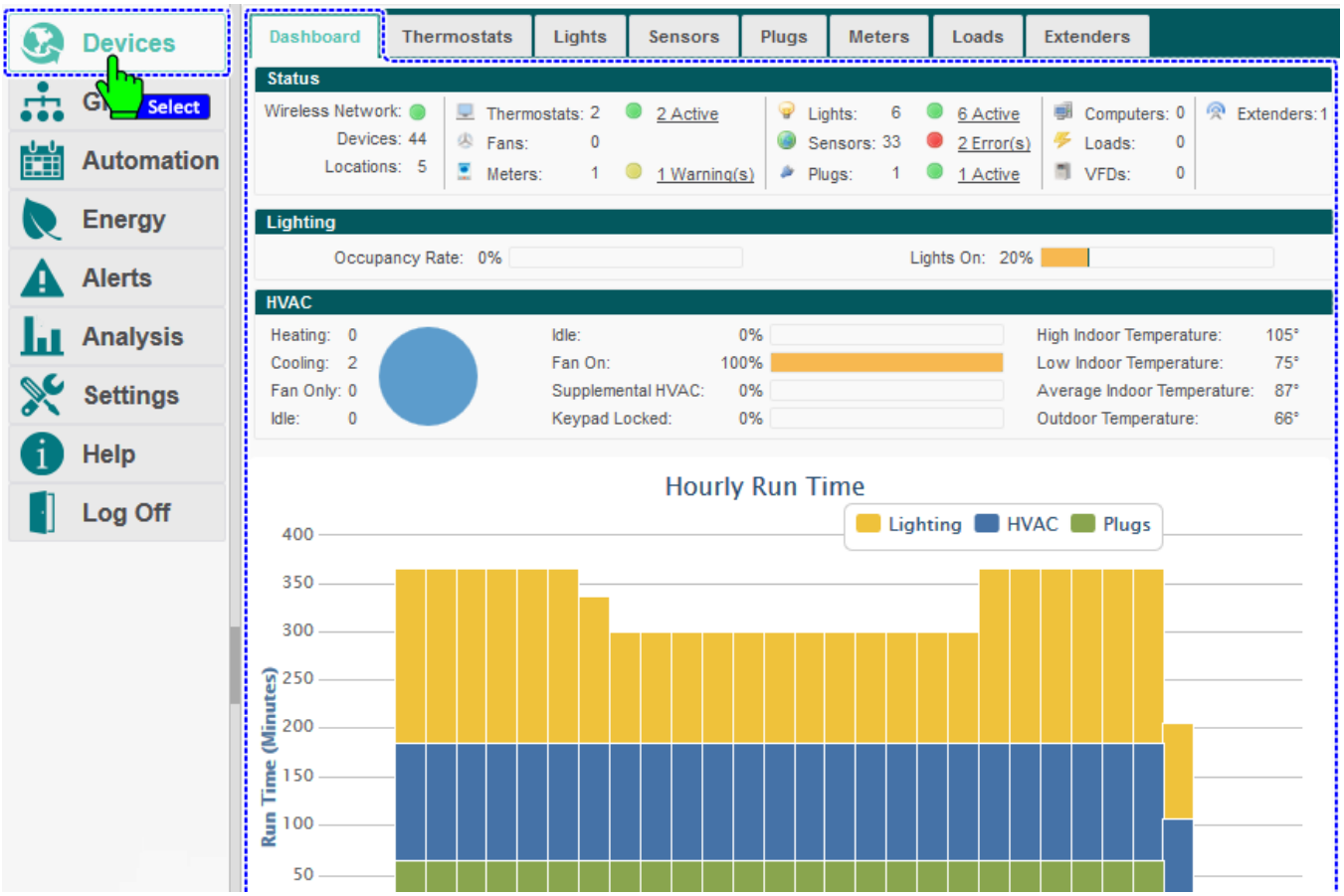
NOTE: Devices that have been hidden from the graphical user interface are not included in the dashboard.

To enable the system Dashboard:

1. On the left navigation bar click **Settings**. Click the **System** tab.
2. Select **Enabled** from the Device Dashboard drop-down list and Click **Save**.



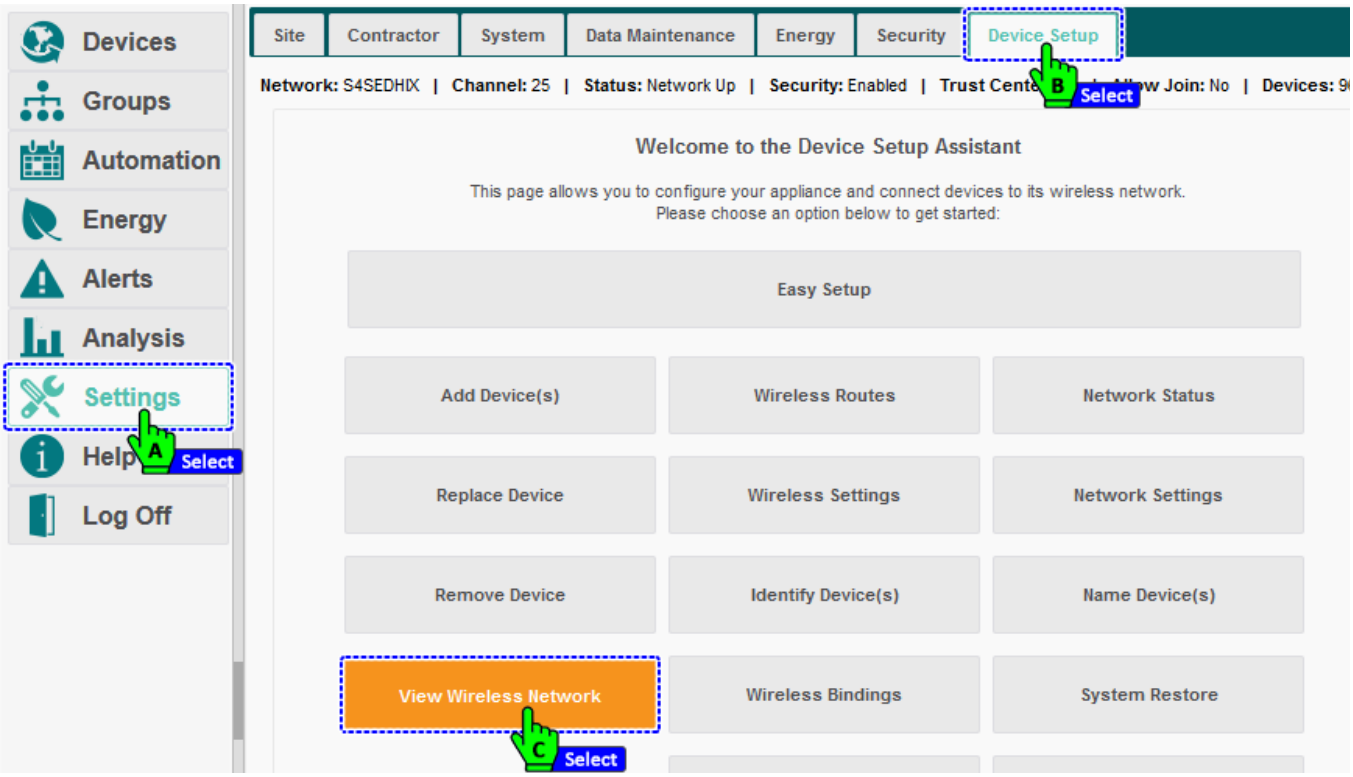
3. To view the Dashboard, click the **Devices** tab on the left navigation bar.



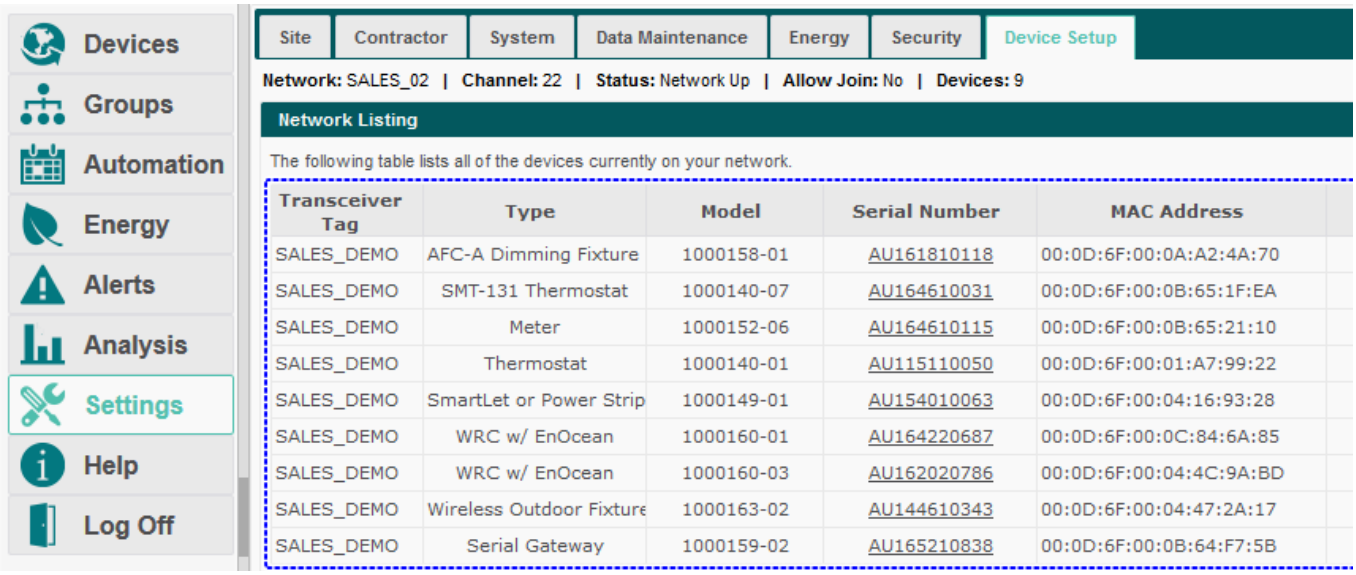
1.5.6. Accessing Device Inventories

To view a list of devices on the network:

1. On the left navigation bar, click **Settings**.
2. Click the **Device Setup** tab. Click **View Wireless Network**.



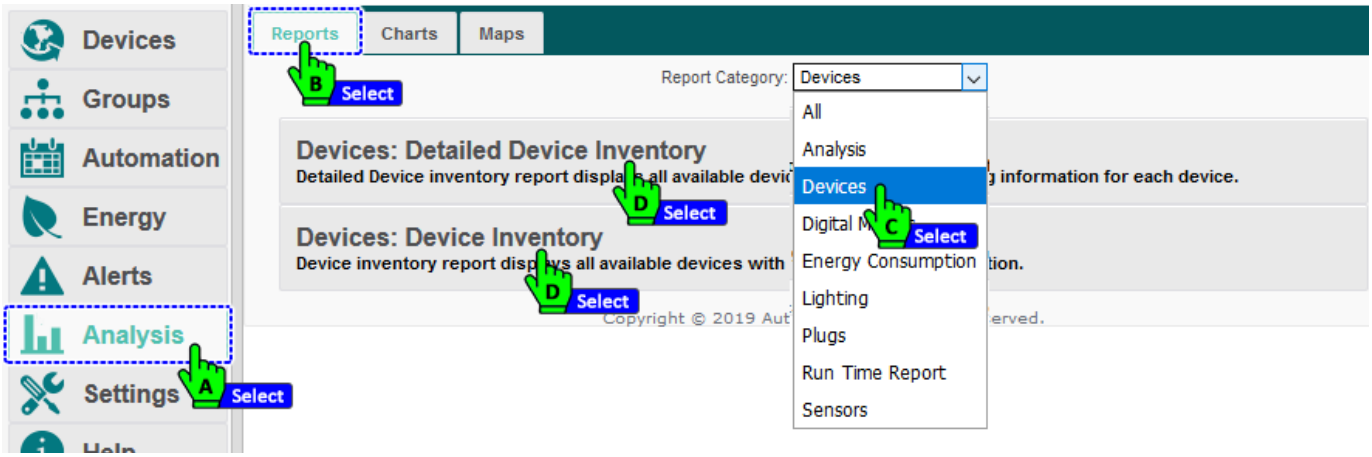
3. Lists all the devices currently on network.



Transceiver Tag	Type	Model	Serial Number	MAC Address
SALES_DEMO	AFC-A Dimming Fixture	1000158-01	AU161810118	00:0D:6F:00:0A:A2:4A:70
SALES_DEMO	SMT-131 Thermostat	1000140-07	AU164610031	00:0D:6F:00:0B:65:1F:EA
SALES_DEMO	Meter	1000152-06	AU164610115	00:0D:6F:00:0B:65:21:10
SALES_DEMO	Thermostat	1000140-01	AU115110050	00:0D:6F:00:01:A7:99:22
SALES_DEMO	SmartLet or Power Strip	1000149-01	AU154010063	00:0D:6F:00:04:16:93:28
SALES_DEMO	WRC w/ EnOcean	1000160-01	AU164220687	00:0D:6F:00:0C:84:6A:85
SALES_DEMO	WRC w/ EnOcean	1000160-03	AU162020786	00:0D:6F:00:04:4C:9A:BD
SALES_DEMO	Wireless Outdoor Fixture	1000163-02	AU144610343	00:0D:6F:00:04:47:2A:17
SALES_DEMO	Serial Gateway	1000159-02	AU165210838	00:0D:6F:00:0B:64:F7:5B

To access detailed device inventory information:

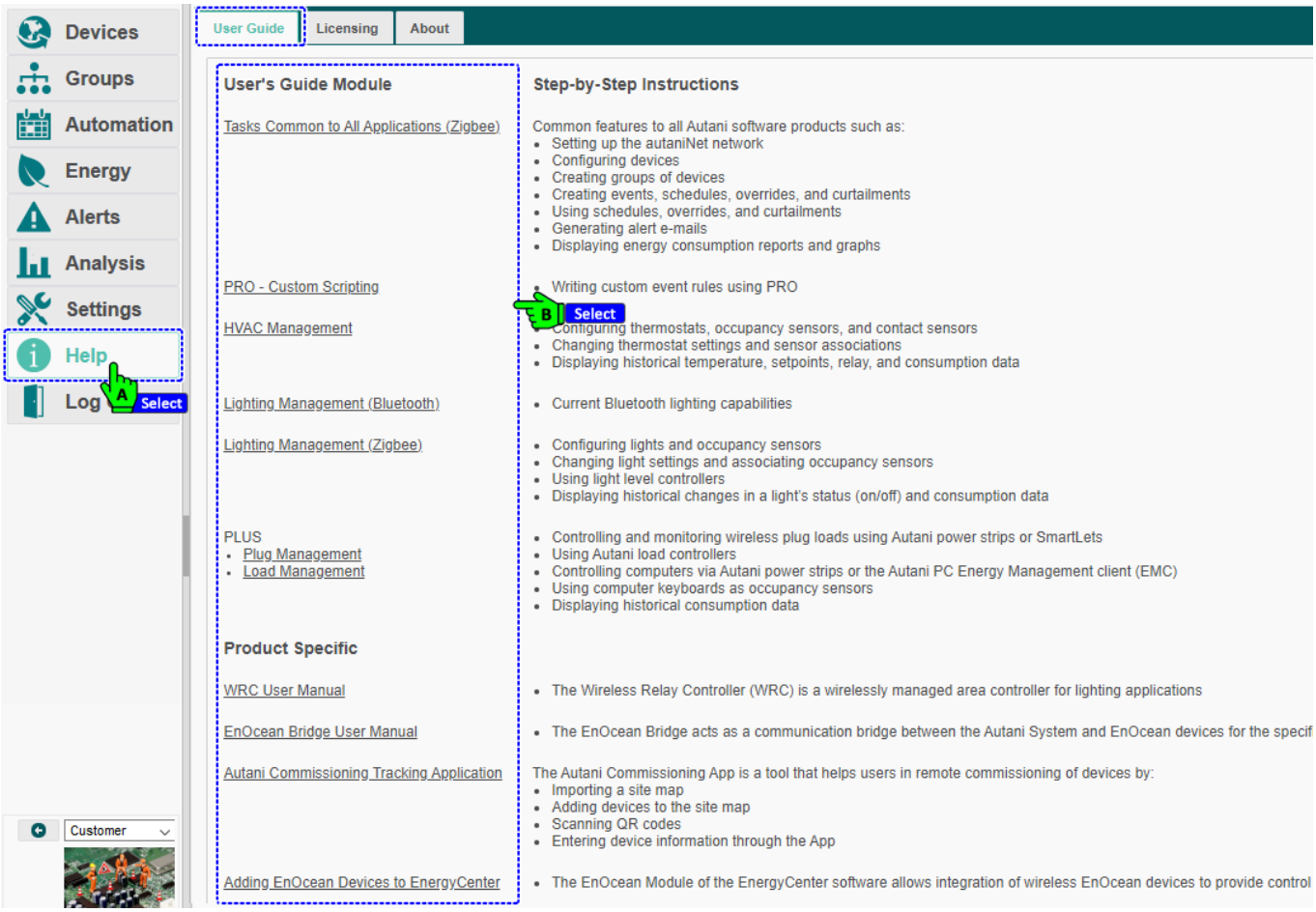
1. On the left navigation bar, click **Analysis**. Click the **Reports** tab.
2. Select **Devices** from the **Report Category** drop-down list.
3. Choose either **Detailed Device Inventory** or **Device Inventory** links to see the respective report.
   For more information, see *Using Device Inventory Reports*.



1.5.7. Accessing EnergyCenter® Documentation (Help)

To access the documentation for EnergyCenter® software modules:

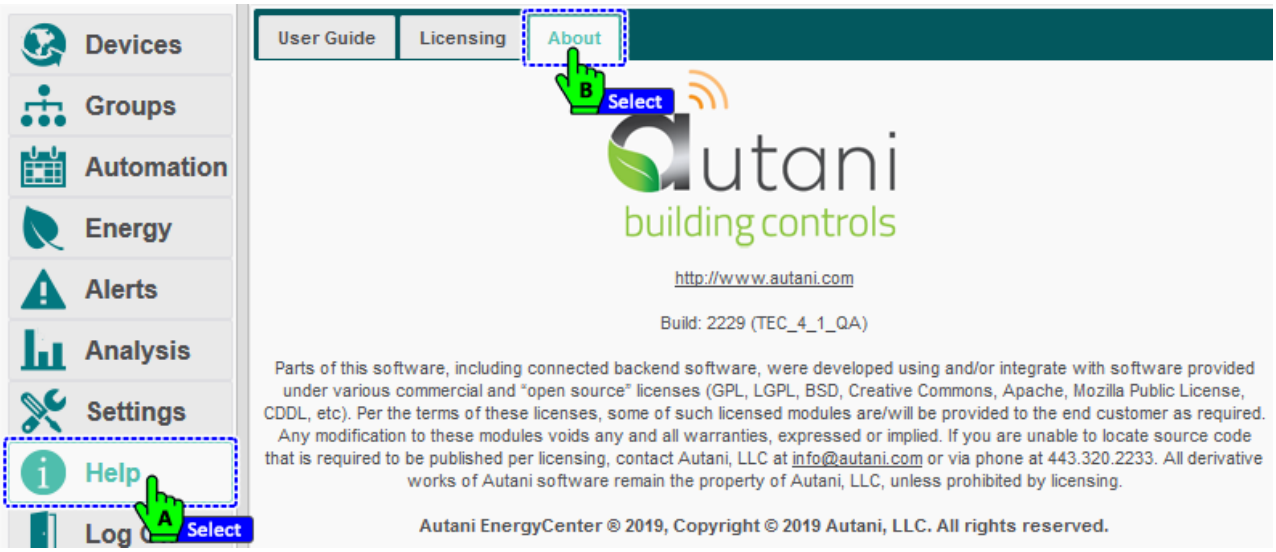
1. Log on to the application.
2. Click the **Help** button on the left navigation bar.
3. Click on the document name link to view a User Guide.



1.5.8. Accessing Product Information

To display copyright and version information for the application:

1. Log on to the application.
2. Click **Help** on the left navigation bar.
3. Click the **About** tab.



2. Setting up the Network

2.1. Accessing EnergyCenter® the First Time

To set up the autaniNet network:

1. See included documentation with Autani Manager. The pamphlet includes steps for setting up the network using the following connection options: Remote Access Over the Internet (preferred option)
   - Local Network Access
   - Direct Connection
2. Follow the steps in the Easy Setup wizard to configure the network and add devices.

   NOTES: Devices must be added to the network before they can report data to the Autani Manager.
   - After the network is set up, the Easy Setup wizard is disabled.
3. For information on adding more devices, see *Adding Devices to the Network*.

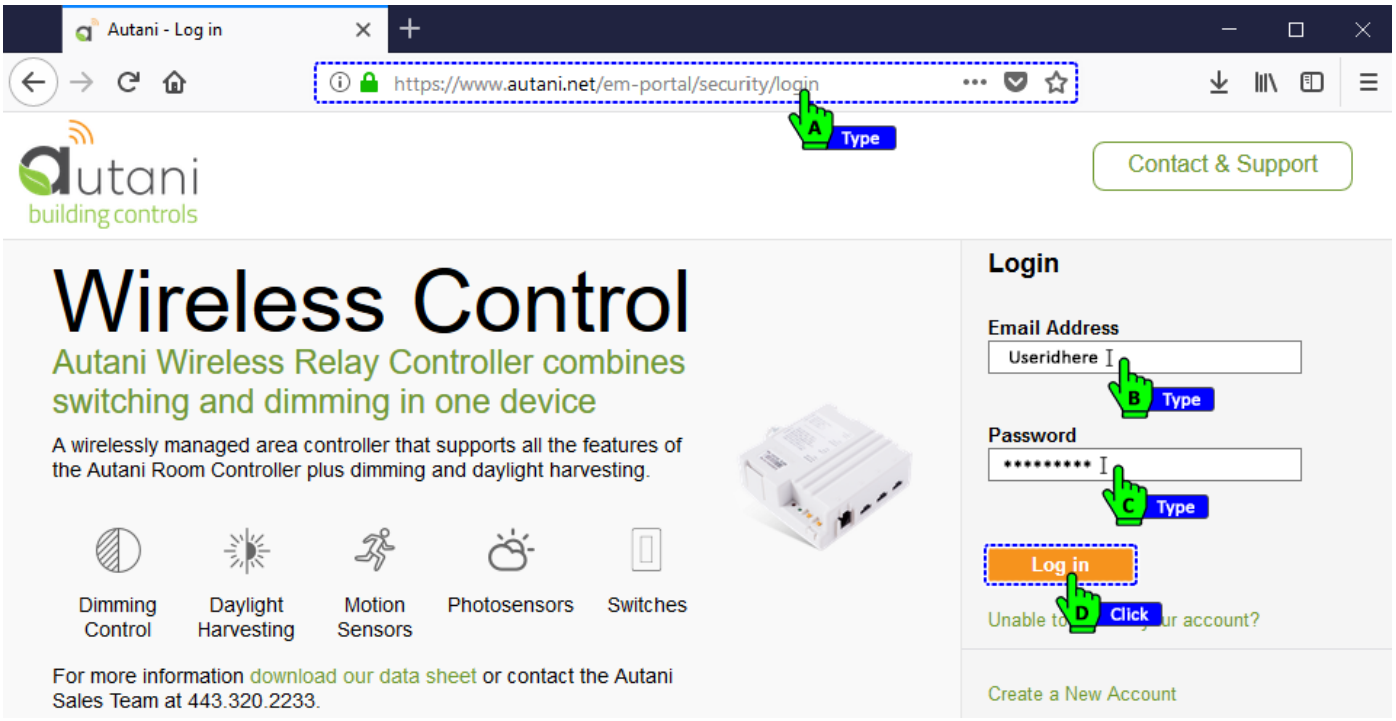
2.2. Launching the Software

See included documentation with Autani Manager for step-by-step instructions:

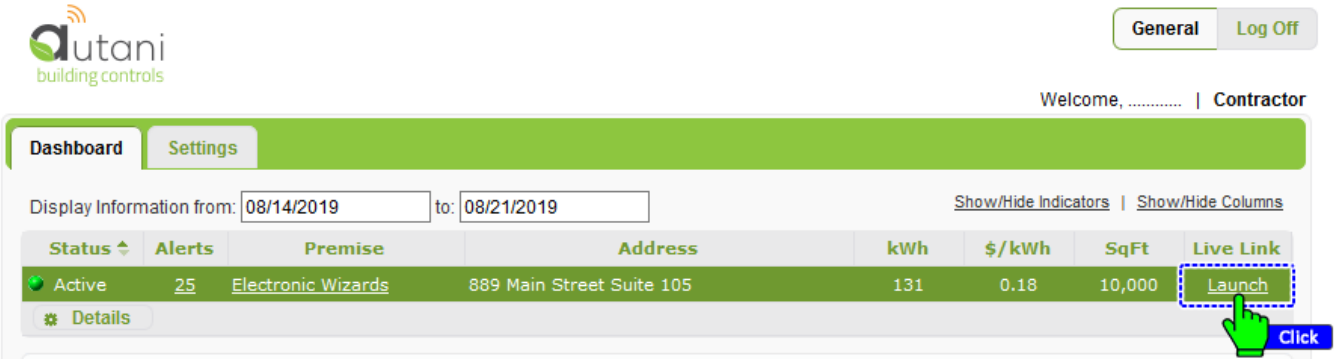
- When first launching EnergyCenter® or one of the software modules
- To create a static IP address to avoid the possibility the network may be assigned a new IP address when the Autani Manager is powered up.

To launch EnergyCenter® or one of the EnergyCenter® modules:

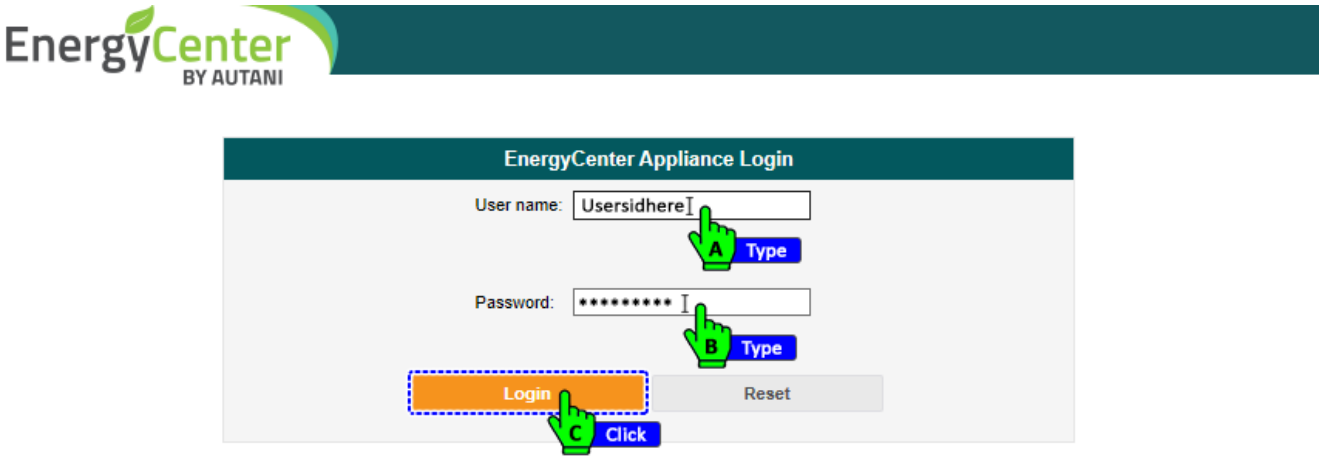
1. Open one of the latest supported browsers listed below:
   - Chrome
   - Firefox
   - Safari
2. Enter www.autani.net in the browser's address bar, and then press **Enter**.
3. Enter the username and password created when EnergyCenter® was first accessed.
4. Click **Login**.



5. For the desired application, click the **Launch** link in the Live Link column.



6. Enter the username and password for the owner, contractor, or user account, as appropriate.
7. Click **Login**.



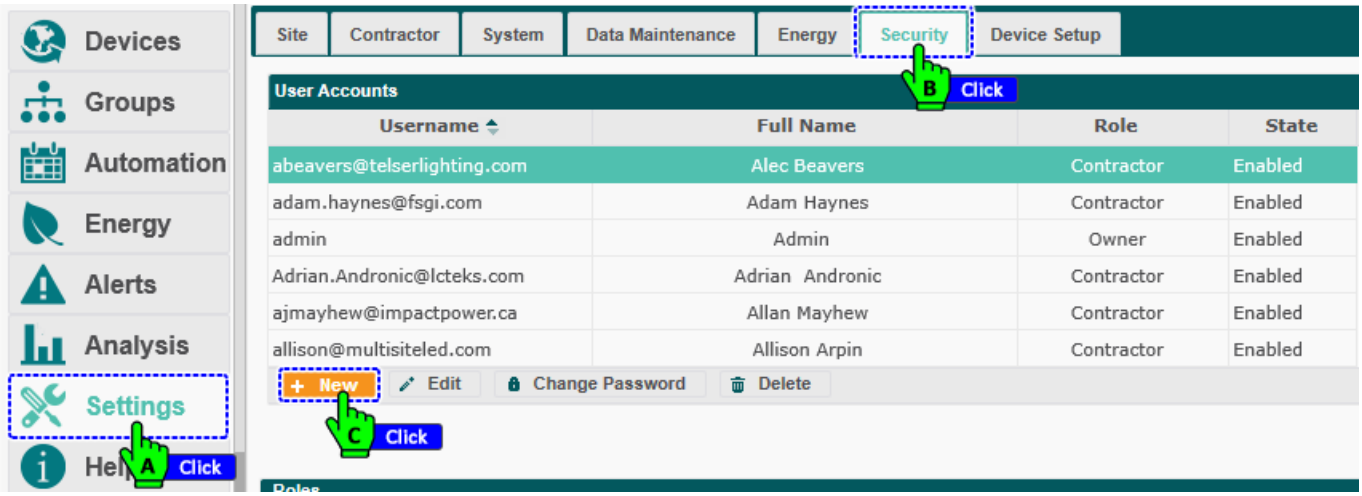
2.3. Creating User Accounts

For security purposes, there is only one Owner account and only Owner accounts can access all the features of the application. During installation, contractors use the Owner account to:

- Create their own contractor account
- Configure the system
- Set up additional accounts as requested

To create a user account:

1. On the left navigation bar, click **Settings**.
2. Click the **Security** tab.
3. Click the **New** button under the list of user accounts.



4. Enter a **Username** for the account.

5. Enter and then confirm a **password**.
6. Enter the user's **first** and **last name**.
7. Select one of three **roles** for the account from the drop-down list. For information on the types of 0 accounts and their level of access to EnergyCenter®, see the table below.
8. After creating a new account, click **Save**.

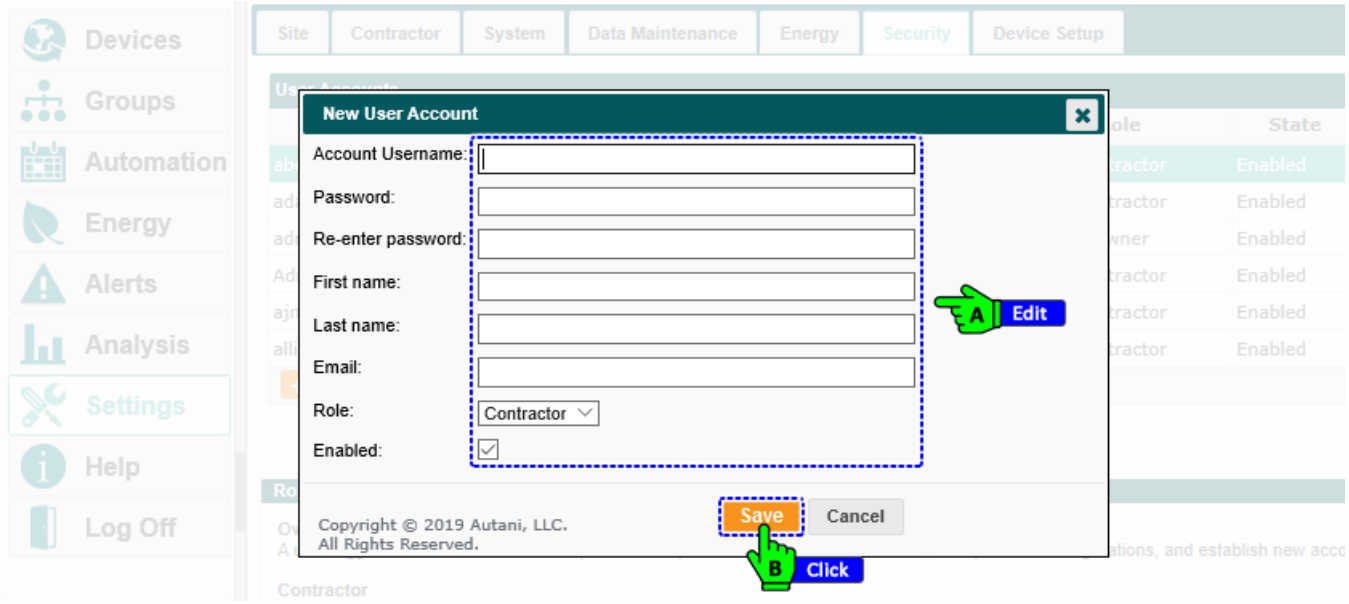


Table 8: Types of User Accounts

User Accounts	Description
Owner	▪ Assigned to only one user account ▪ Access to all application functions ▪ Used by installation contractors to create their own account and then configure the system ▪ Cannot be deleted
Contractor	▪ Used to install, configure, and maintain the system ▪ Access to all system functions except: □ Creating or modifying user accounts □ Changing passwords
Manager	▪ Can Modify Schedules ▪ Assign Schedules ▪ Perform on-demand functions
User	▪ Can view information and edit devices ▪ Cannot change any groups or add, remove, or set up any devices ▪ Cannot create device schedules, overrides, or curtailments
Tenant	▪ Can only interact with devices in that tenant's control group.

2.4. Creating an E-mail Smart Host

If EnergyCenter® has been configured for remote access, an e-mail smart host is not needed because e-mail messages are sent directly using the Autani mail server.

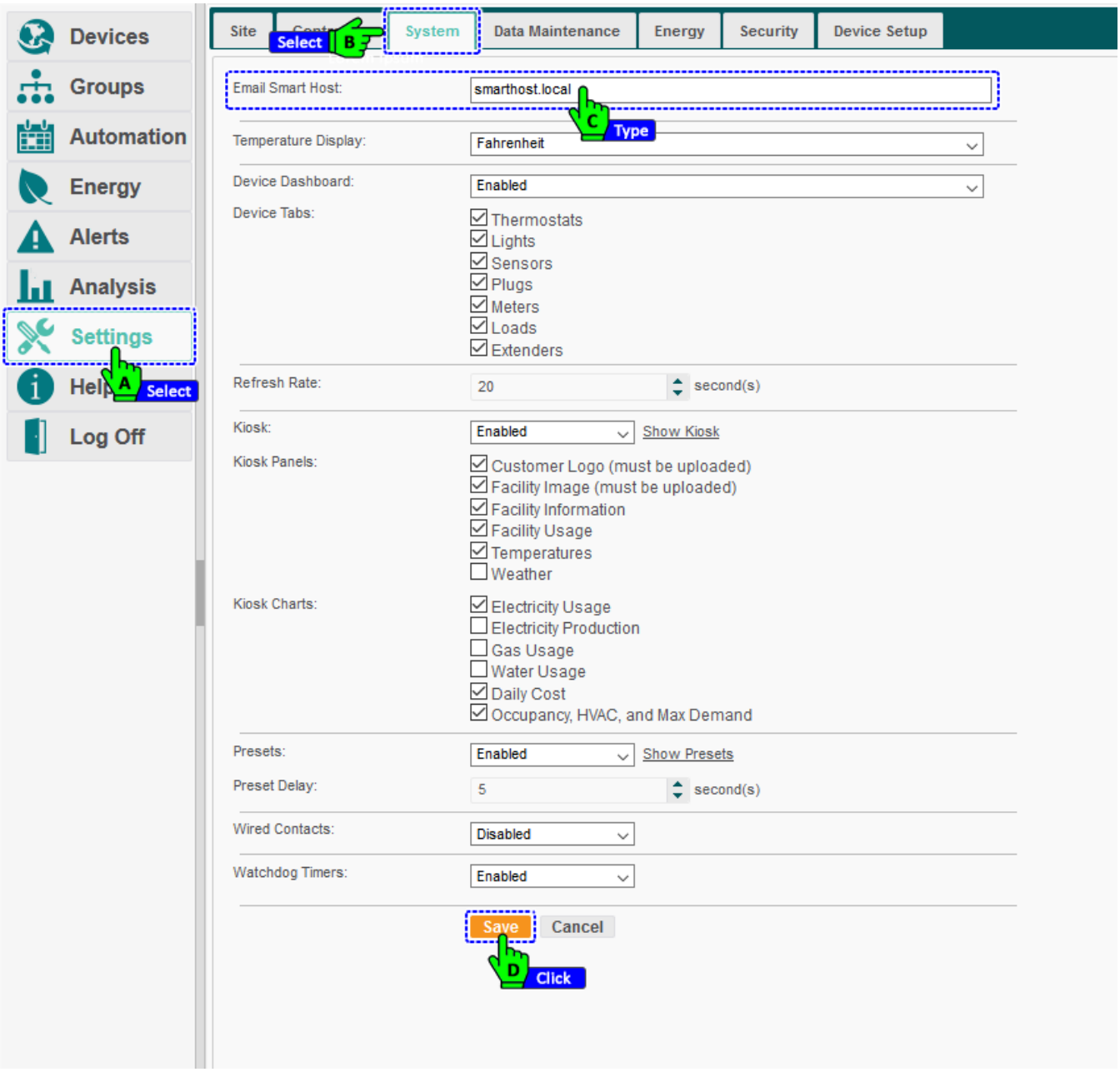
If EnergyCenter® has not been configured with remote access, an Internet service provider (ISP) may reject EnergyCenter-generated e-mail messages if they cannot identify the sender or have labelled the messages as spam.

To ensure e-mail messages are received, use either:

- Your business mail server, such as abcbusiness.mail.com, acting as a relay
- A smart host that allows messages to be sent to an intermediate mail server that forwards them to you

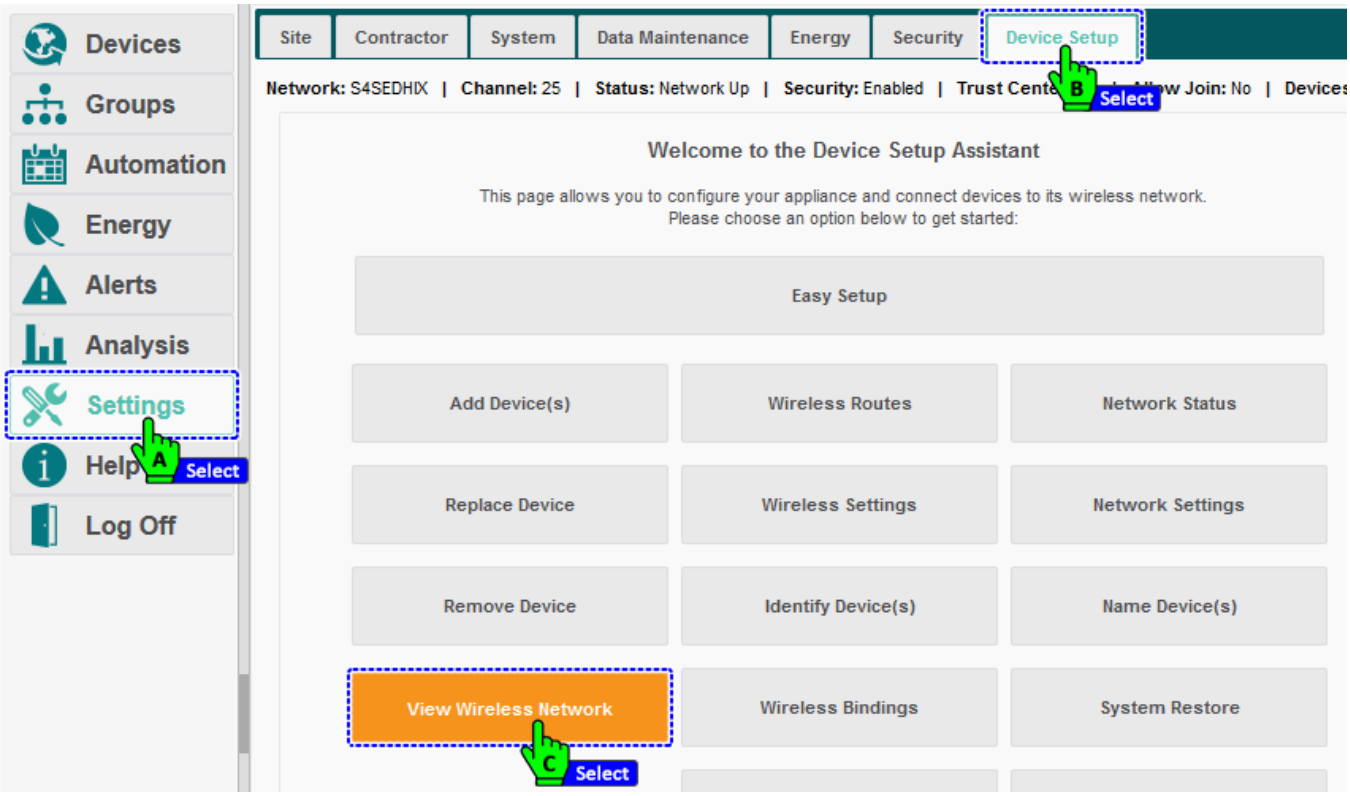
To create a smart host:

1. On the left navigation bar, click **Settings**, and Click the **System** tab.
2. In the **Email Smart Host** textbox, enter the chosen mail server's host information.
3. Click **Save**.

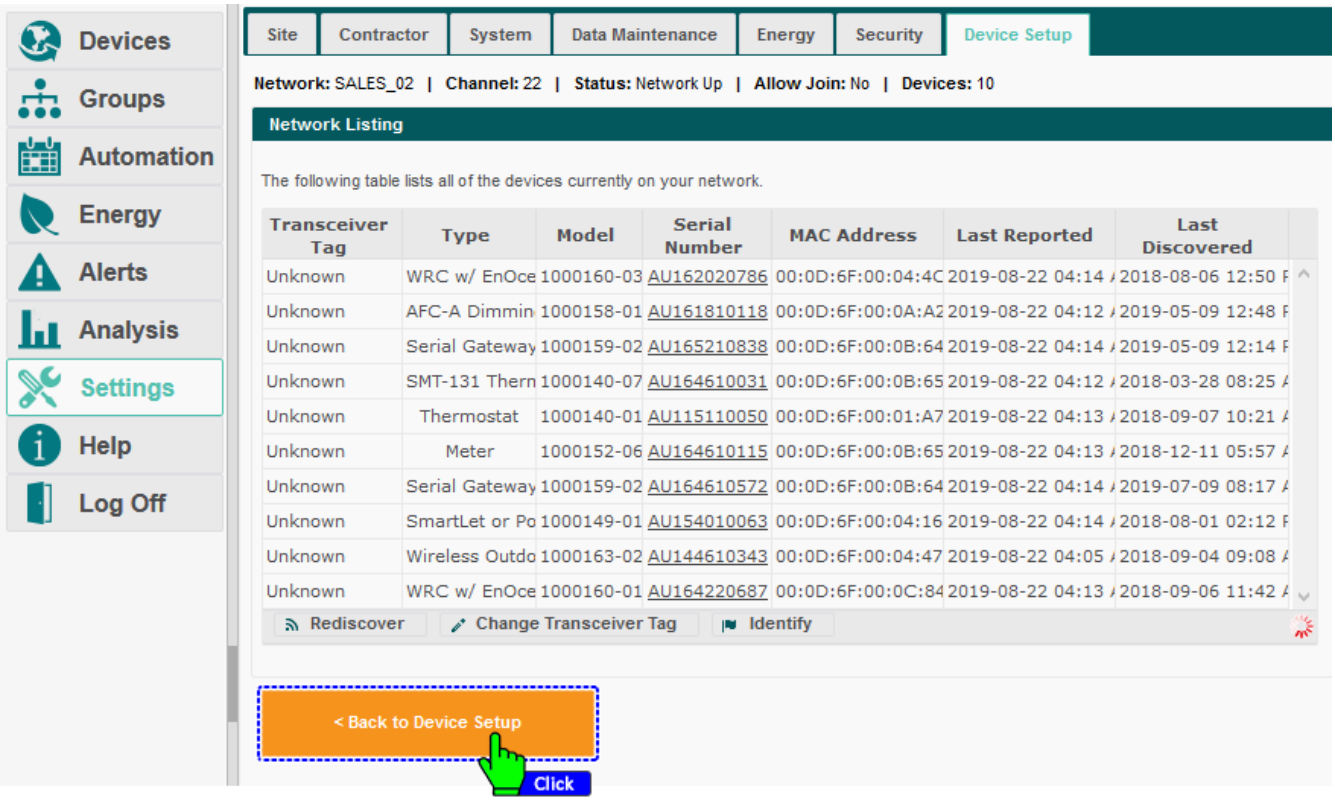


2.5. Viewing the Inventory of Networked Devices

1. On the left navigation bar, click **Settings**.
2. Click the **Device Setup** tab.
3. Click the **View Wireless Network** button.



4. After viewing the list of devices on the network, click the **Back to Device Setup** button to return to the Device Setup Assistant welcome screen.

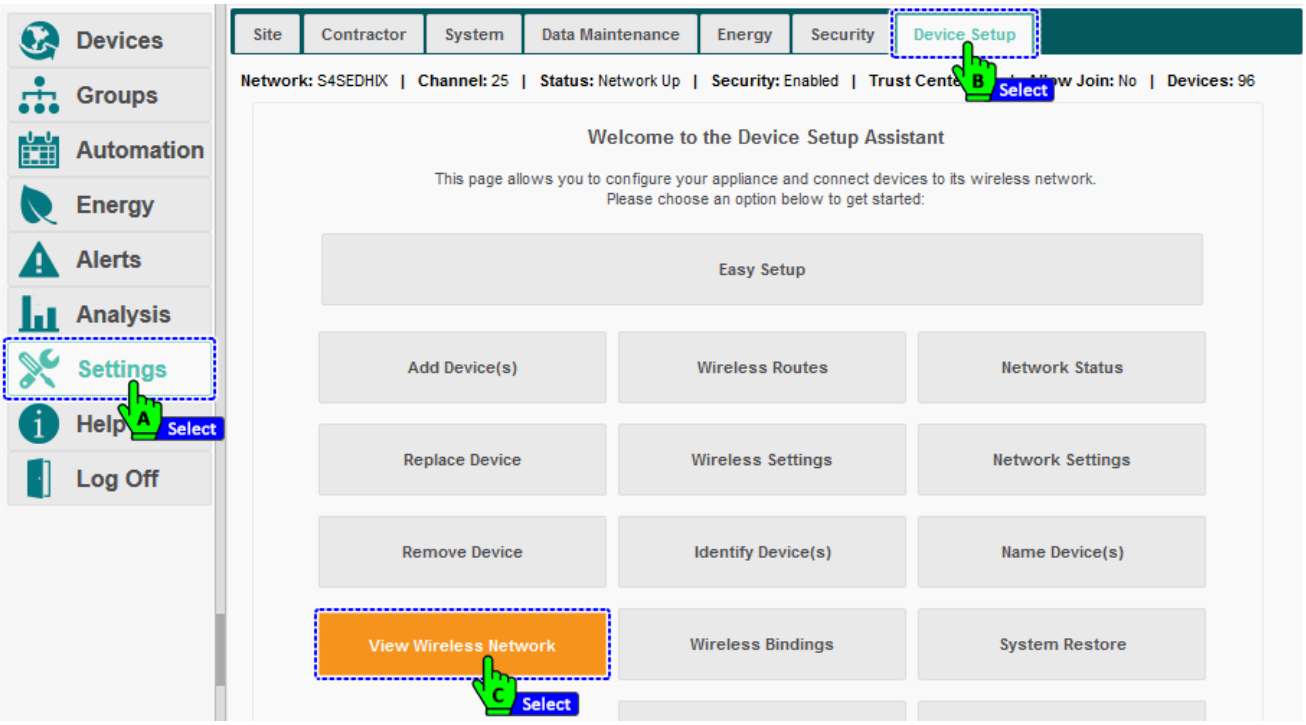


2.6. Identifying a Networked Device

NOTE: In the current version of EnergyCenter®, this feature is only available for Autani Room Controllers and level control sensors.

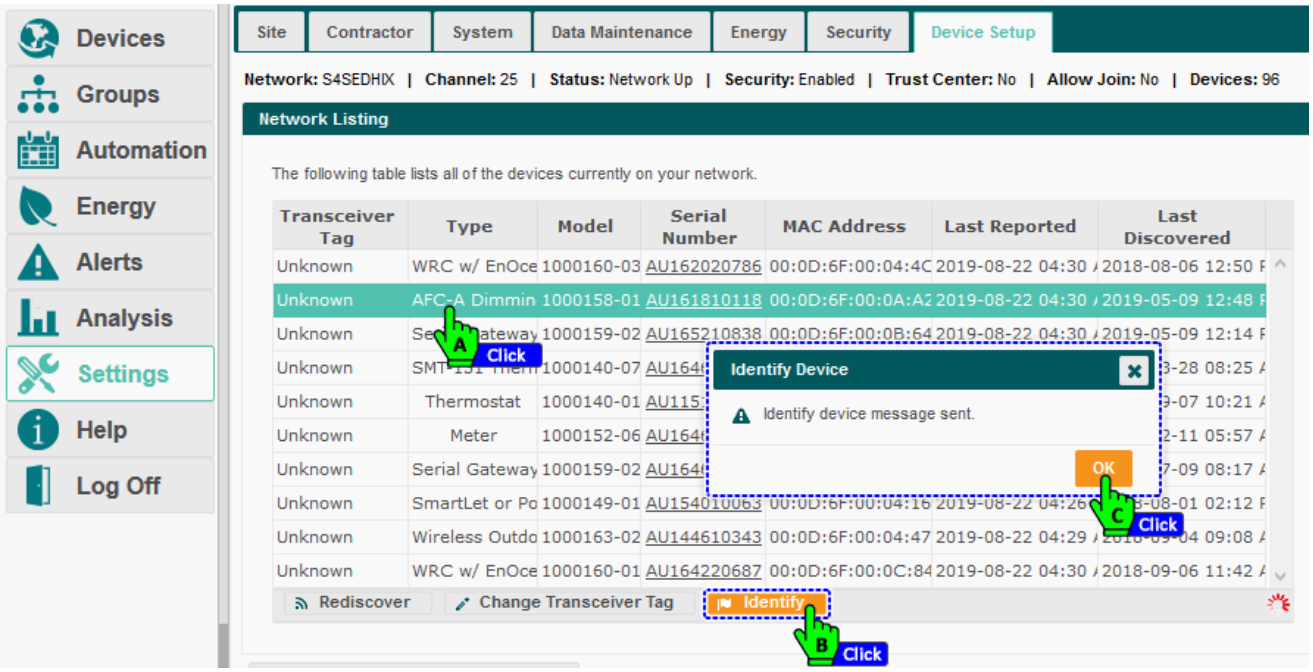
When configuring a system, it is recommended that device testing include visual confirmation that a device is correctly identified in the application. When numerous devices are being tested and/or similar descriptions have been entered, sending an identification message to a device can facilitate the testing.

1. On the left navigation bar, click **Settings**, and Click the **Device Setup** tab.
2. Click the **View Wireless Network** button.



3. Click the row of the device to be identified.
4. Click the **Identify** button.

NOTE: Depending on device settings, there may be a delay before a change in device status can be visually confirmed.

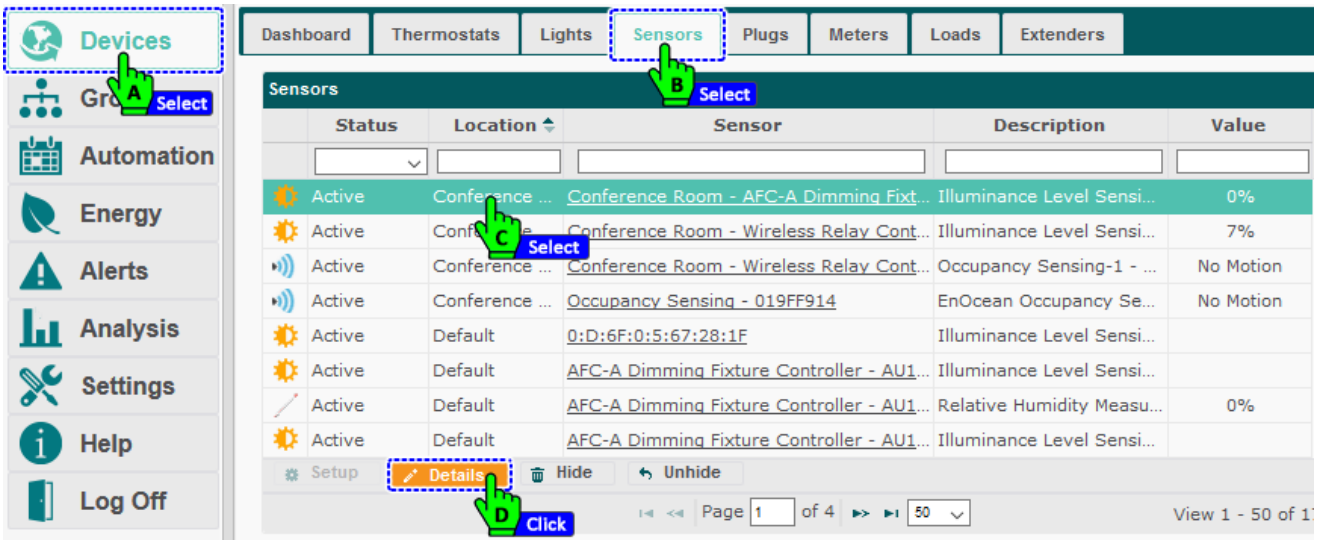


3. Modifying Settings

The application provides a tab to define customer contact information and configuration data, including the electricity rate to be used in cost calculations. Typically, the technician inputs the data and adjusts the settings when installing the system.

3.1. Changing Name, Description, and Location Settings

1. Click **Devices** on the left navigation bar, and select a device tab.
2. Click the device name link, **double-click** the row of the device, or click the row of the device and then the **Details** button.



3. Update the device information's as needed and click **Save**.

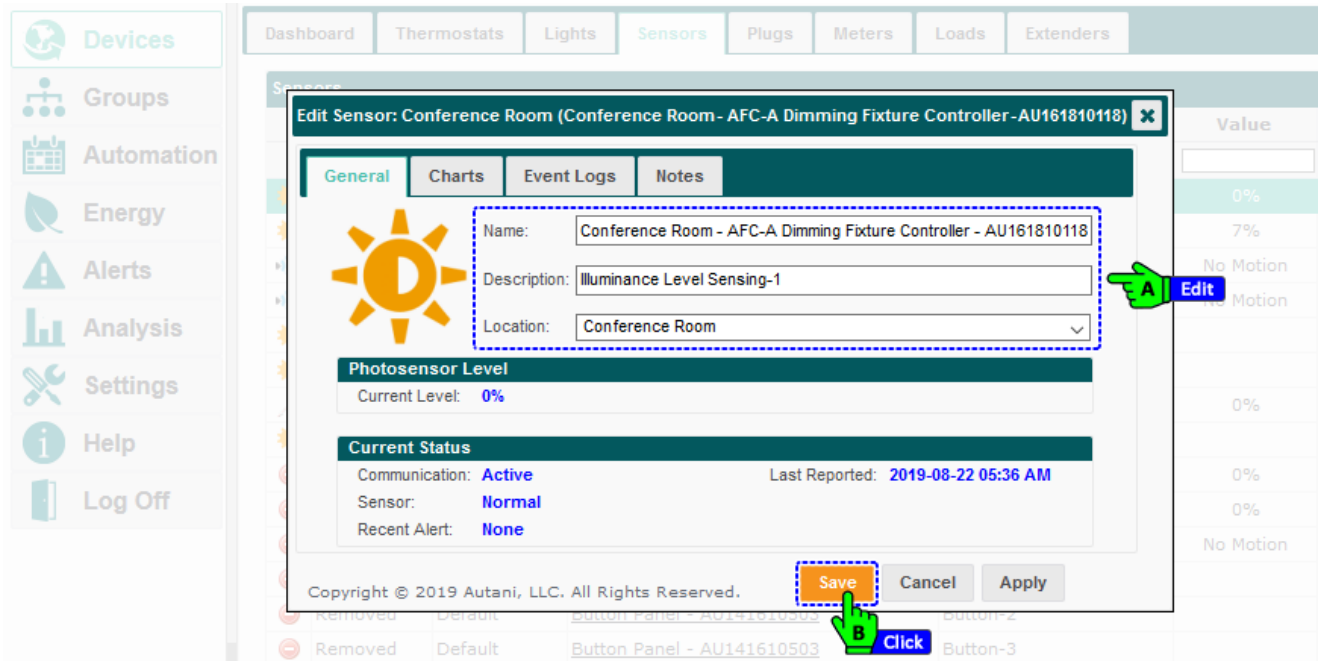


Table 9: Sensor Name, Description, and Location Settings

Setting	Used To	Options
Name	Specify the name of the device **NOTE**: The name of a device is the same for all end points wired to it.	▪ Defaults to device type and serial number, e.g. Wireless Relay Controller-AU1230005 ▪ User-defined name for device ▪ Alphanumeric characters

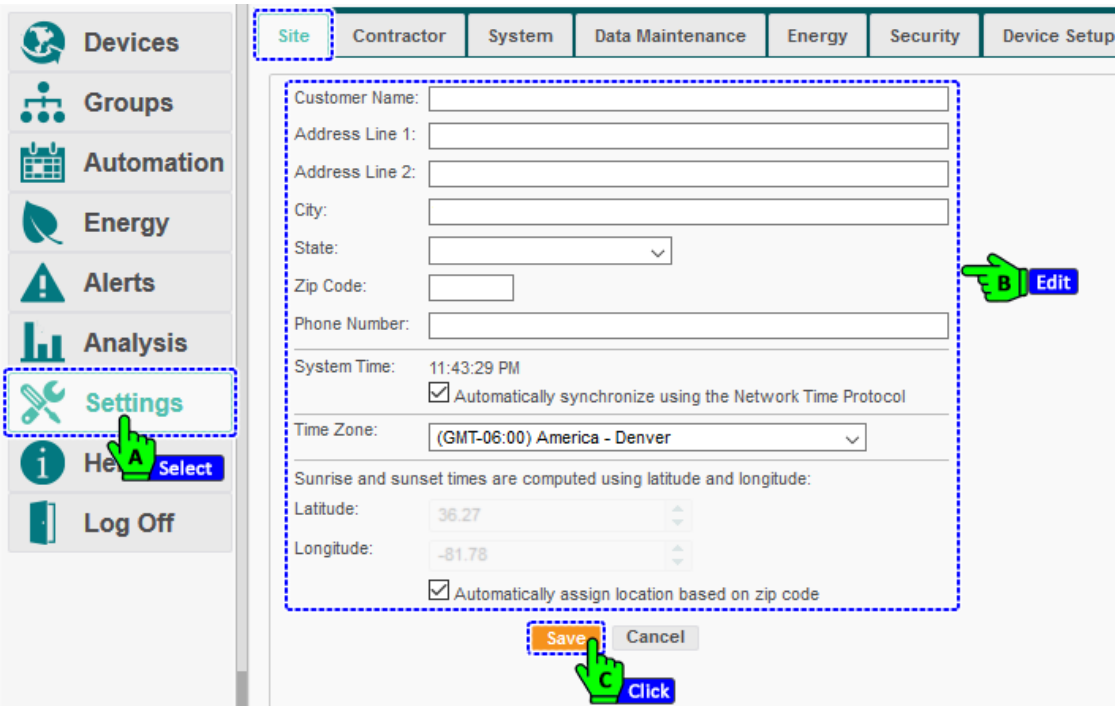
Setting	Used To	Options
Description	Quickly identify the device type **NOTE**: The default description is be based on the device type selected.	▪ User-defined description of sensor ▪ Alphanumeric characters
Location	Name of the location group to which the device belongs	▪ Assigned to the Default location group when a device is first added to the network ▪ User can change for each device/endpoint independently ▪ Alphanumeric characters

3.2. Updating Customer Information

Customer contact information can be displayed below the left navigation bar. The technician typically inputs this data when configuring the system.

To enter customer contact information:

1. On the left navigation bar, click **Settings**, and update as needed:
   i. Update the name, address, and/or phone number information.
   ii. Update the zip code.
   NOTE: The zip code determines the local weather information used to generate bar graphs.
   iii. Select the **Automatically synchronize using the Network Time Protocol** checkbox to automatically update the software clock when the time changes.
   iv. Select a **Time Zone** from the drop-down menu.
   v. Select the **Automatically assign location based on Zip code** Checkbox to automatically compute sunrise and sunset times using latitude and longitude of the location based on the Zip code.
2. Click **Save**.

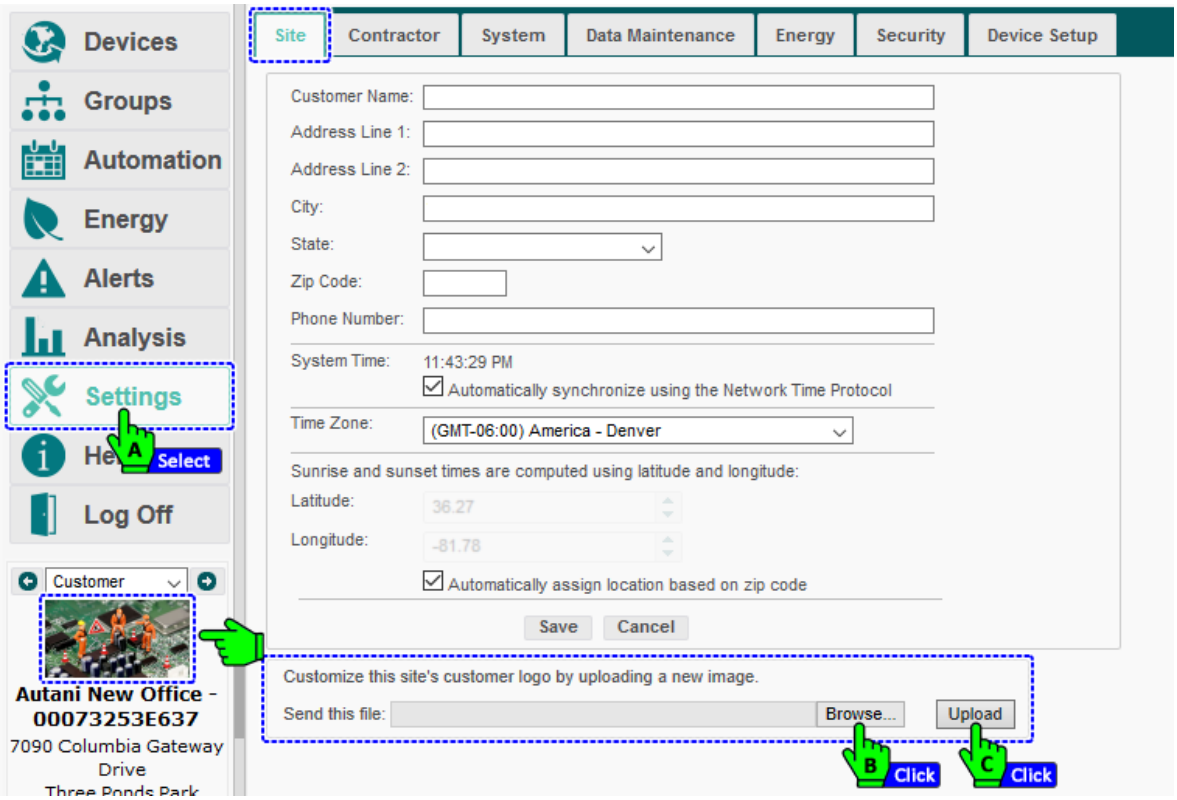


3.3. Changing a Customer's Logo

A customer's logo can be displayed on the left navigation bar (Dimensions 200x50 pix, format: JPEG/PNG).

To add or change the customer logo:

1. On the left navigation bar, click **Settings**, and click the **Browse** button.
2. Select the image to be uploaded, and then click **Upload**.

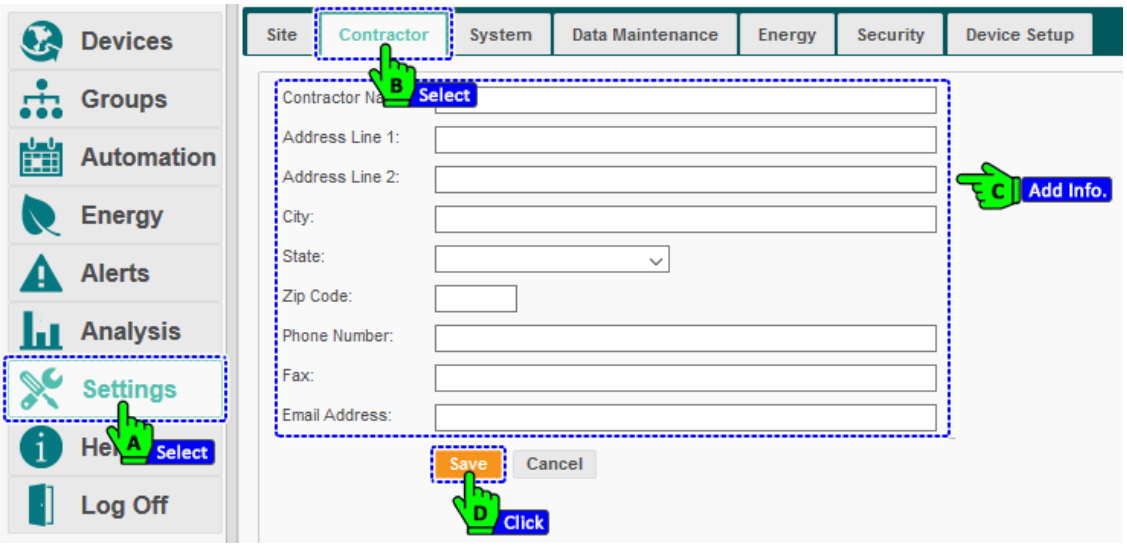


3.4. Updating Contractor Contact Information

Contractor contact information can be displayed below the left navigation bar. The technician typically inputs this data when configuring the system.

To enter contractor, contact information:

1. On the left navigation bar, click **Settings**, and Click the **Contractor** tab.
2. Enter name, address, phone and fax numbers, and e-mail address information as needed, and click **Save**.

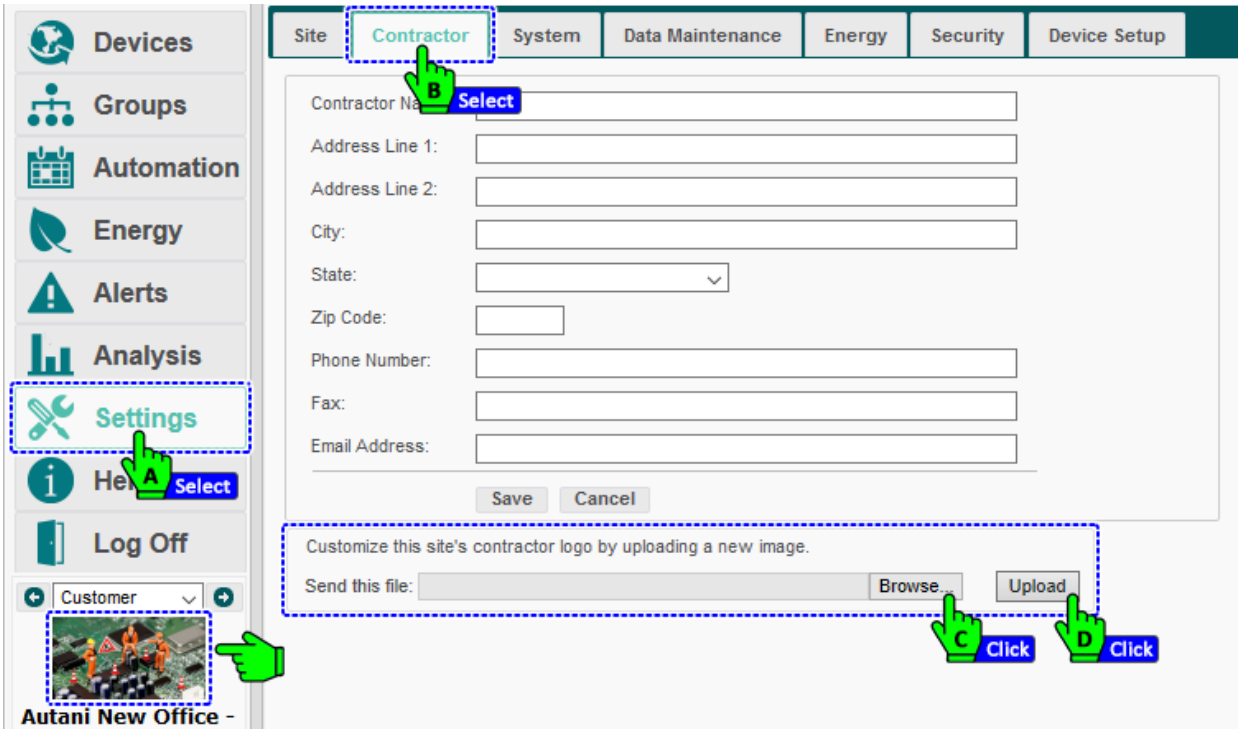


3.5. Changing a Contractor's Logo

A contractor's logo can be displayed below the left navigation bar. The technician typically adds the logo when configuring the system. (Dimensions 200x50 pix, format: JPEG/PNG).

To display a contractor logo under the left navigation bar:

1. On the left navigation bar, click **Settings**, and click the **Contractor** tab.
2. Click the **Choose File** button to locate the logo to be displayed. Click **Upload**.

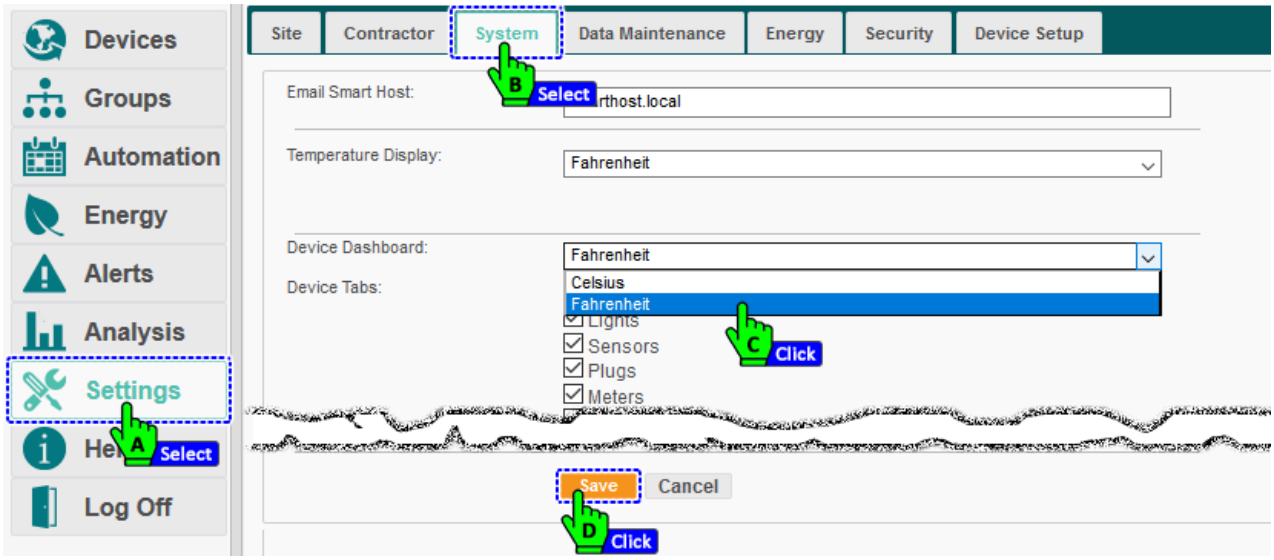


3.6. Selecting the Temperature Measurement Scale

Temperature information can be displayed using the Fahrenheit or Celsius scale. If the scale is changed, EnergyCenter® automatically recalculates and displays the converted values.

To select the unit of measure for temperature displays:

1. On the left navigation bar, click **Settings**, and Click the **System** tab.
2. From the **Temperature Display** drop-down box, select Fahrenheit or Celsius, and click **Save**.



3.7. Selecting Meters as a Source for Energy Consumption Data

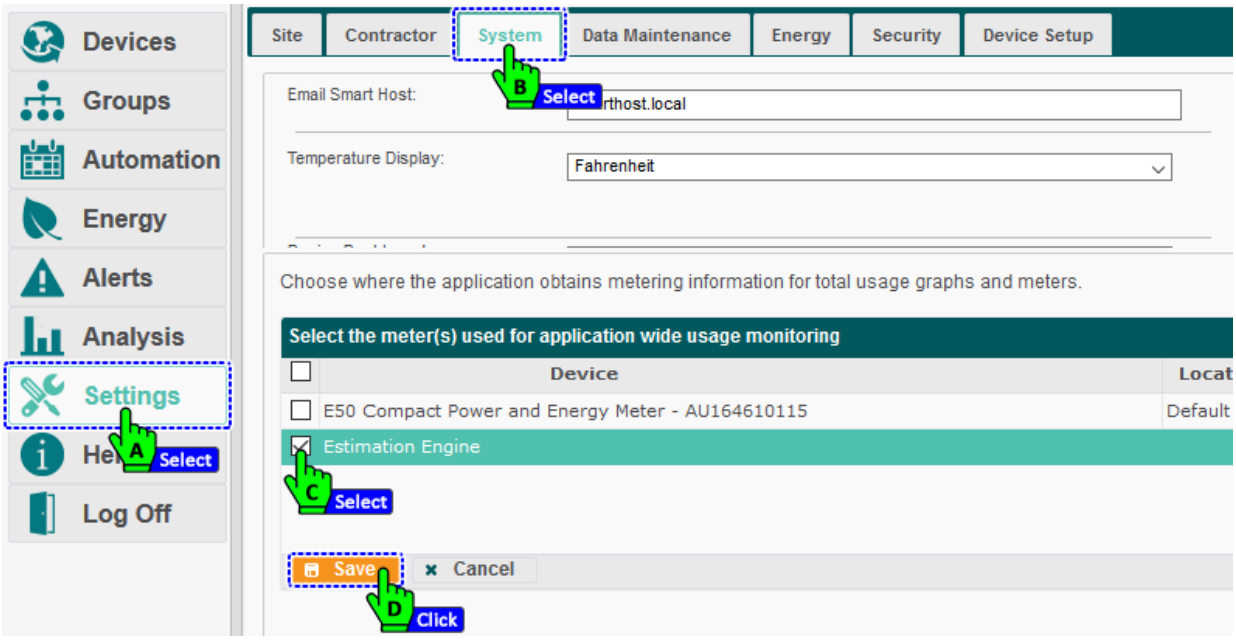
EnergyCenter® uses energy consumption data from the following sources:

- The EnergyCenter® estimation engine calculates energy consumption and is the default source of consumption data.
- Meters report the exact amount of energy consumed by one or more metered devices.

  NOTE: The system can aggregate both estimated and metered data to provide energy consumption, costs, and carbon dioxide produced during generation of the energy used.

To select meters as a source of consumption data:

1. On the left navigation bar, click **Settings**, and click the **System** tab.
2. Scroll to the bottom of the screen and select the checkbox(es) next to the meter(s) to be used and click **Save**.



3.8. Entering Energy Consumption Rates

EnergyCenter® uses energy consumption rates reported by devices to:

- Transform raw energy consumption data into useful cost data
- Determine the carbon footprint or pounds of carbon produced generating the energy used.

Three types of consumption rates are used:

- Billing rates for electricity or gas consumed
- Average daily consumption
- A carbon footprint conversion factor for electricity or natural gas

  NOTES:

  - The electricity and gas billing rates and average daily use information can be found on your utility bill.
  - The default carbon footprint conversion factors are 1.393 kWh for electricity and 12.061 therms for natural gas.

To enter energy consumption rates:

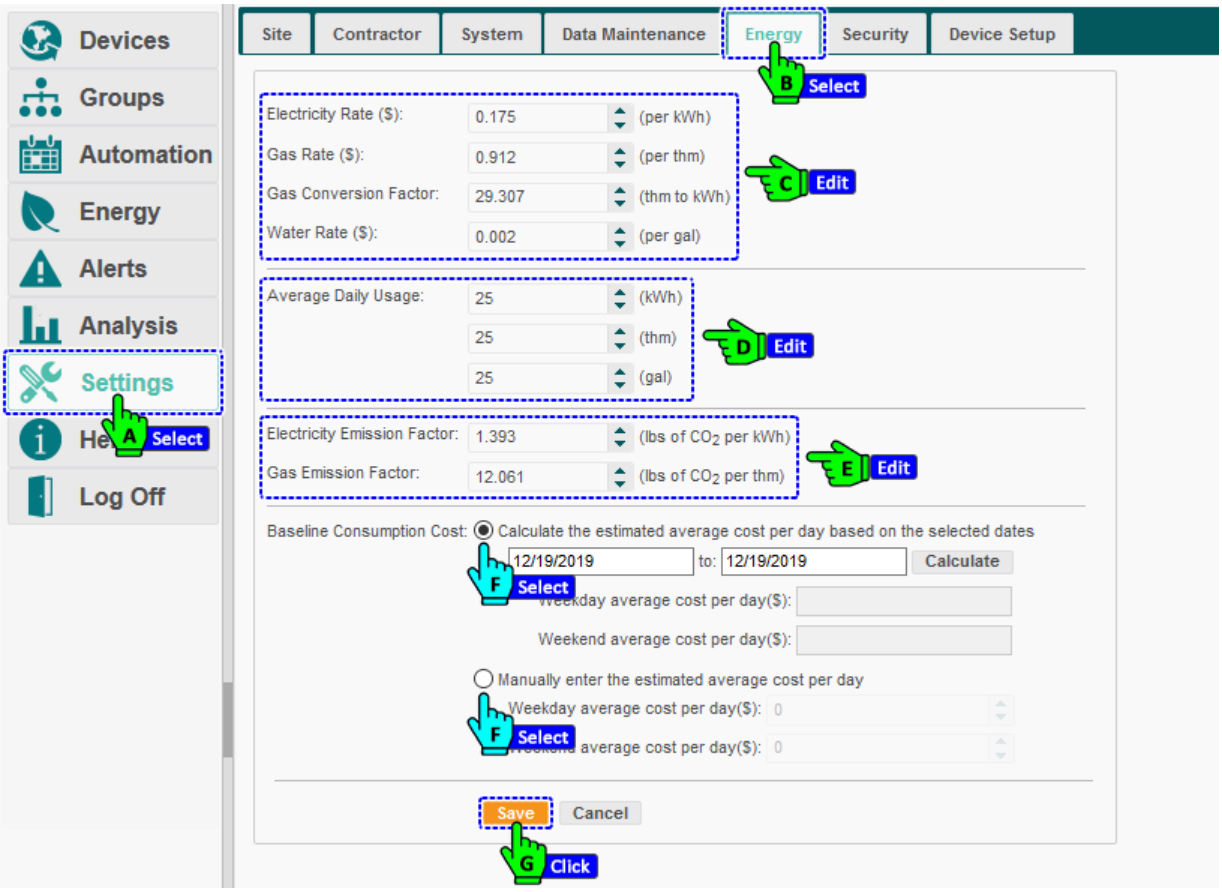
1. On the left navigation bar, click **Settings**, and click the **Energy** tab.
2. In the **Electricity Rate ($)** textbox, enter the current rate per kilowatt hour charged by your utility company.

   NOTE: If only gas is used, enter zero.
3. In the **Gas Rate ($)** textbox, enter the current rate per therm charged by your utility company.

   NOTE: If only electricity is used, enter zero.

4. If your utility company converts gas consumption into kilowatt hours for billing purposes, enter the utility **Gas Conversion Factor**.

   NOTE: After therms are converted to kWh, the data is aggregated with electricity consumption, if any, and displayed anywhere in the application that displays total energy consumption.



5. In the **Water Rate ($)** textbox, enter the current rate per gallon charged by your utility company.
6. In the **Average Daily Usage** textbox, enter daily consumption data to be displayed in the green or "normal" area of the Usage Today gauge located under the left navigation bar.
7. In the **Electricity Emission Factor** textbox, enter the carbon footprint conversion factor for electricity consumption used by your state.
8. In the **Gas Emission Factor** textbox, enter the carbon footprint conversion factor for gas consumption used by your state.
9. In the **Baseline Consumption Cost**, there are two options available calculate the cost, choose the one and edit;
   i. Option 1: Calculate the estimated energy based on a date range.
   ii. Option 2: Manual enter the estimated verge cost per day.
10. Click **Save**.

3.9. Defining Data Retention Periods

Data retention periods specify how long data is stored in the database and impact the availability of historical data for producing graphs, charts, and reports.

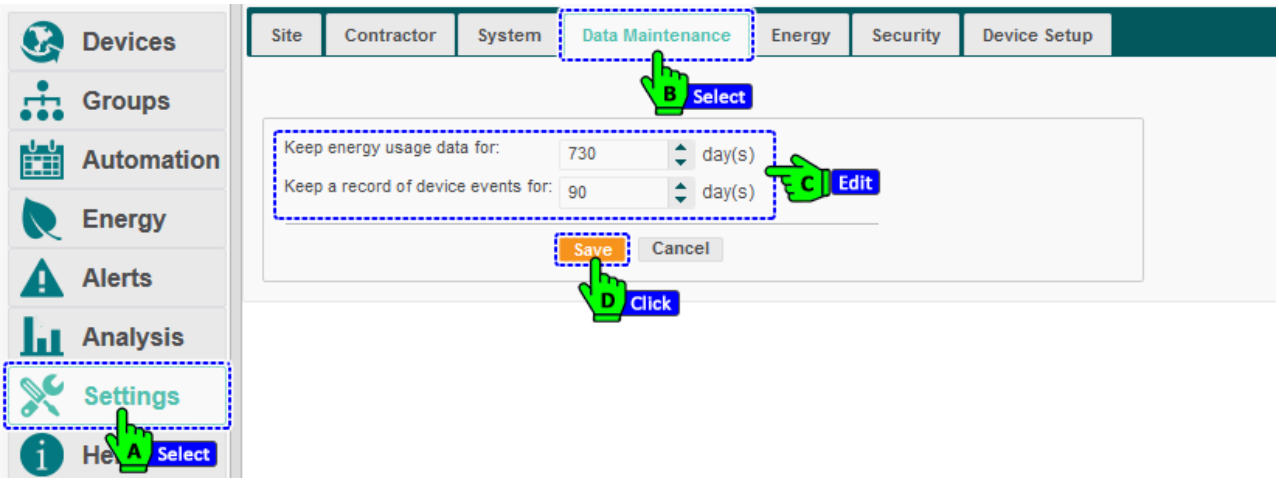
The retention period for:

- Consumption data specifies how long all consumption cost, CO_2 produced, and kWh usage data is to be kept. The default setting is 730 days (two years).
- Events specifies how long the data from every device reporting to the Autani Manager is to be kept. The default setting is 90 days.

NOTE: If a period of less than 31 days is selected, a monthly report may not include data from all the days of the month.

To specify how long consumption and event data should be retained:

1. On the left navigation bar, click **Settings**.
2. Click the **Data Maintenance** tab.



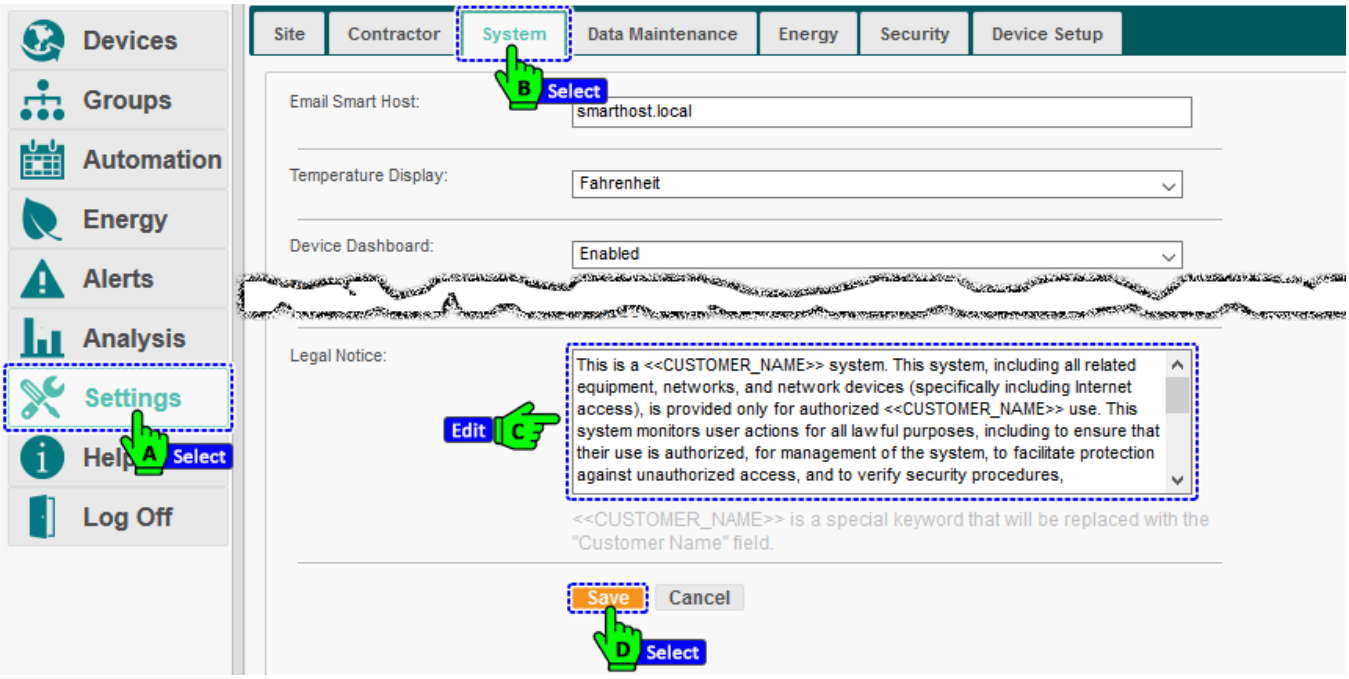
3. In the **Keep energy usage data for** textbox, enter the number of days energy consumption information is to be stored for each device.
4. In the **Keep a record of device events for** textbox, enter the number of days device activity data is to be stored.
5. Click **Save**.

   NOTE: Retention period changes take effect at midnight.

3.10. Changing the Legal Notice

To make changes to the legal notice that appears on the login screen:

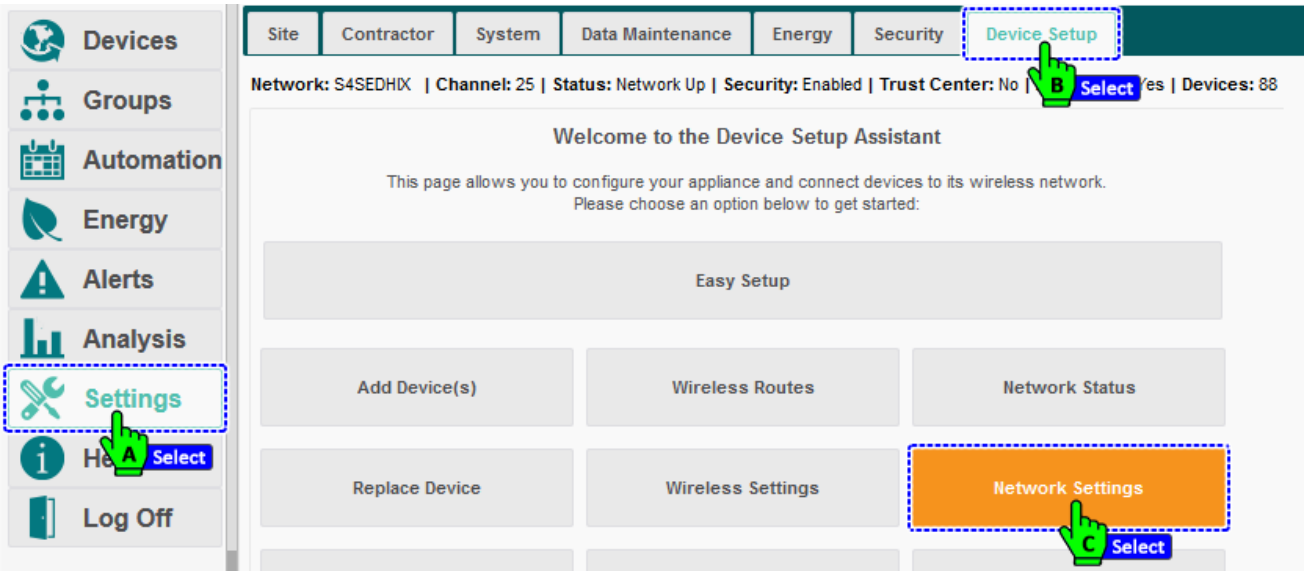
1. On the left navigation bar, click **Settings**. Click the **System** tab.
2. Click in the **Legal Notice** textbox, and then make changes to the displayed text or enter new text as appropriate.
3. Click **Save**.
4. Log out, and then log back into the system to implement the changes.



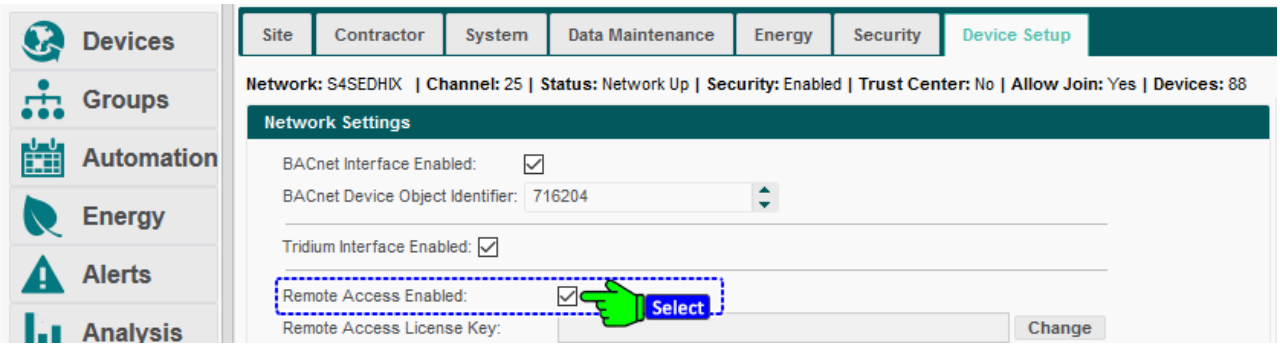
4. Managing Network Settings

4.1. Changing Network Settings

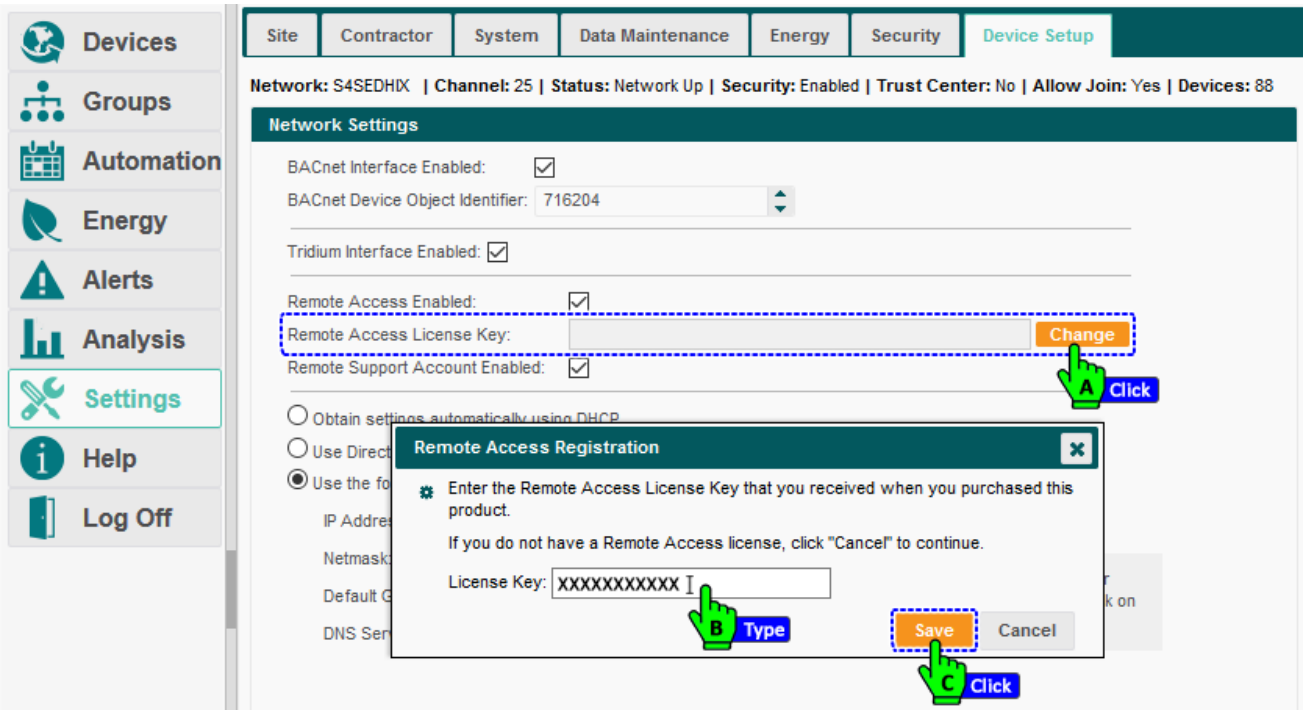
1. On the left navigation bar, click **Settings** > **Device Setup** > **Network Settings**.



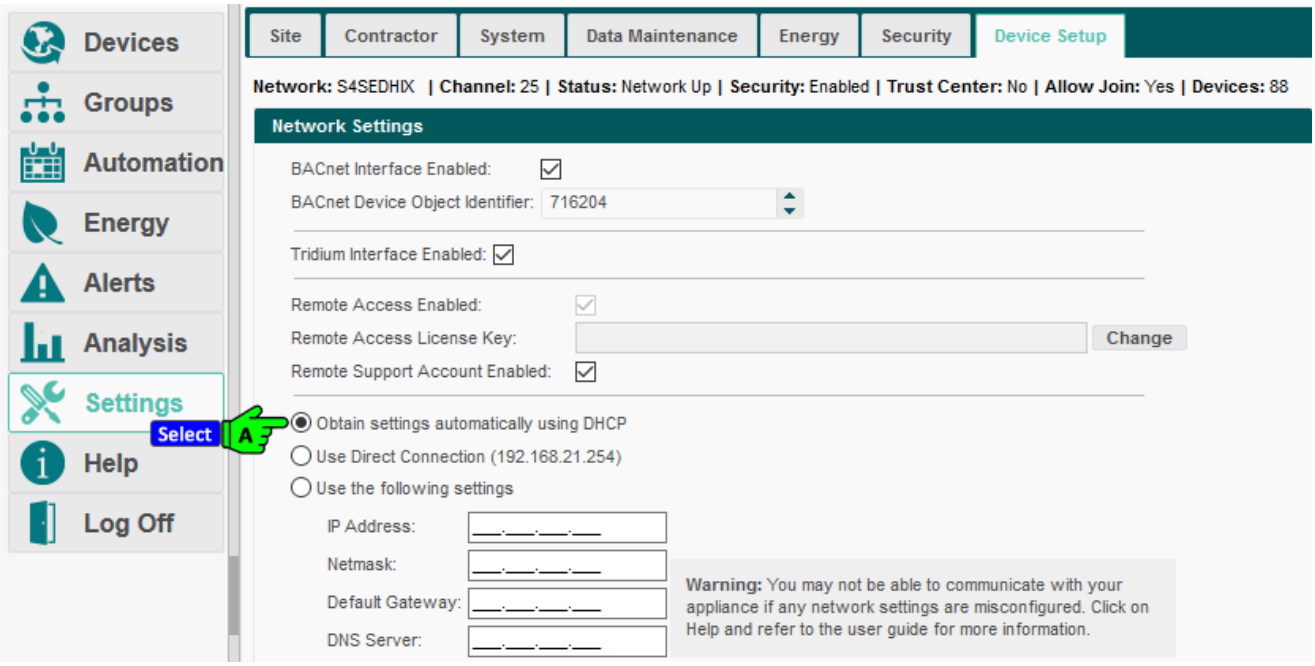
2. To create a VPN connection to the autaniNet server, select the **Remote Access Enabled** checkbox.



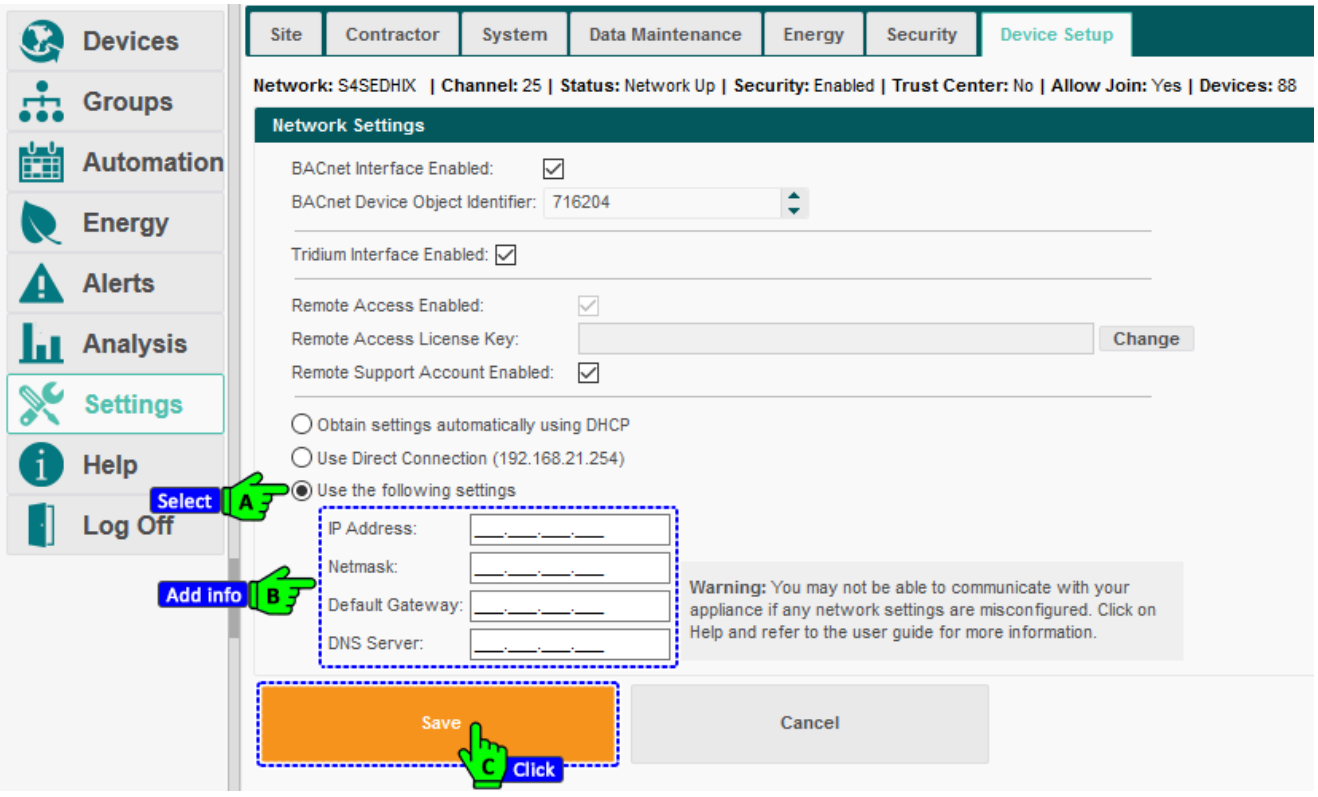
3. To change the Remote Access License Key: click the **Change** button, enter the license key, and click **Save**.



4. Configure network settings using one of two methods:
   - Select the **Obtain settings automatically using DHCP** option,



   - Or, Select the **Use the following Settings** option, to enter network setting information



   i. In the **IP Address** field, enter the 32-bit number for the static host.

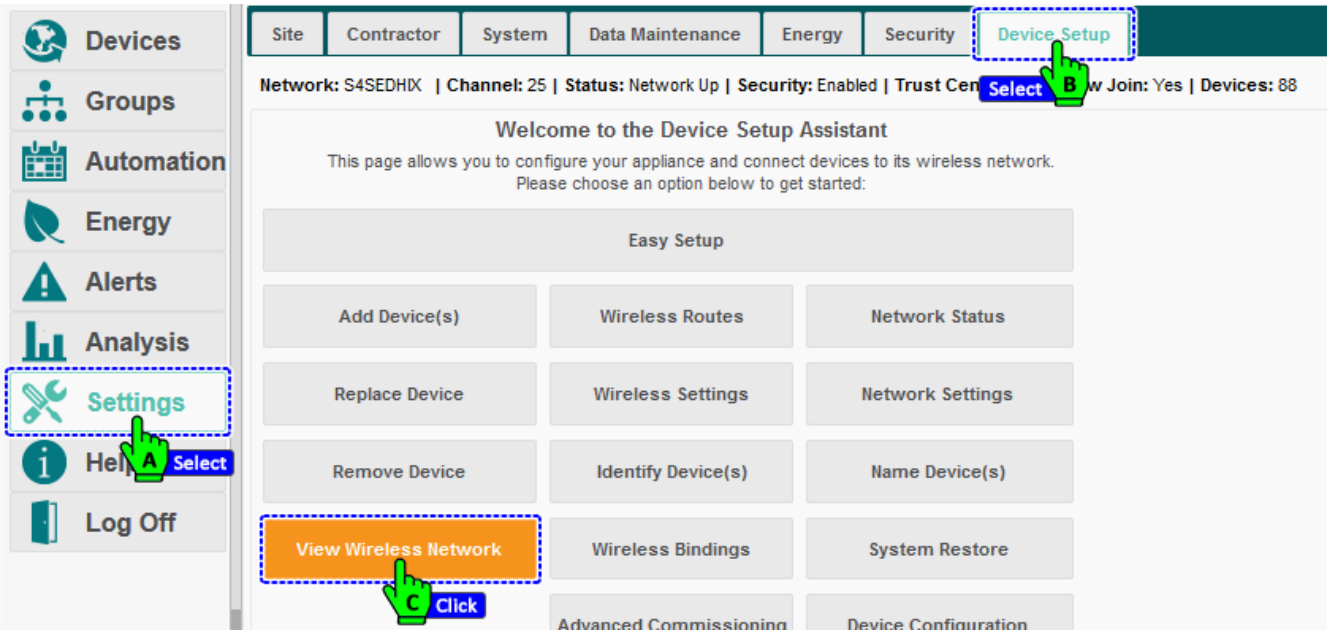
   ii. Enter the **Netmask** to identify which portion of the IP address represents the network address and which portion represents the machine address.

   iii. Enter the **Default Gateway** to identify the node on the computer network for the network software application to use when an IP address does not match any route in the routing table.

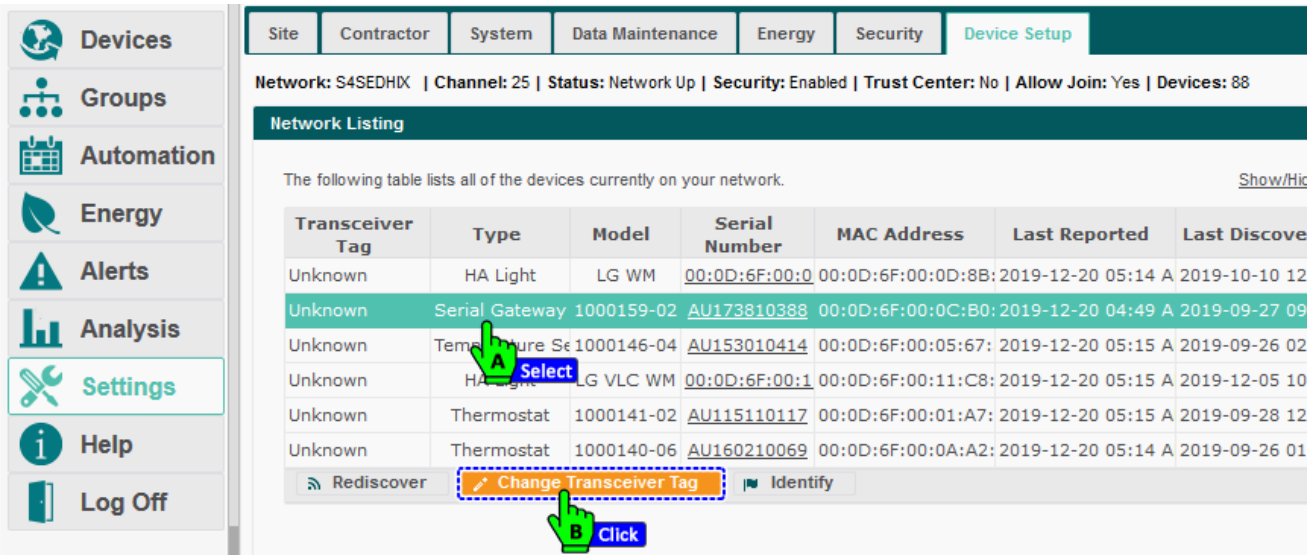
   iv. Enter the **DNS Server** to identify the dedicated server or the service within a server that turns names for Web sites and network resources into numeric IP addresses. Click **Save**.

4.2. Changing a Transceiver Tag (Name)

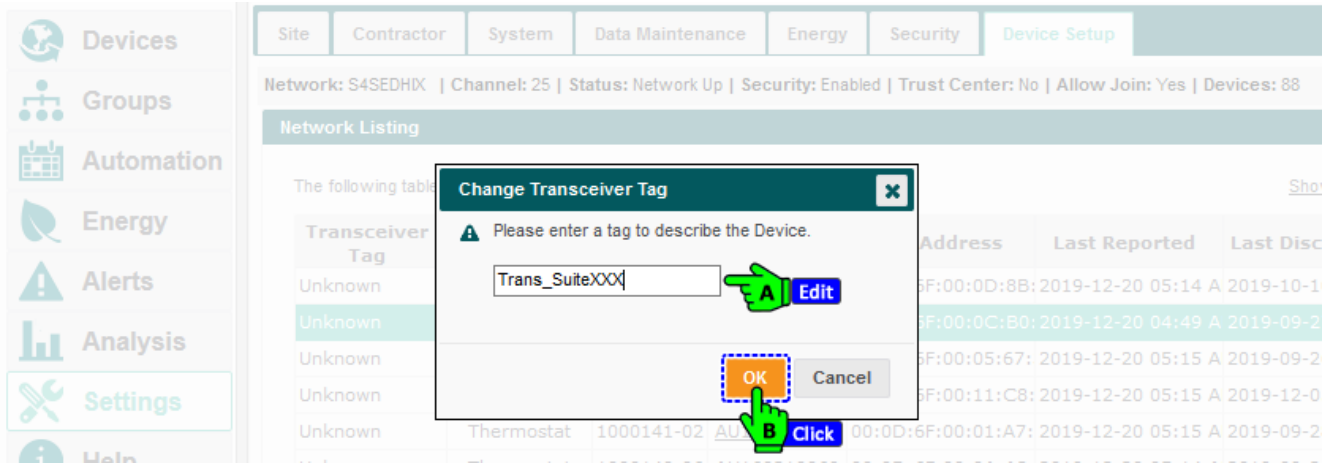
1. On the left navigation bar, click **Settings** > **Device Setup** > **View Wireless Network** button.



2. Click the row of the transceiver tag to be changed, and the **Change Transceiver Tag** button.



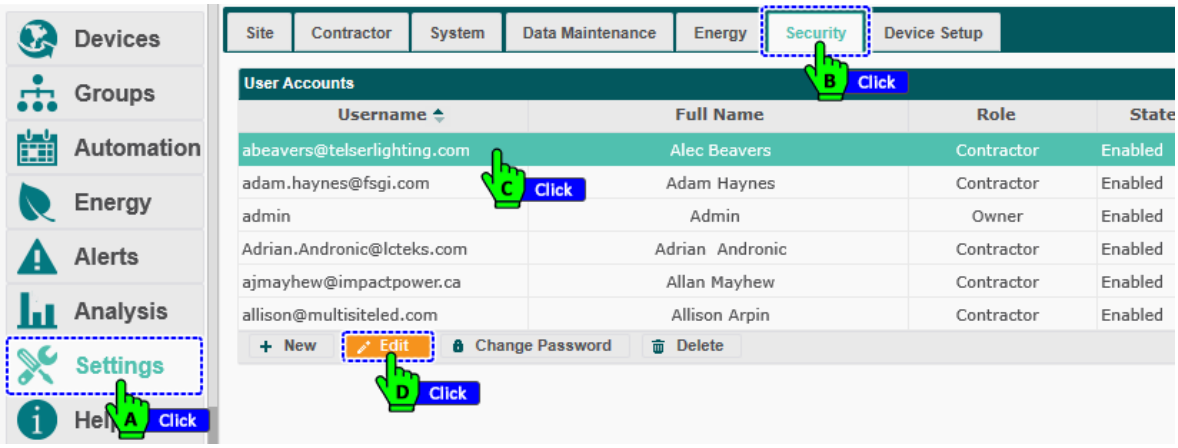
3. Enter a new descriptive name for the device in the textbox and click **OK**.



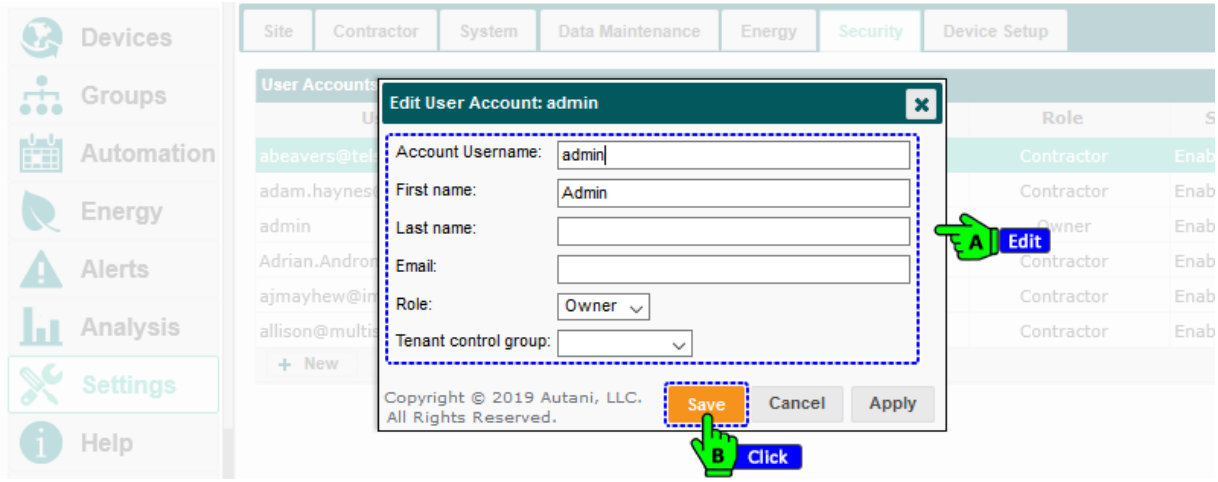
4.3. Managing User Accounts

4.3.1. Changing User Accounts

1. On the left navigation bar, click **Settings** > **Security** tab.
2. Select the row of the user account to be edited.
3. Click the **Edit** button under the list of user accounts.

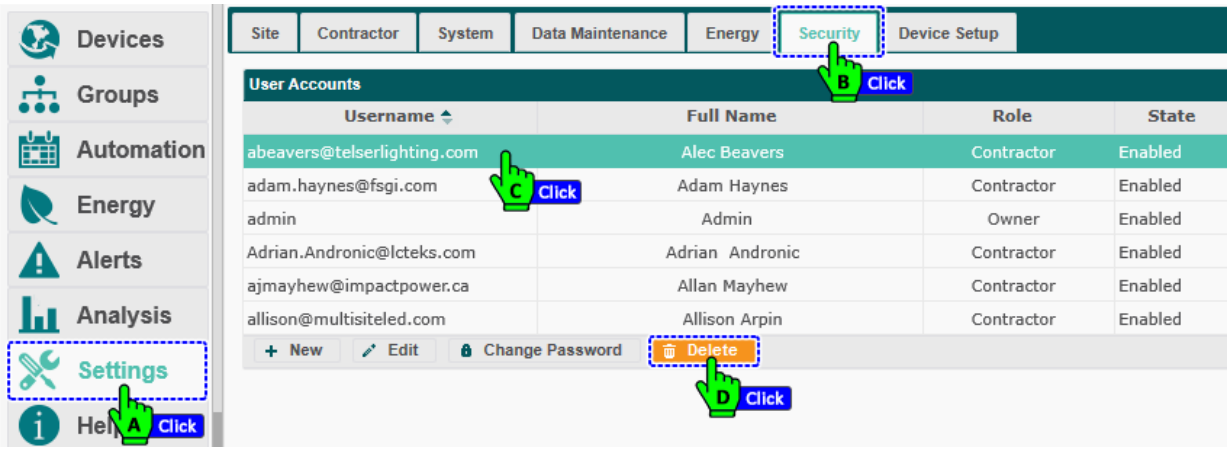


4. As needed, change the **Account Username, First Name, Last Name**, and/or select a new **Role**.
5. When finished updating the account, click **Save** or **Apply**.



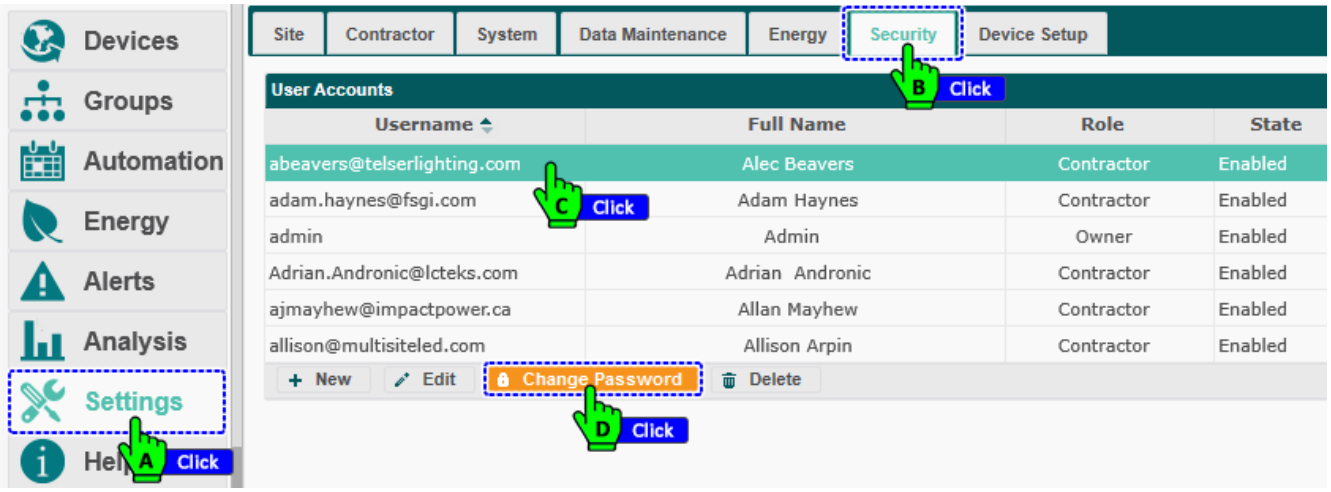
4.3.2. Deleting User Accounts

1. On the left navigation bar, click **Settings** > **Security** tab.
2. Select the row of the user account to be deleted. (**NOTE**: The Owner account cannot be deleted.)
3. Click the **Delete** button under the list of user accounts. Click **Yes** to delete the account.

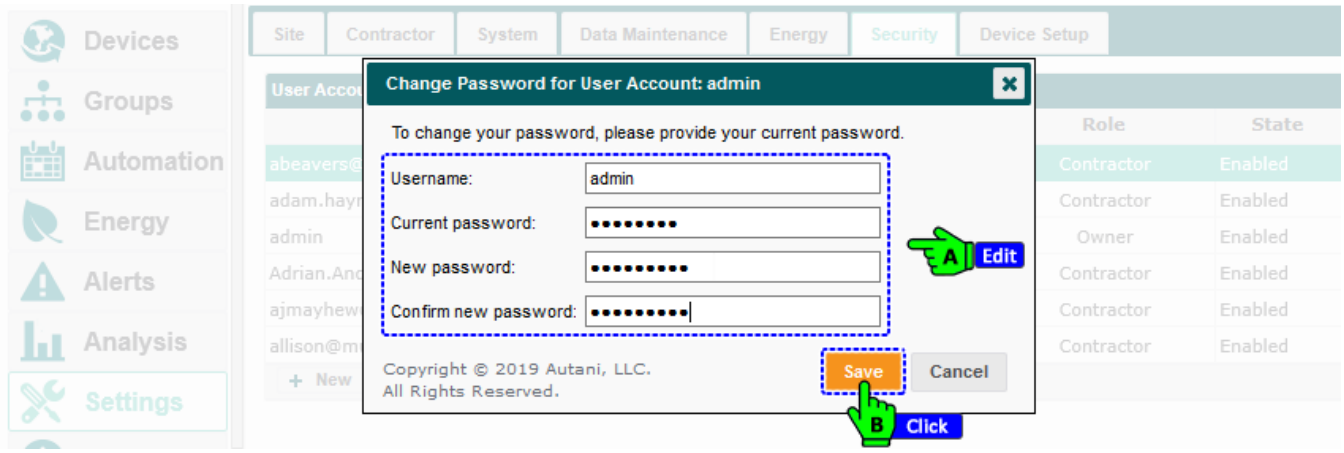


4.3.3. Changing an Account Password

1. On the left navigation bar, click **Settings**.
2. Click the **Security** tab.
3. Click the **Change Password** button under the list of user accounts.



4. Enter the username and current password.
5. Enter and then confirm a new password.
6. Click **Save**.



5. Managing Devices

5.1. Using Event Logs

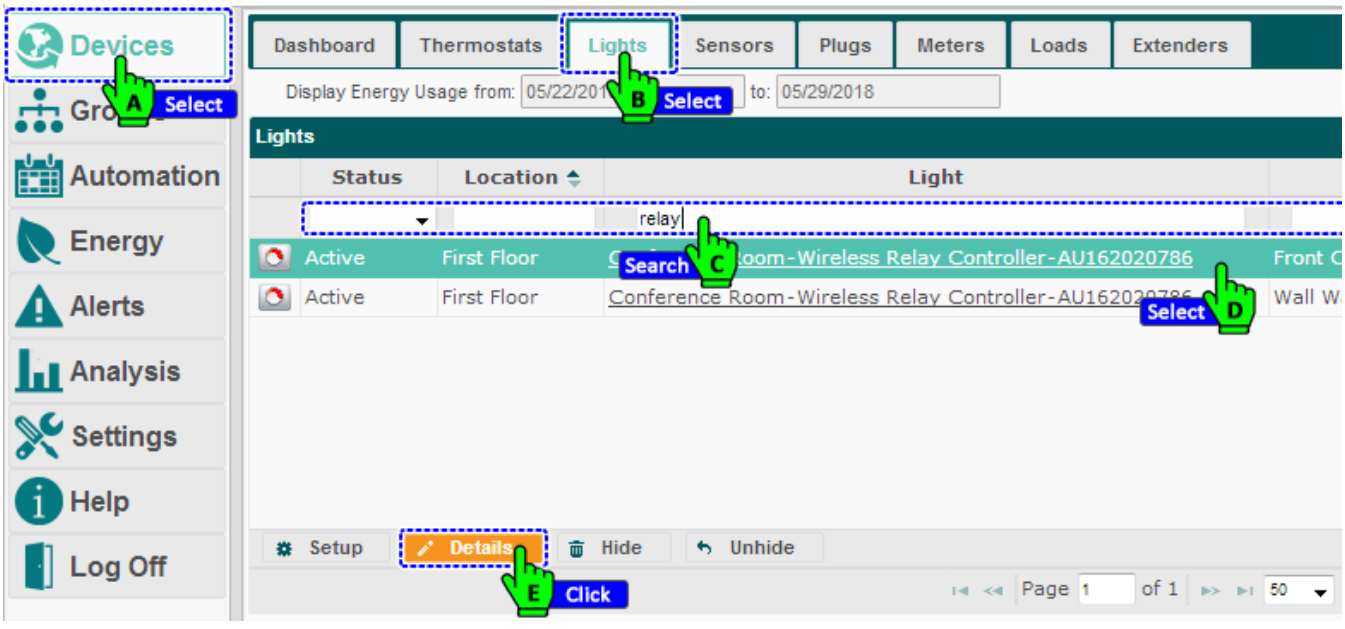
Whenever a device reports a transition, the application records the event in an events log. The log can be accessed for a specific date or date range and includes the information, similar to that in the table below for sensors.

Table 10: Event Logs: Sensors Example

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

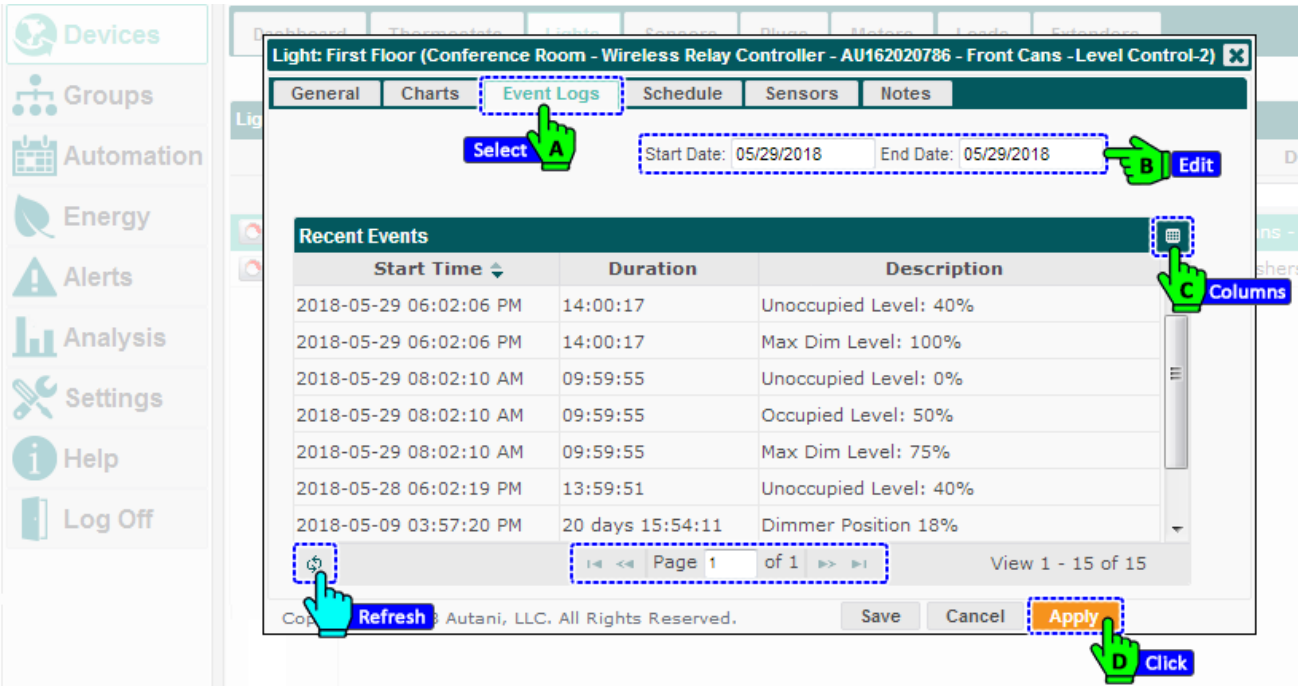
To view the event logs for a device:

1. On the left navigation bar, click **Devices**.
2. Click the appropriate tab to display all the devices of that type in the system.
3. Click the row of the device, double-click the row of the device, or click the row of the device 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 during the date range are included in the event logs.



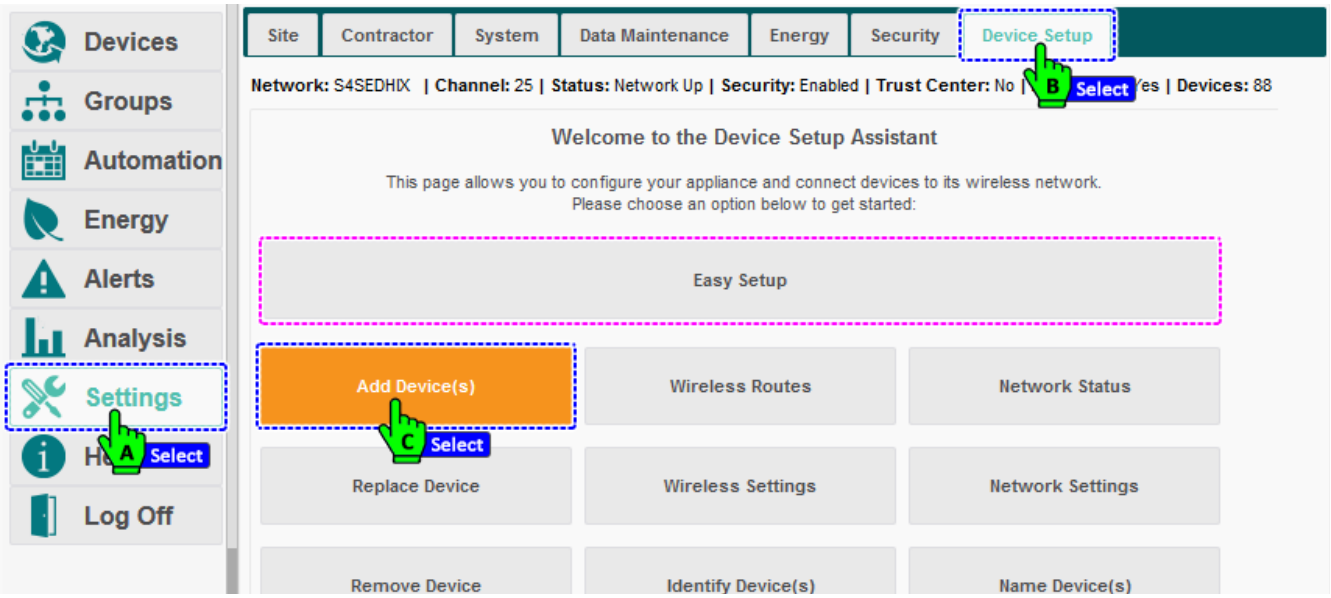
6. To select the data columns to be displayed.
   - Click the picker. Select the checkboxes of the columns to be displayed. Click **OK**.

5.2. Adding Devices to the Network

Devices must be added to the network in order to communicate with the application.

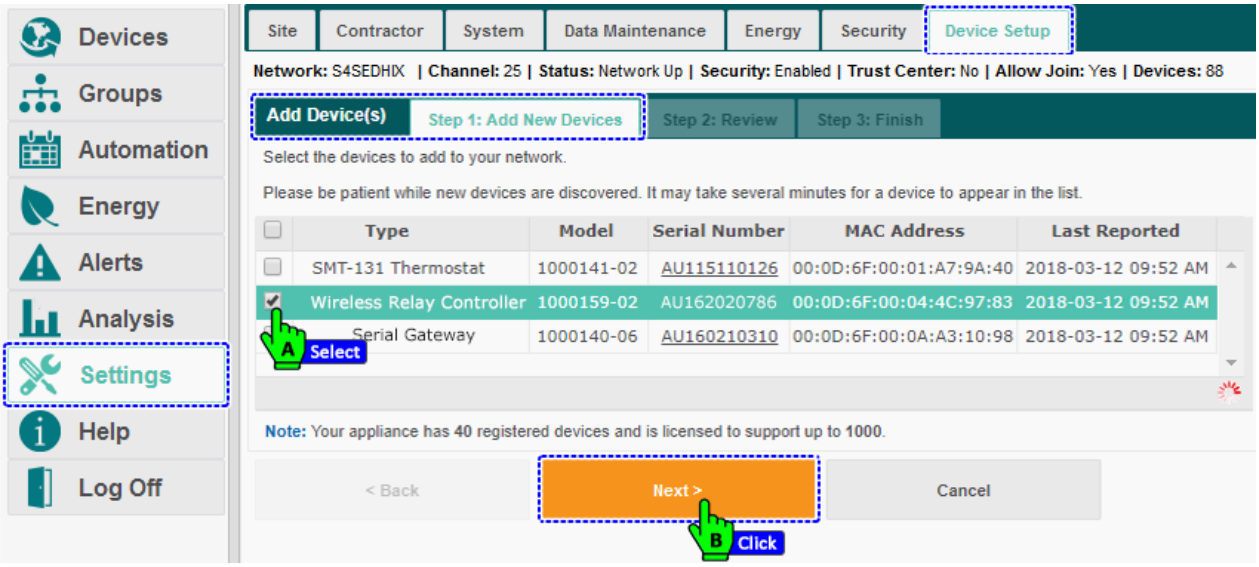
To add a device to the network:

1. On the left navigation bar, click **Settings**.
2. Click the **Device Setup** tab.
3. Click the **Add Device(s)** button.

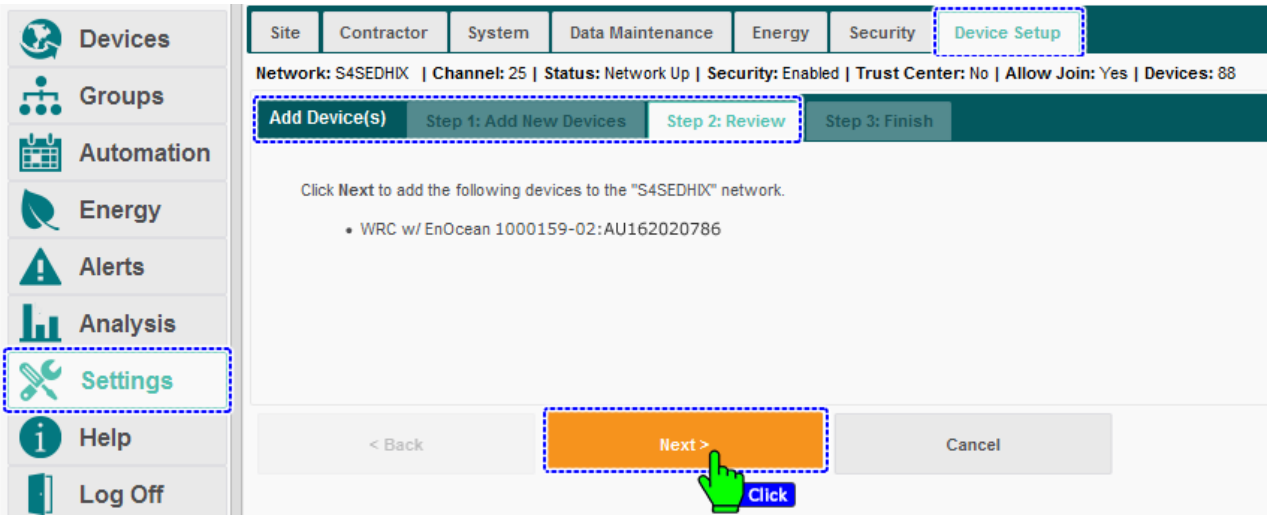


4. Select the checkboxes next to the devices to be added to the network.

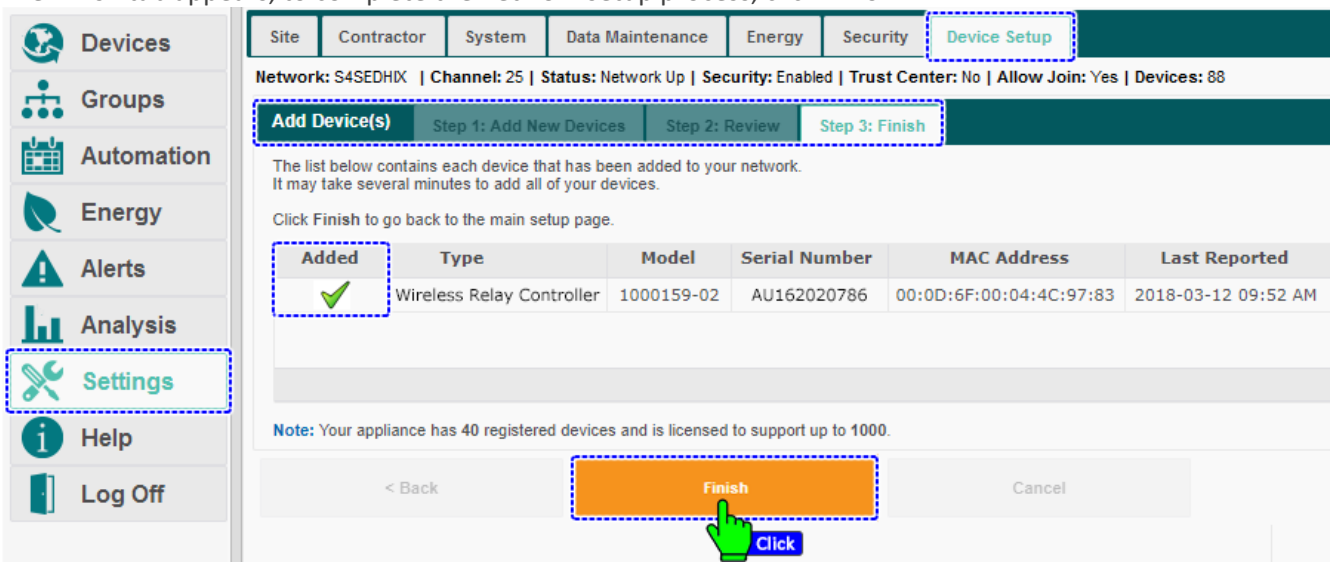
5. Click **Next**.



6. The **Review** tab appears, review the selected device and click **Next**.



7. The Finish tab appears, to complete the network setup process, click **Finish**.



5.3. Replacing a Networked Device

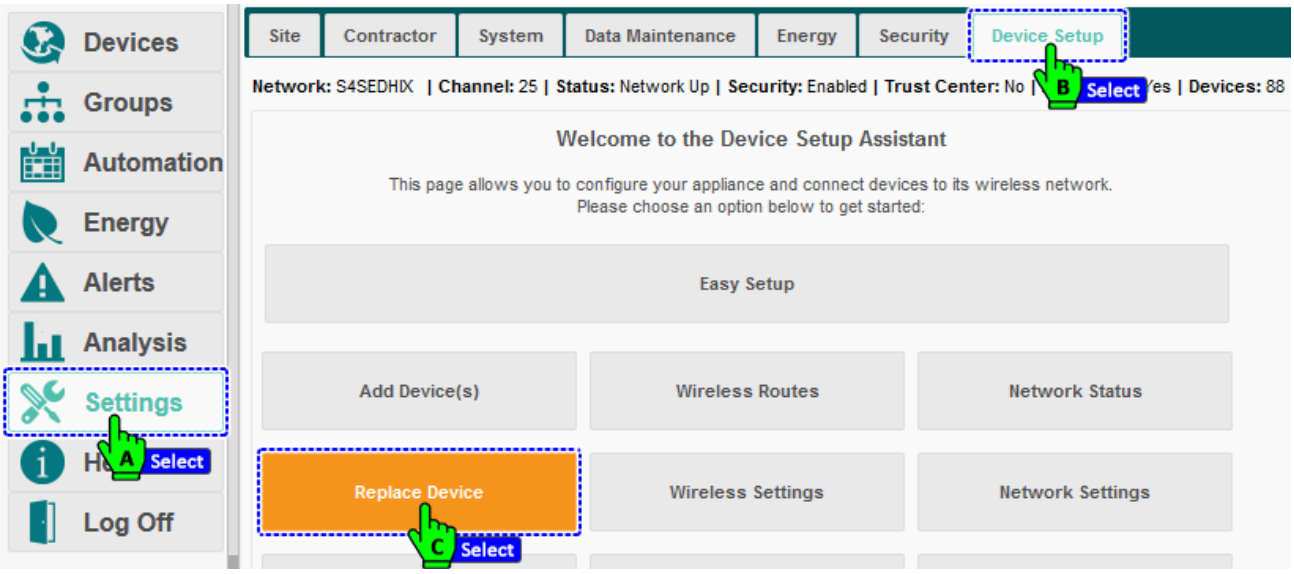
The replace function is used to:

- Quickly remove and add devices
- Save the historical data the replaced device collected.

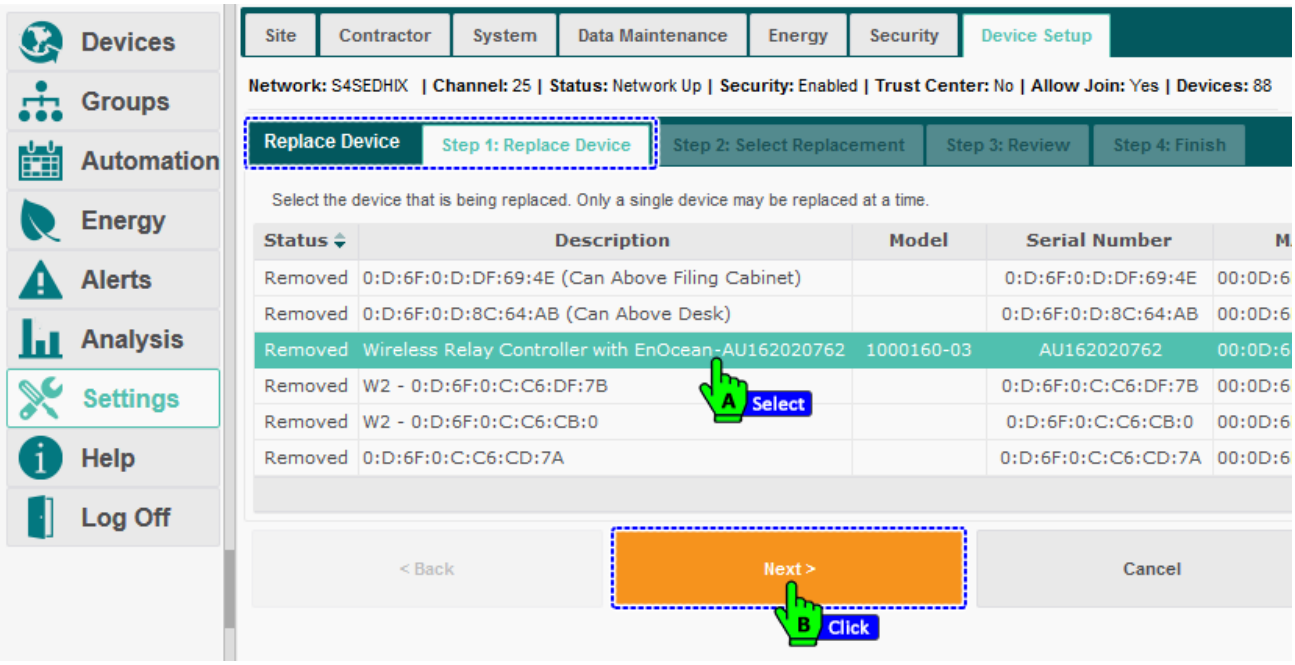
  NOTE: Data from a replaced device is merged with data reported by the new device.

To replace a device on the network:

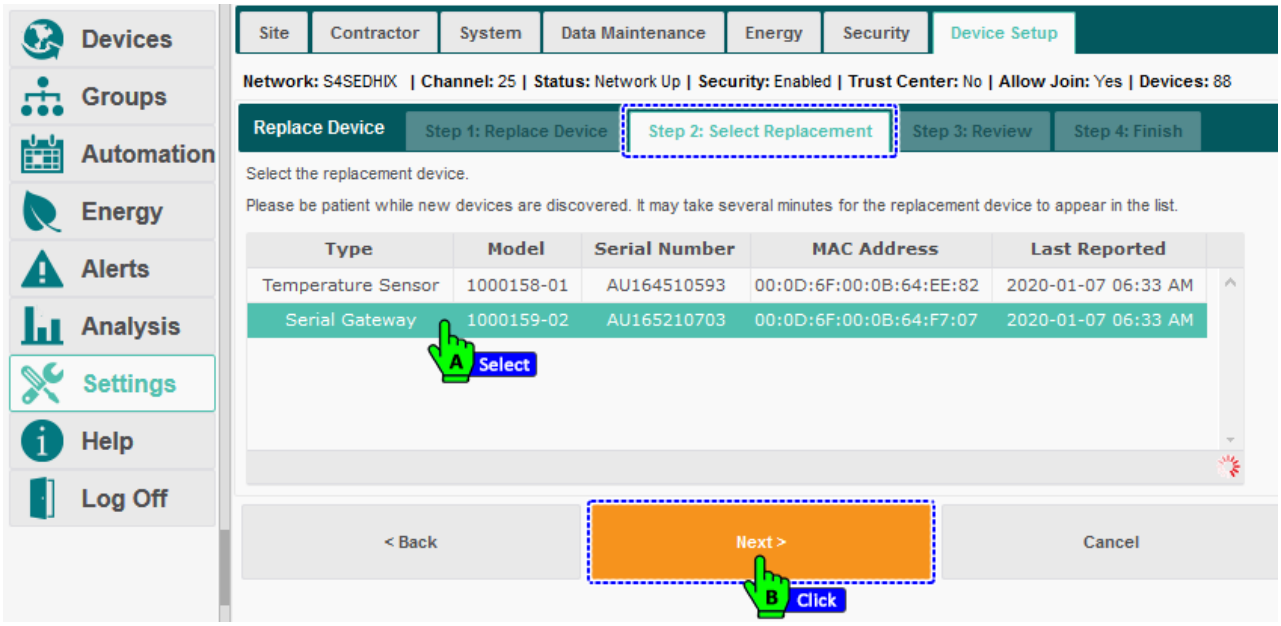
1. Install the new device according to its installation guide.
2. On the left navigation bar, click **Settings**.
3. Click the **Device Setup** tab.
4. Click the **Replace Device** button.



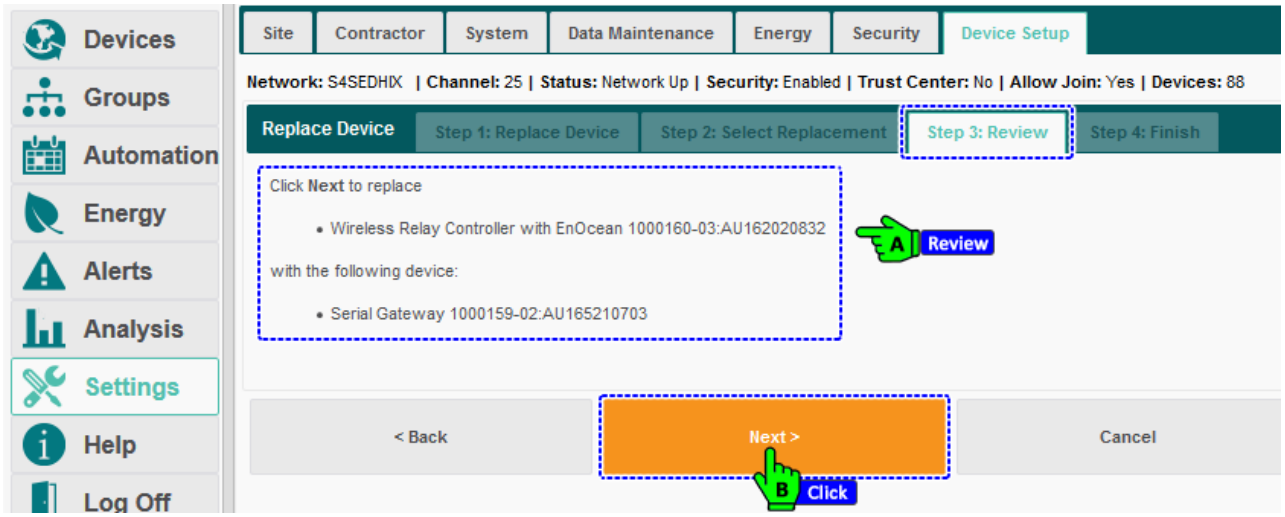
5. Select the device you want to replace. Click **Next**.



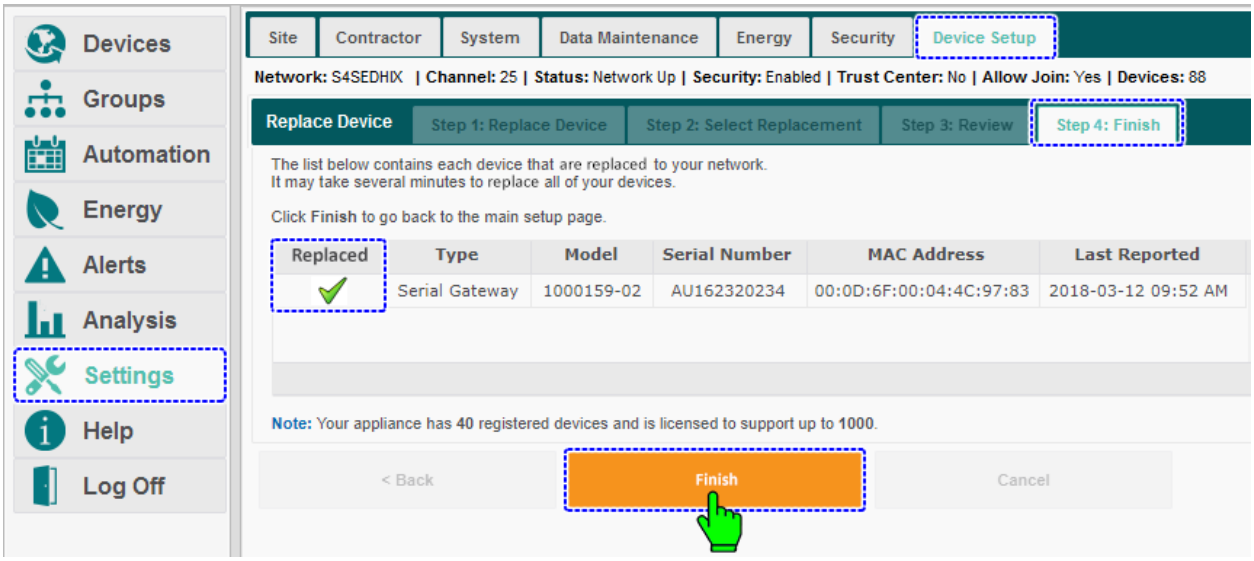
6. Select the device to be added. Click **Next**.



7. Review the summary information about the devices being replaced, and then click **Next**.



8. Click **Finish**.

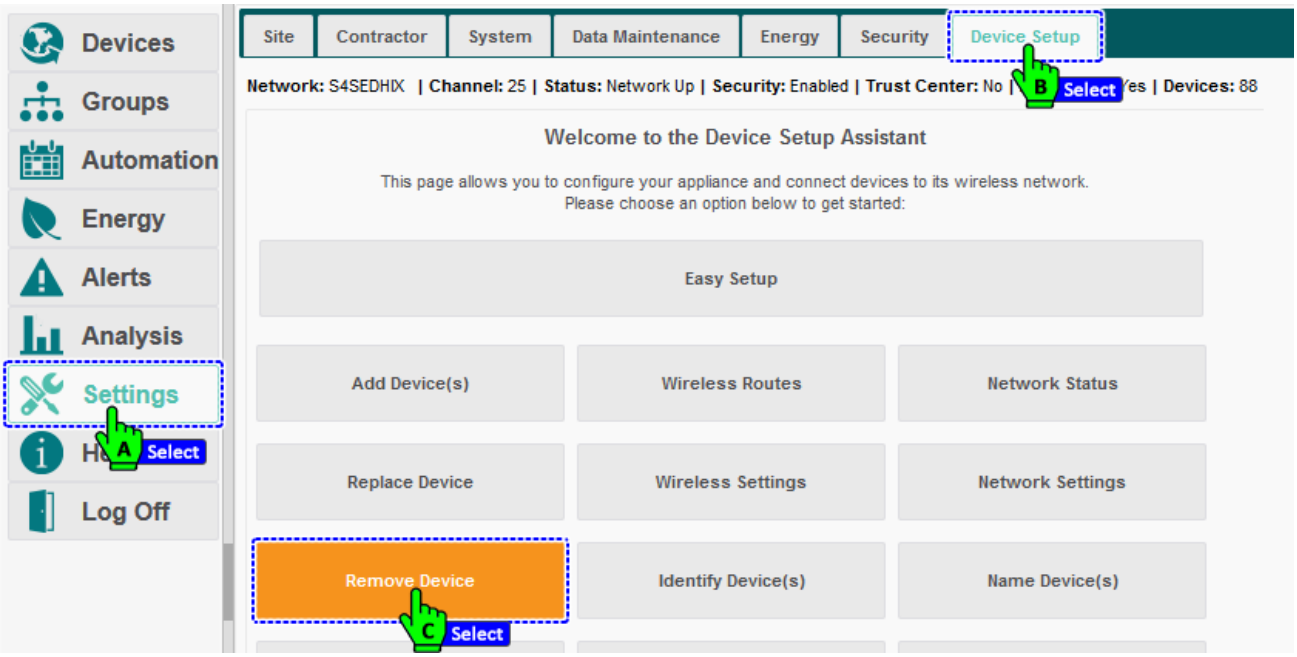


5.4. Deleting a Networked Device

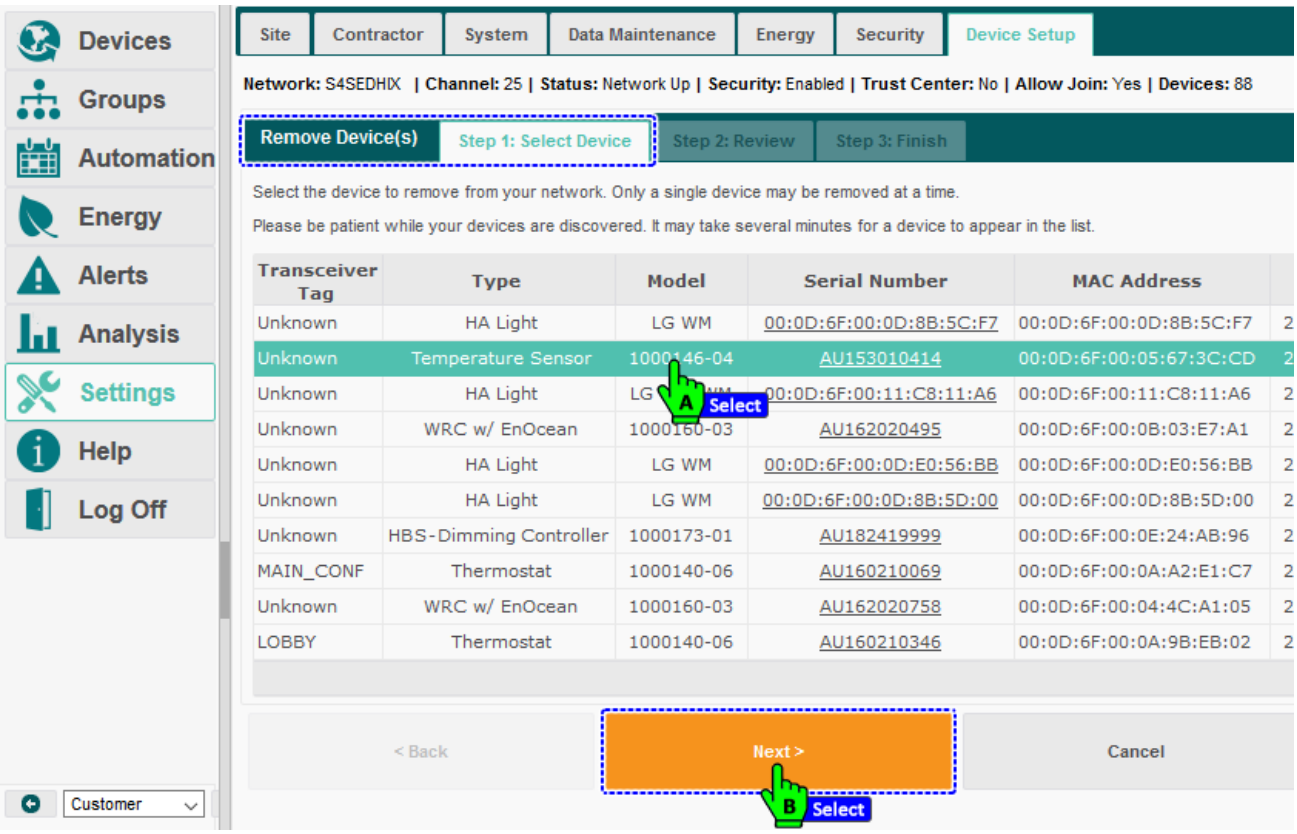
CAUTION: Deleting a device from the network also deletes the data it has collected. To save the historical data for analysis and comparison purposes, see '*Replacing a Networked Device*'

To remove a device from the network:

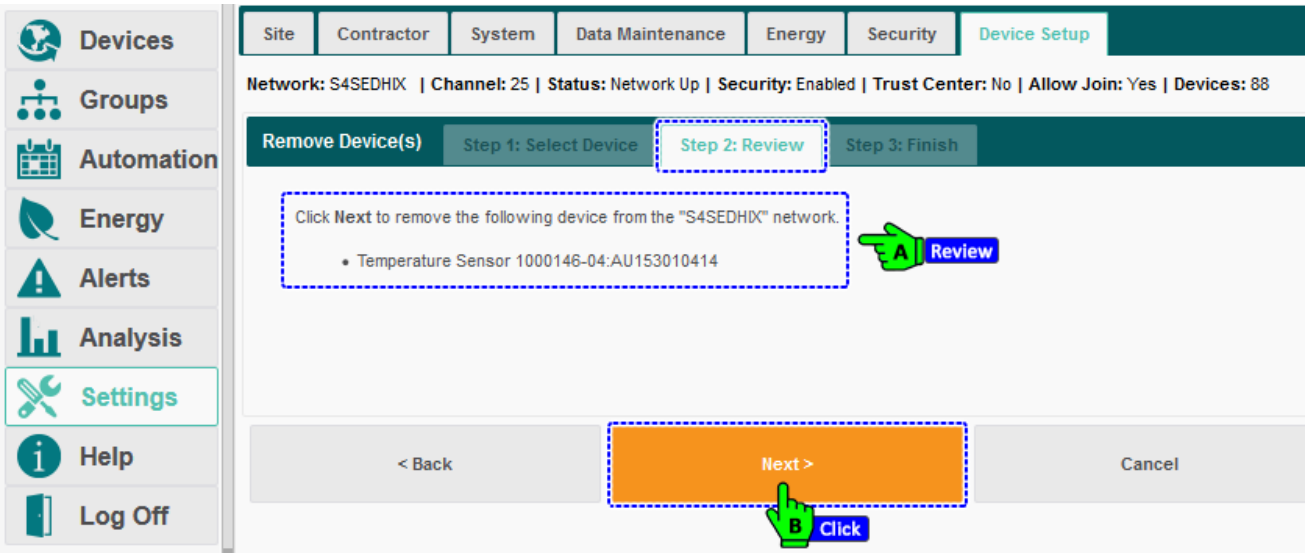
1. On the left navigation bar, click **Settings**.
2. Click the **Device Setup** tab.
3. Click the **Remove Device** button.



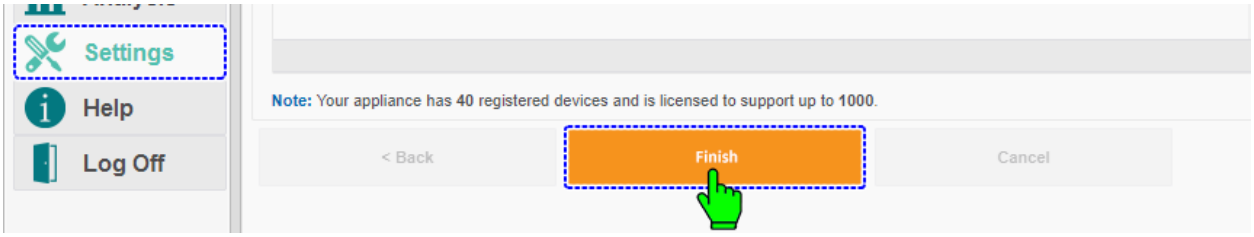
4. Click the row of the device to be removed from the network. Click **Next**.



5. Review the information displayed, and then click **Next**.



6. Click **Finish**.



6. Using Occupancy-Related Data to Determine Device Behavior

6.1. Understanding Occupancy

The software can be used to specify device behavior based on whether or not a space is occupied.

> For example, changes in occupancy can be used in tandem with system devices to change heating and cooling temperatures and to turn power on and off to lights, Autani load controllers.

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

Occupancy determinations can also change device behavior when used in conjunction with scheduled events and event rules for scheduled overrides and on-demand curtailments. For more information, see '*Using Schedules, Overrides, and Curtailments*'.

6.2. Understanding Types of Occupancy Sensors

The following types of devices can be used in conjunction with the software to determine occupancy:

- ❑ Autani MINI Wired Motion Sensors and third party, wired motion sensors

  NOTE: If multiple Autani Wired MINI Motion Sensors are connected to an Autani Room Controller, the software determines a space is occupied when motion is detected by any one of the associated sensors.

- ❑ Autani MINI Wireless Motion Sensors
- ❑ Autani Wireless Contact Sensors
- ❑ Third party, wired contact sensors

  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.

6.2.1. Understanding Sensors Supported by Software Module

The types of devices that can be used to determine occupancy varies between software modules. See the table below for supported sensors.

Table 11: Sensors Supported by Software Module

Sensor	HVAC	Lights	Fans	Meters	PLUS Module (Plugs & Loads)
Wired Motion Sensors (Autani MINI Wired Motion Sensors and third-party sensors)	Y	Y	NA	NA	Y
Wireless Motion Sensors (Autani MINI Wireless Motion Sensors)	Y	Y	NA	NA	Y
Wired Contact Sensors (third party)	Y	Y	NA	NA	NA
Wireless Contact Sensors (Autani MINI Wireless Contact Sensors)	Y	NA	NA	NA	NA

6.2.2. Understanding Occupancy-Related Data Flow

The following table describes how data is transferred between devices reporting occupancy-related data and EnergyCenter® modules.

Table 12: Occupancy or Environmental Condition Data Transmitted

Device Reporting Data	From Sensor to Application	From Application to Sensor
Motion – Autani Room Controllers (ARCs)	Yes	No
Motion – battery-powered	Yes	No
Light level controllers when a photo sensor is measuring ambient light level	Yes	No
Light level controllers when controlling light level of a specific light or lights	No	Yes
Contact sensors	Yes	No

6.2.3. Understanding Device Modes with and Without Associated Sensors

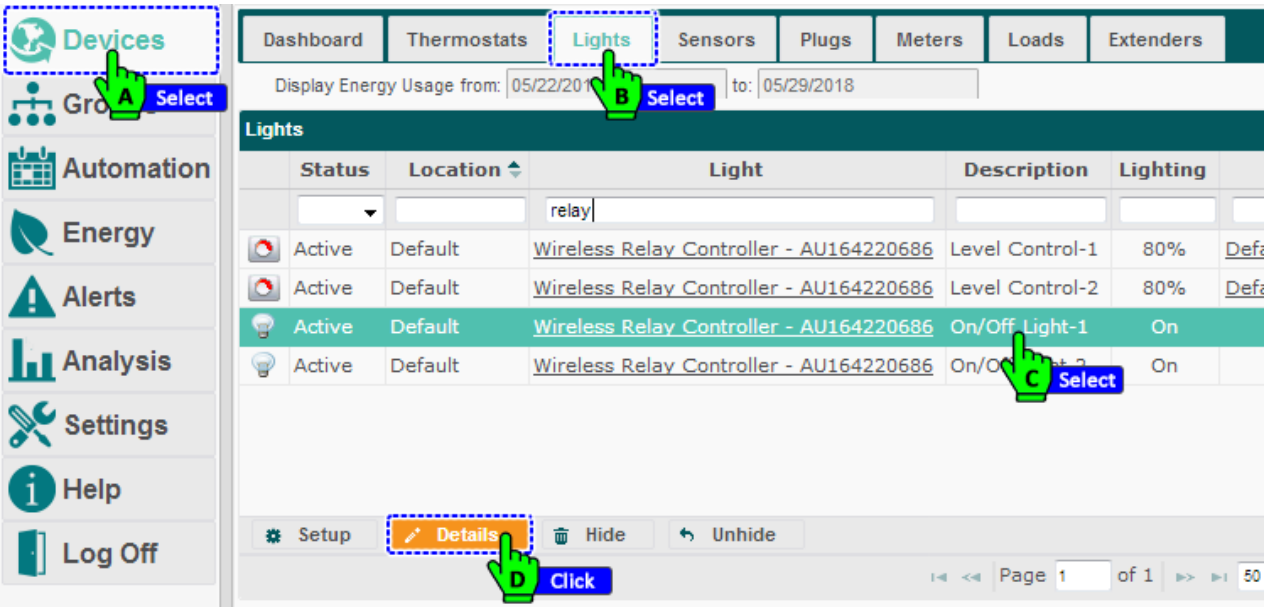
The following table describes how data is transferred between devices reporting occupancy-related data and EnergyCenter® modules.

Table 13: Device States/Modes with and Without Associated Sensors

EnergyCenter® Module	Without Sensor	With Associated Sensor
StatCenter	▪ OFF ▪ Auto ▪ Cool ▪ Heat ▪ E. Heat (Emergency Heat)	For both occupied and unoccupied setpoints: ▪ OFF ▪ Auto ▪ Cool ▪ Heat ▪ E. Heat (Emergency Heat)
FanCenter	▪ Speed ▪ Direction	NA
LightCenter (Lights)	▪ No Change ▪ ON ▪ OFF	▪ No Change ▪ Light ON (always ON) ▪ Lights OFF (always OFF) ▪ Smart ON/OFF ▪ Vacancy
LightCenter (Light Level Controllers)	▪ No Change ▪ On ▪ Off	▪ No Change ▪ ON ▪ OFF ▪ Smart ON/OFF ▪ Vacancy
MeterCenter	NA	NA
PLUS module: Plug Management (Autani SmartLets)	▪ No Change ▪ ON ▪ Off	▪ No Change ▪ ON ▪ OFF ▪ Smart ON/OFF ▪ Vacancy
PLUS module: Load Management (Autani load controllers)	▪ No Change ▪ ON ▪ OFF	▪ No Change ▪ ON ▪ OFF ▪ Smart ON/OFF ▪ Vacancy

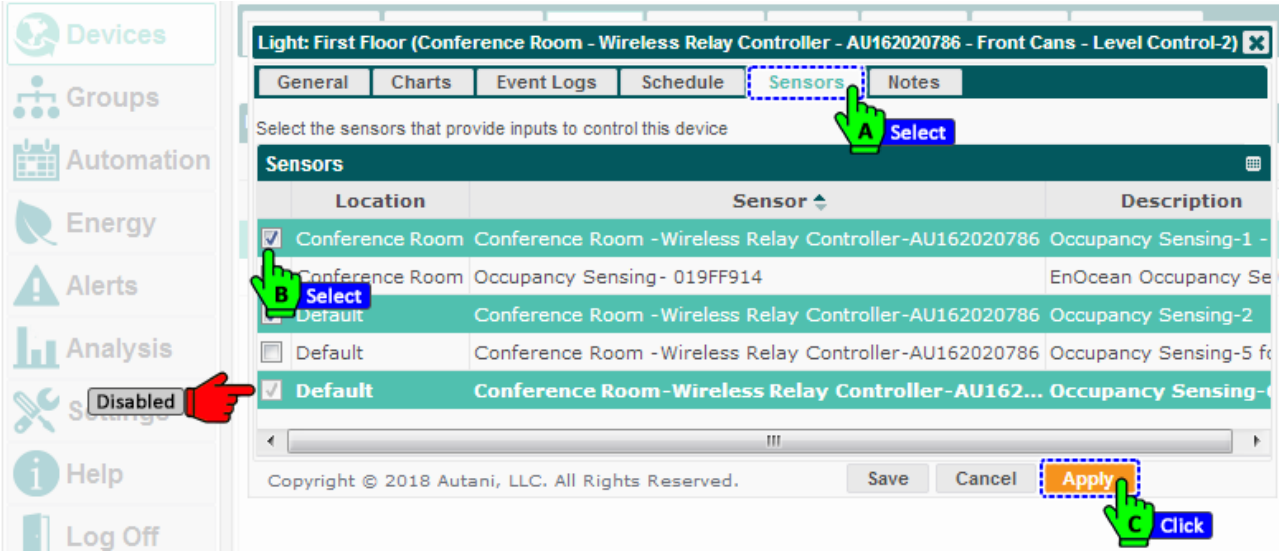
6.3. Associating Devices Used to Determine Occupancy

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



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

   NOTE: To disassociate a sensor from a device, deselect the checkbox next to the sensor.



6. Click **Save or Apply**.

6.4. Using Occupancy-Related Transition Delays

Occupancy delay intervals are commonly used to avoid immediate triggering of device settings every time movement is detected. The application has a default occupancy delay of two minutes before it processes a transition from an unoccupied state to an occupied state.

The length of the occupancy delay interval can be changed using any of the following:

- Occupancy sensor configuration settings
- A schedule event or scheduled override event rule assigned to a device
- A schedule template that is used to create a device schedule with events
- An event rule associated with a curtailment

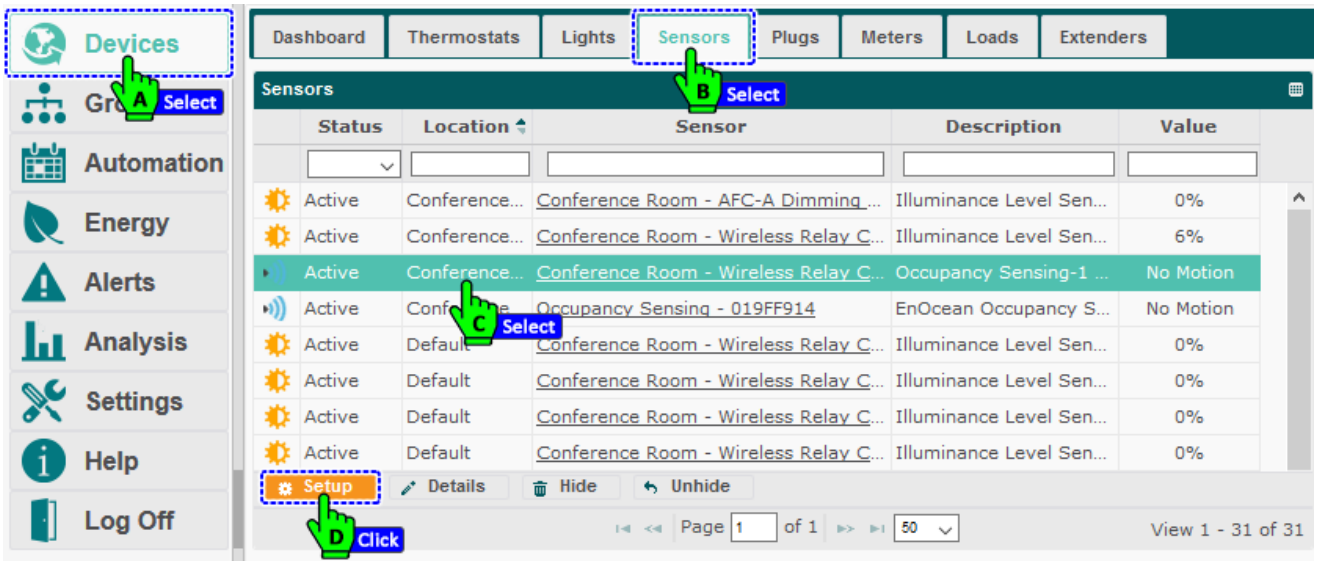
6.4.1. Setting Occupancy-Related Transition Delays

When configuring an occupancy sensor, set an occupancy delay interval to avoid immediate triggering of device settings every time movement is detected.

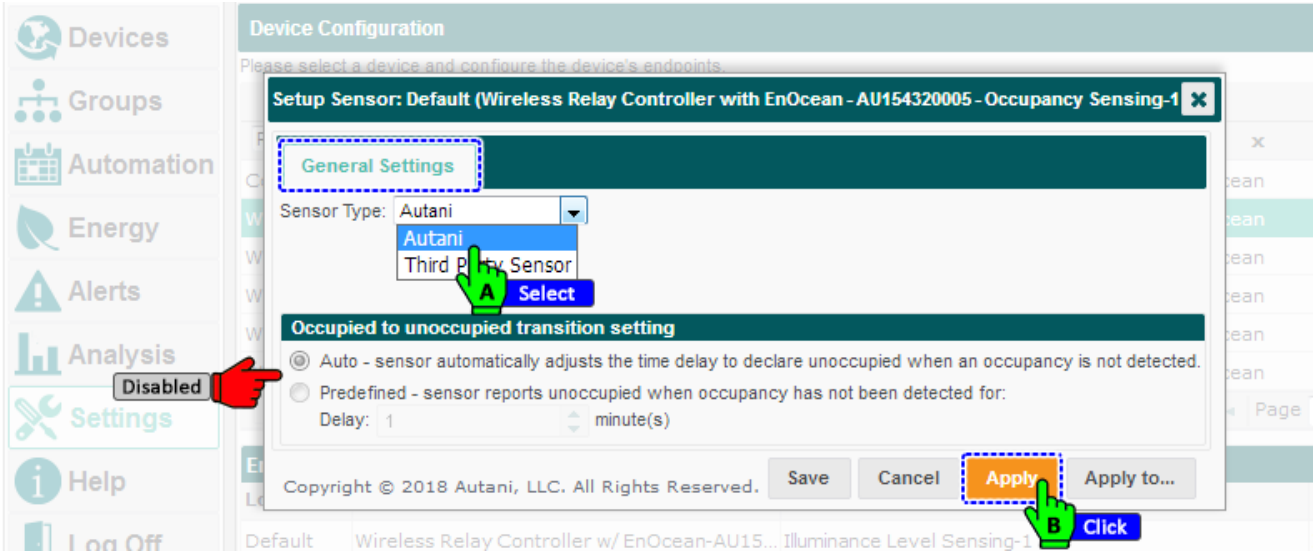
NOTE: The application has a default occupancy delay of two minutes before it processes a transition from an unoccupied state to an occupied state.

To set or change the occupancy delay interval for a sensor:

1. On the left navigation bar, click **Devices**. Click the **Sensors** tab.
2. Select an occupancy sensor. Click the **Setup** button.

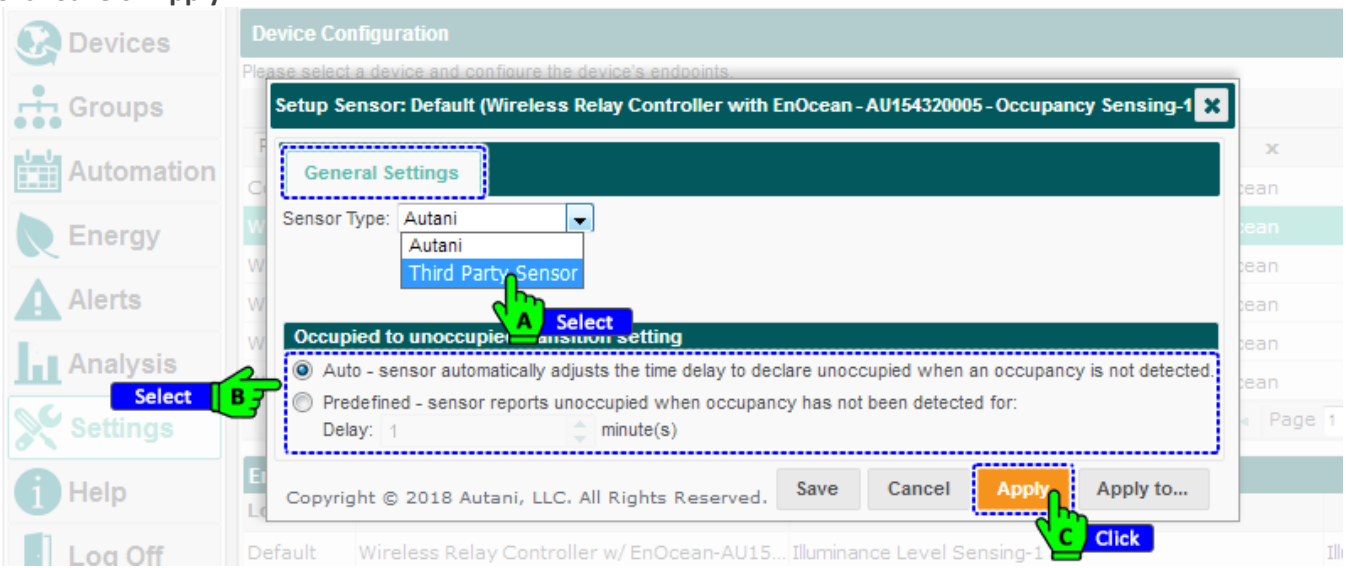


3. Select the **Sensor Type** as **Autani**. The Transition setting will be disabled.



4. Select the **Sensor Type** as **Third-Party Sensor**, which will allow the user to select an occupancy transition setting radio button.
   - If Auto is selected, the sensor does not use an occupancy delay when transitioning from occupied to unoccupied.
   - If Predefined is selected, then enter an occupancy delay of up to 1440 minutes (24 hours). The sensor reports a space as unoccupied when occupancy has not been detected for the specified time period.

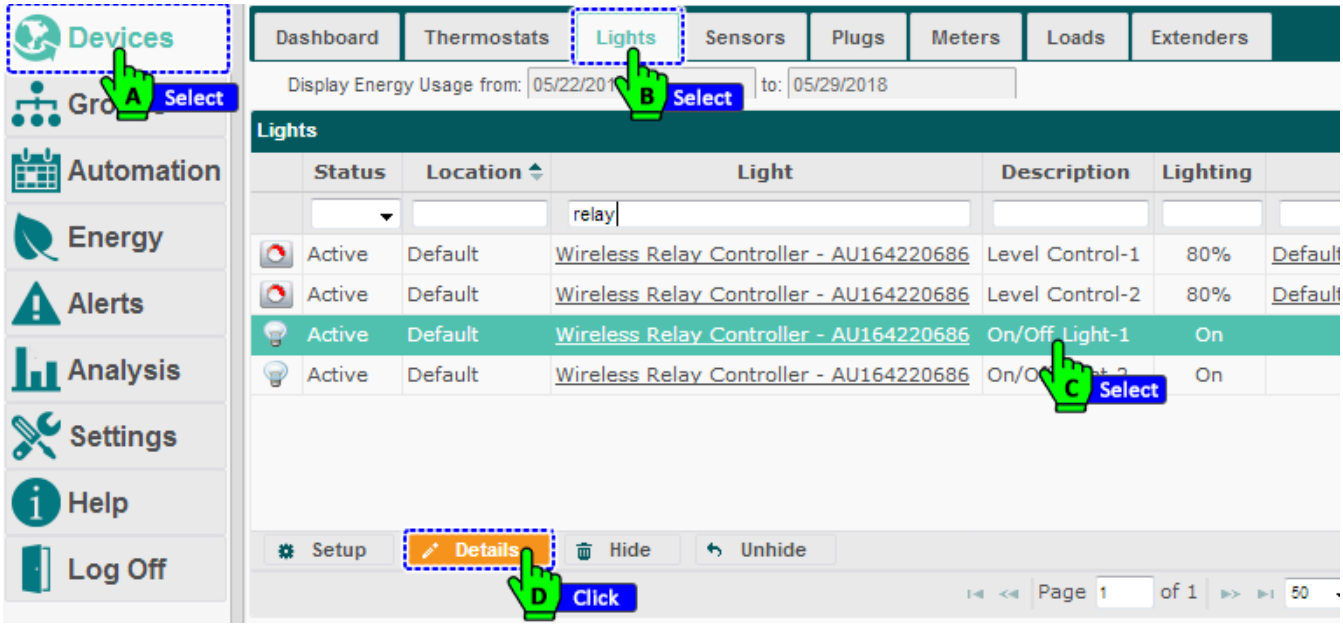
     NOTE: If a third-party sensor is used that has a fixed, pre-programmed occupancy delay, the application adds the amount of that delay to the occupancy delay specified by the user.
5. Click **Save** or **Apply**.



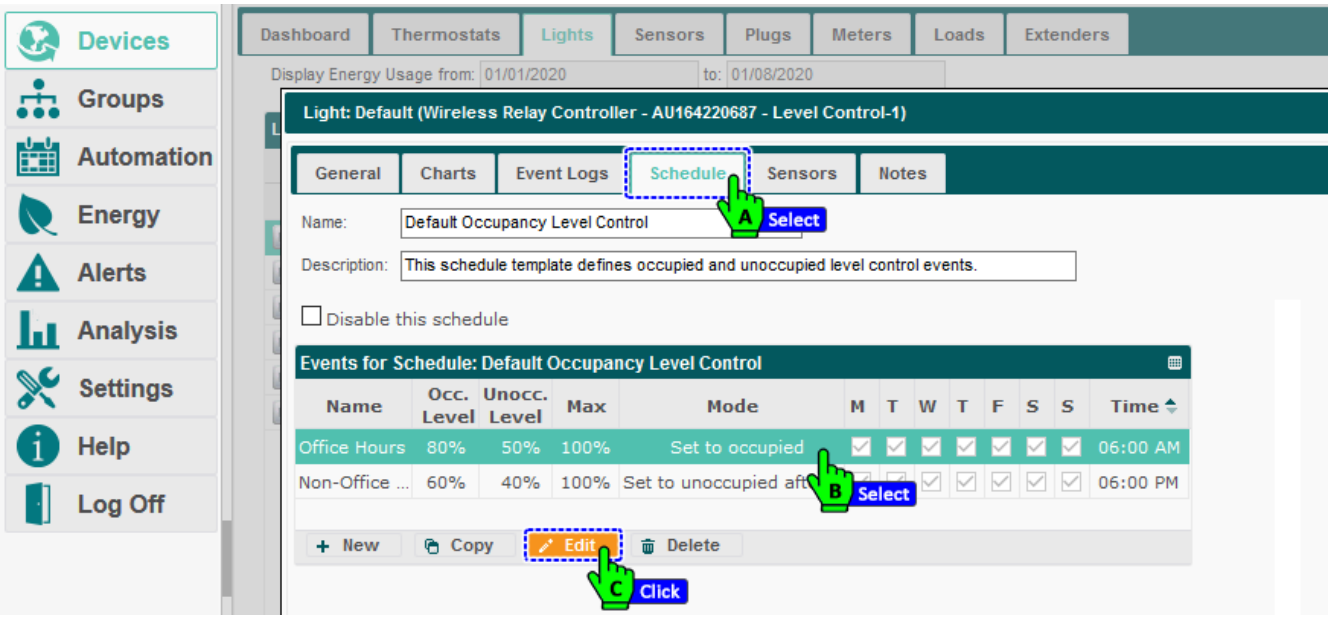
6.4.2. Changing the Occupancy-Related Delay for an Event

If a sensor is associated with a device, to change the occupancy delay as part of a schedule event:

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



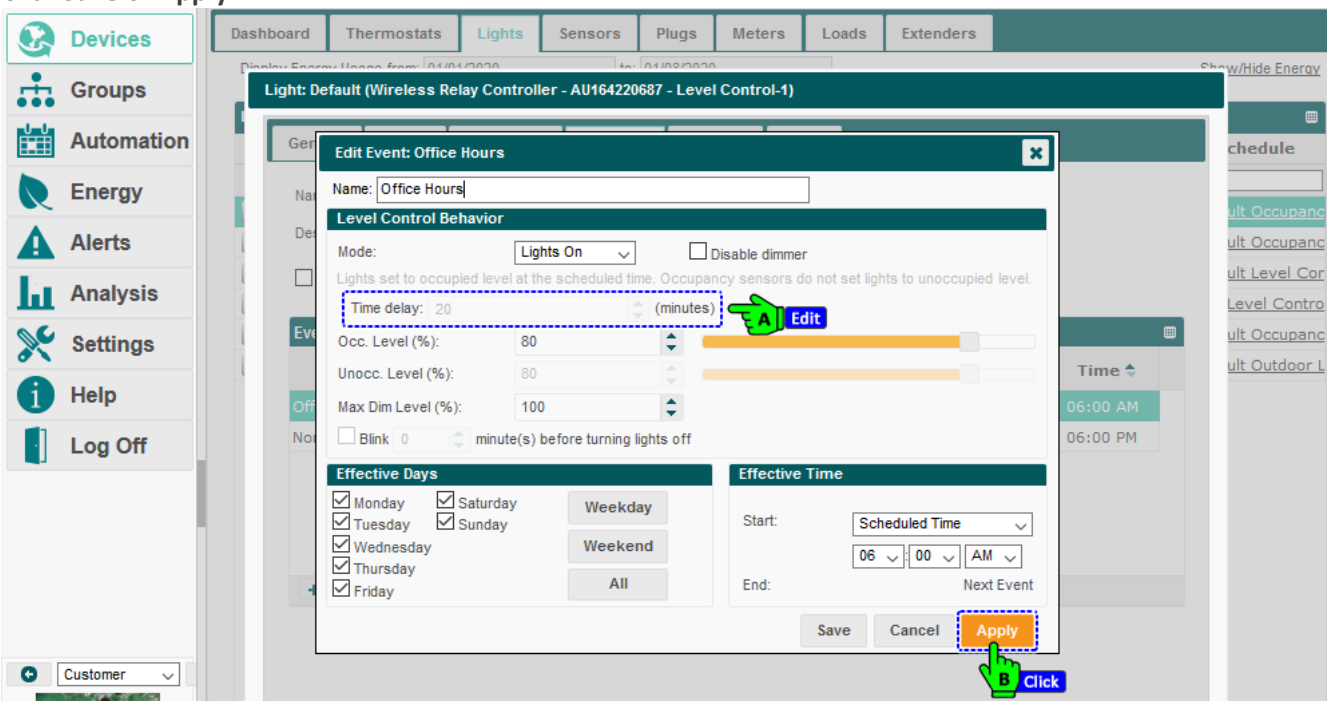
4. Click the **Schedule** tab.
5. Click the row of the event to be changed.
6. Click the **Edit** button.



7. Adjust the delay-related settings, as appropriate.

   NOTE: If third-party sensors with a fixed, pre-programmed occupancy delay are used, make sure to account for the difference when setting delay rules.

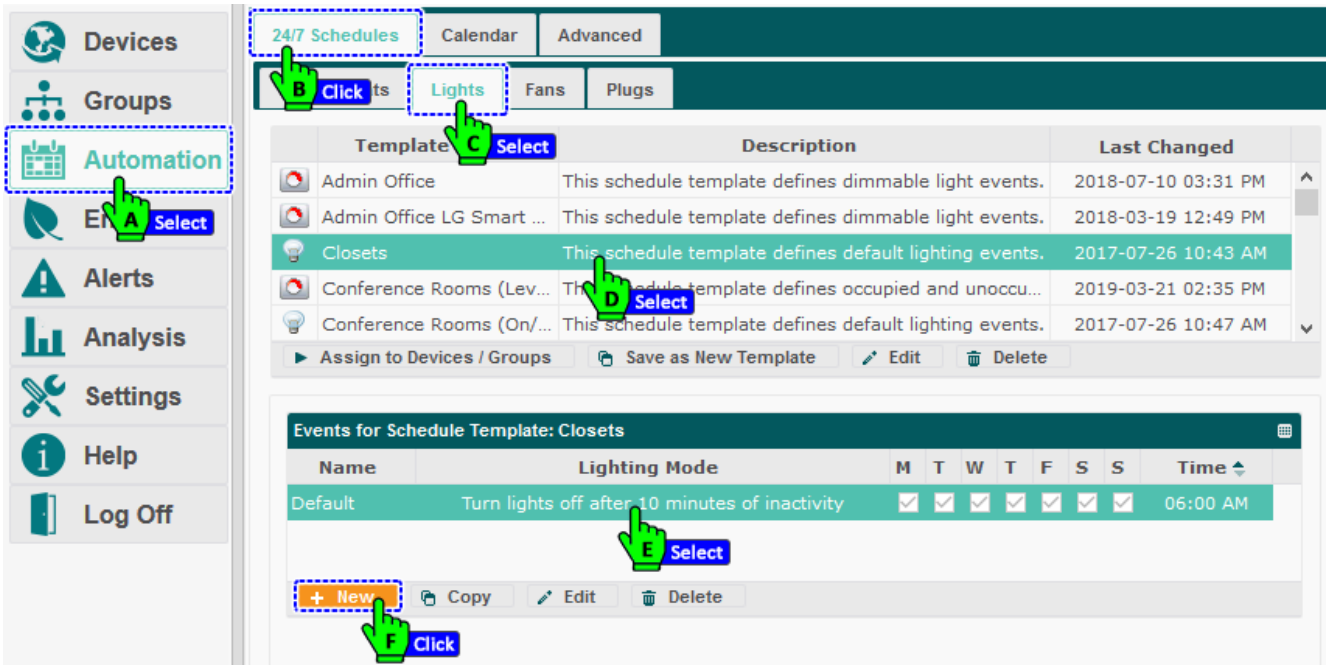
8. Click **Save** or **Apply**.



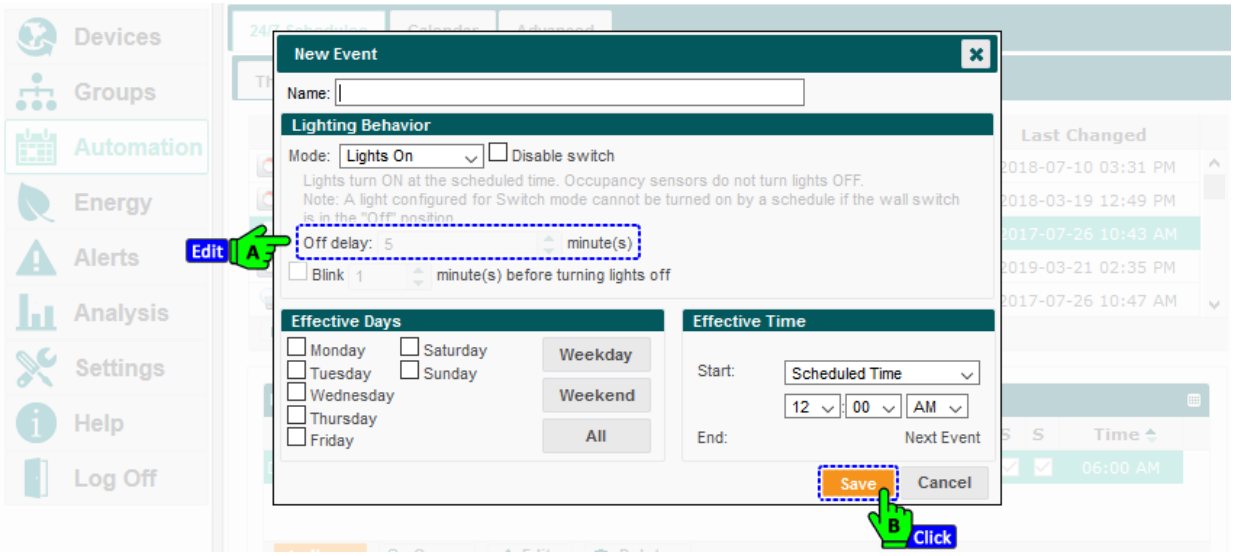
6.4.3. Changing the Occupancy-Related Delay in a Schedule Template

If a sensor is associated with a device, to change the occupancy delay as part of a schedule event:

1. On the left navigation bar, click **Automation**.
2. Click the appropriate device tab.
3. Click the row of the schedule template to be changed to select it.
4. Under the Events for Schedule Template, click the **Edit** button.



5. Adjust the delay-related settings, as appropriate.



NOTE: If third-party sensors with a fixed, pre-programmed occupancy delay are used, make sure to account for the difference when setting delay rules.

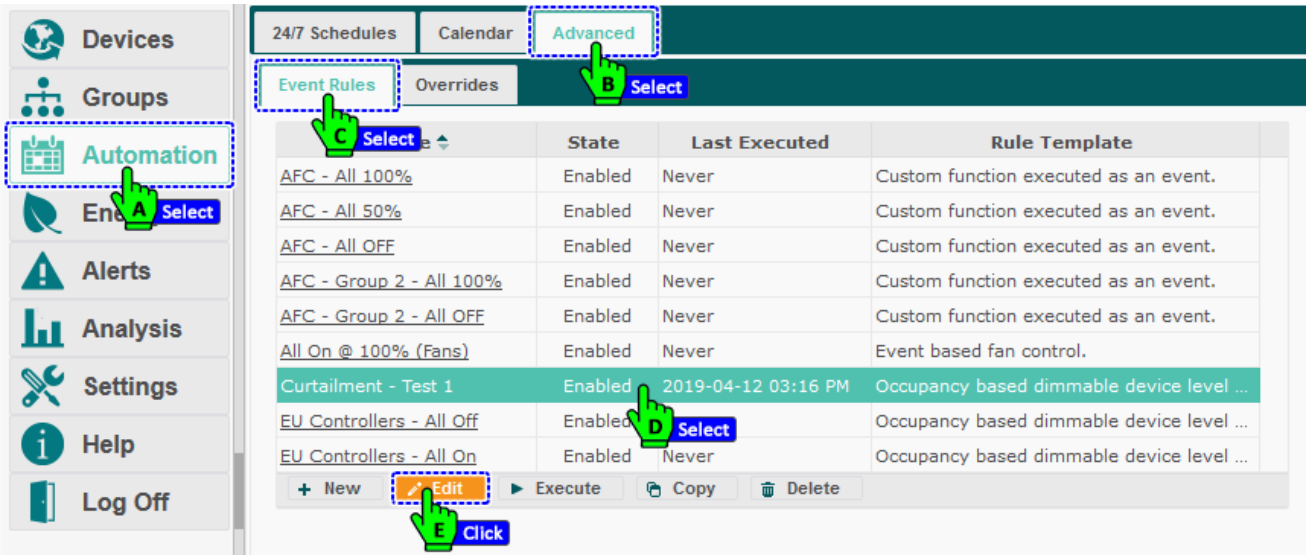
6. Click **Save**.

6.4.4. Changing the Occupancy-Related Delay for an Event Rule

Event rules are used with both overrides and curtailments.

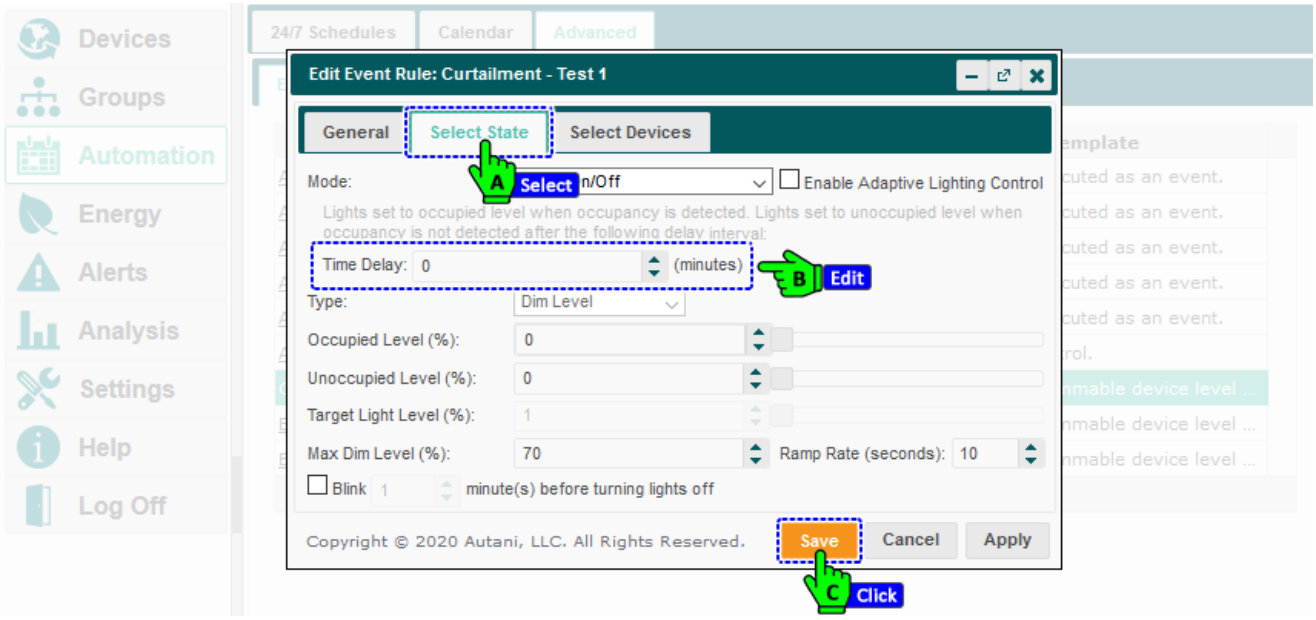
If a sensor is associated with a device, to change the occupancy delay as part of an override or curtailment

1. On the left navigation bar, click **Automation**.
2. Click the **Advanced** tab. The **Event Rules** tab is displayed.
3. Click the row of the event rule to be changed to select it.
4. Click the **Edit** button.



5. Click the **Select State** tab.
6. Adjust the delay-related settings, as appropriate.

   NOTE: If third-party sensors with a fixed, pre-programmed occupancy delay are used, make sure to account for the difference when setting delay rules.



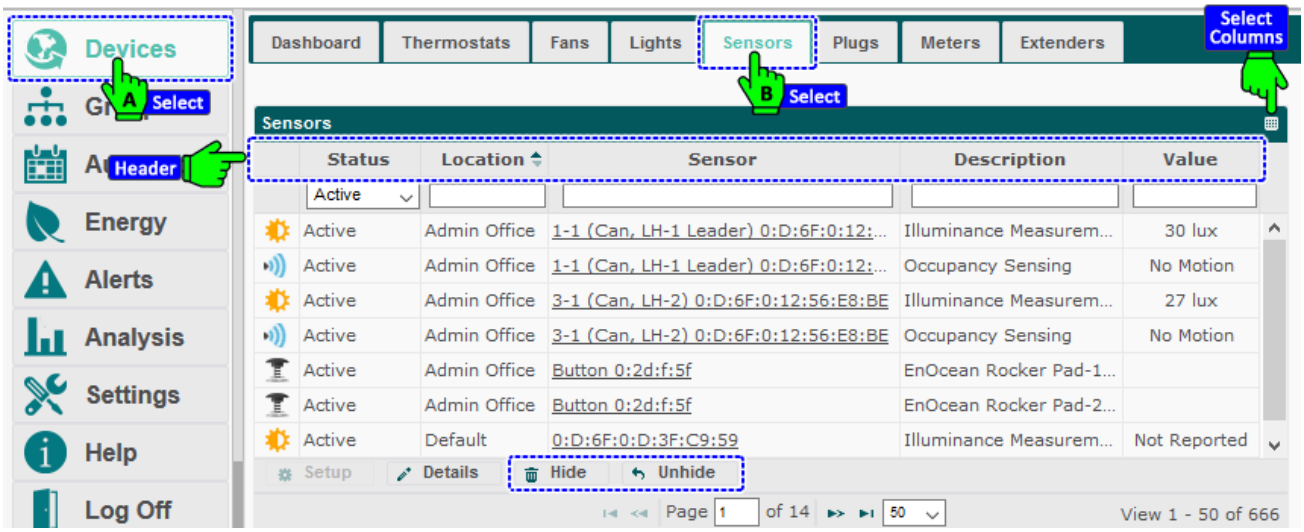
7. Click **Save**.

6.5. Viewing Occupancy-Related Data

6.5.1. 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 14: Data Displayed on Sensors Tab

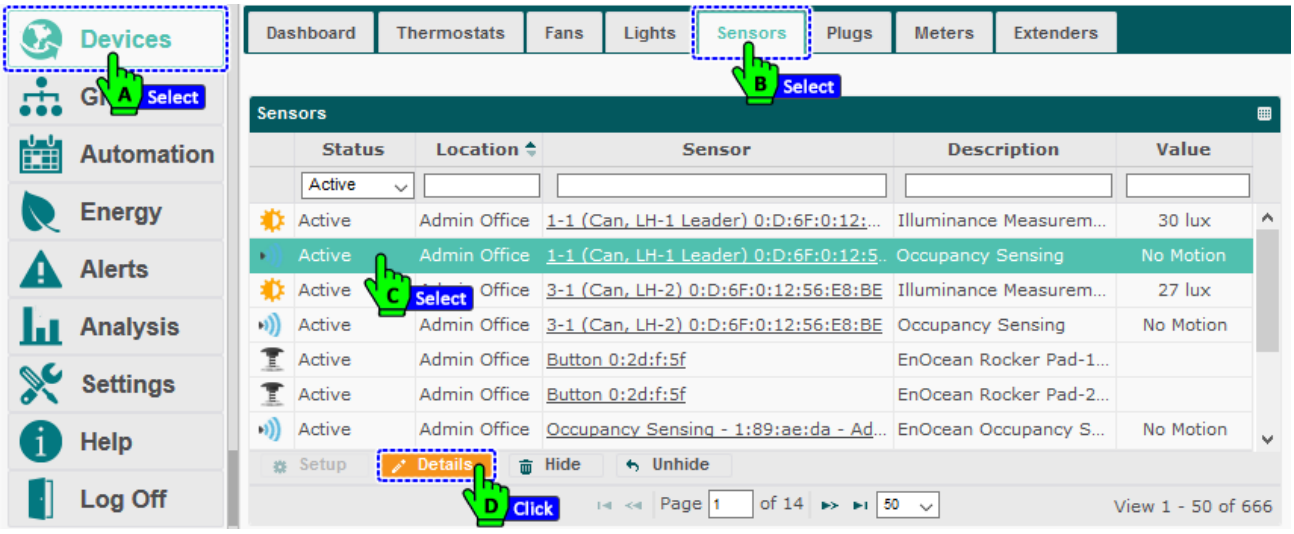
Data	Used To	Options
Status with icon	Shows the communication status of the sensor	▪ Active: The sensor is online and reporting data. ▪ Error: Sensor failed to report its network status. A battery-powered sensor may need new batteries.
Location	Identify the location group to which the sensor belongs	▪ Defaults to the Default location group when a device is first added to the network ▪ User can change ▪ Alphanumeric characters
Sensor	List the name of the sensor	▪ Defaults to device type and serial number ▪ User can change ▪ Alphanumeric characters
Description	Quickly identify the sensor endpoint on the device	▪ User-defined ▪ Alphanumeric characters
Value	Display occupancy-related status	▪ Motion sensors: □ Motion Detected □ No Motion ▪ Contact sensors: □ Open □ Closed

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	▪ %

6.5.2. Viewing Sensor Status and Data

To view information for a specific sensor, including occupancy data and sensor status as described in the two tables below:

1. On the left navigation bar, click **Devices**.
2. Click the **Sensors** tab to display all the sensors in the system.
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. To view the occupancy and sensor status data described in the two tables below.



4. After viewing the data, click **Save** or **Cancel**.

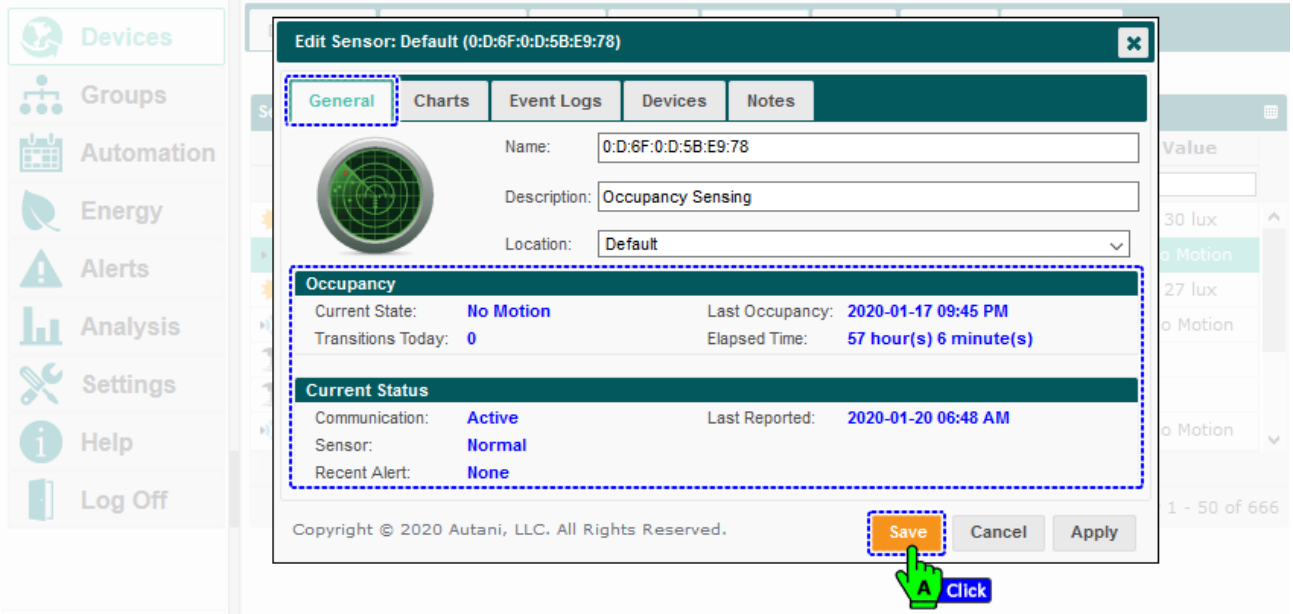


Table 15: Occupancy Data for Individual Sensors

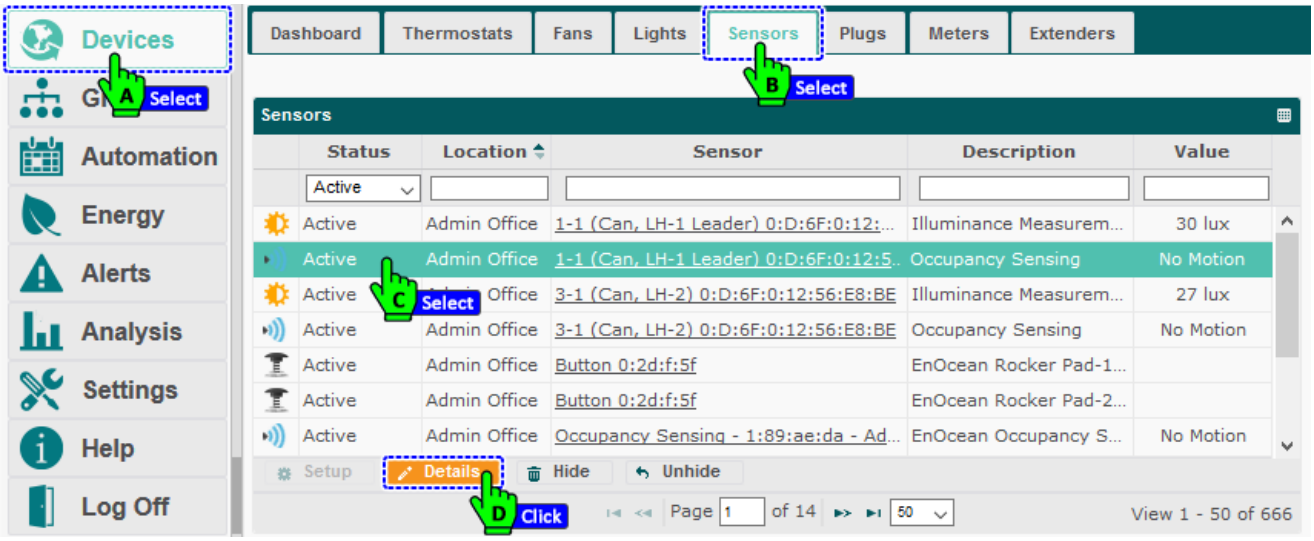
Setting	Used To	Options
Current State	Display occupancy-related status.	▪ Motion sensors: □ Motion Detected □ No Motion ▪ Contact sensors: □ Open □ Closed
Transitions Today	View the number of transitions between the states of motion and no motion.	Number of transitions.
▪ Last Occupancy (motion sensors) ▪ Last Contact Activity (contact sensors)	Identify the time/date stamp of the last reported state that indicates occupancy.	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.

Table 16: Status Data for Individual Sensors

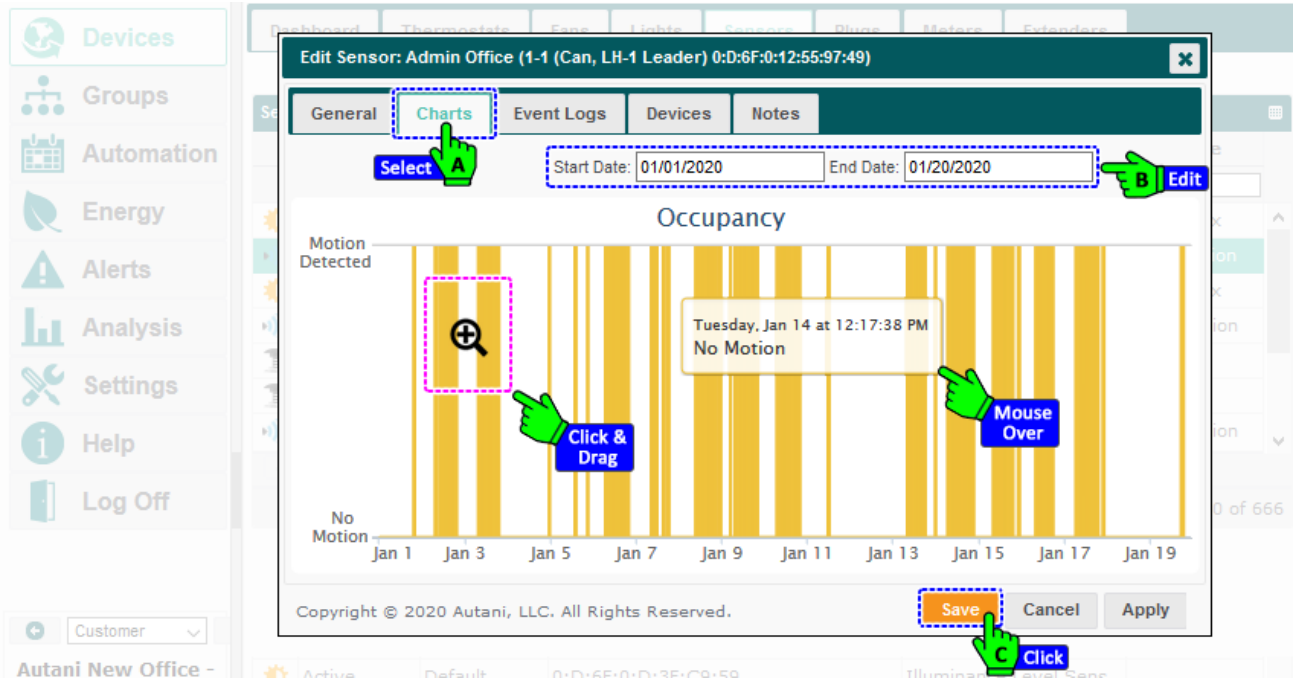
Setting	Used To	Options
Communication Status	Indicate if the sensor is actively communicating with the application.	▪ Active: Sensor is online and reporting data. ▪ Error: Sensor is not communicating with the Autani Manager over the autani.net network.
Sensor	Indicate the status of the sensor.	▪ Normal ▪ 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 is not communicating with the Autani Manager over the autani.net network. ▪ Warning: Specific error status message.
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
Battery Level (Available for battery-powered motion sensors)	View remaining battery life calculated using the most recent voltage reading from the sensor.	Graphical display of remaining battery life.

6.5.3. Viewing Sensor Charts

1. To view the occupancy chart for a specific sensor:
2. On the left navigation bar, click **Devices**.
3. Click the **Sensors** tab to display all the sensors in the system.
4. 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.



5. Click the **Charts** tab. A graphical view of occupancy-related 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**.
6. Click the **Start Date** and **End Date** textboxes to access the calendar and set the date range for the graph.
7. After viewing the chart, click **Save** or **Cancel**.

7. Using Device Groups

7.1. Understanding Location vs. Collection Groups

To manage and schedule multiple devices simultaneously, group them together by location or other criteria. Differences between the groups are described in the table below.

NOTE: A **collection group** cannot be changed into a **location group**.

Table 17: Location vs. Collection Groups

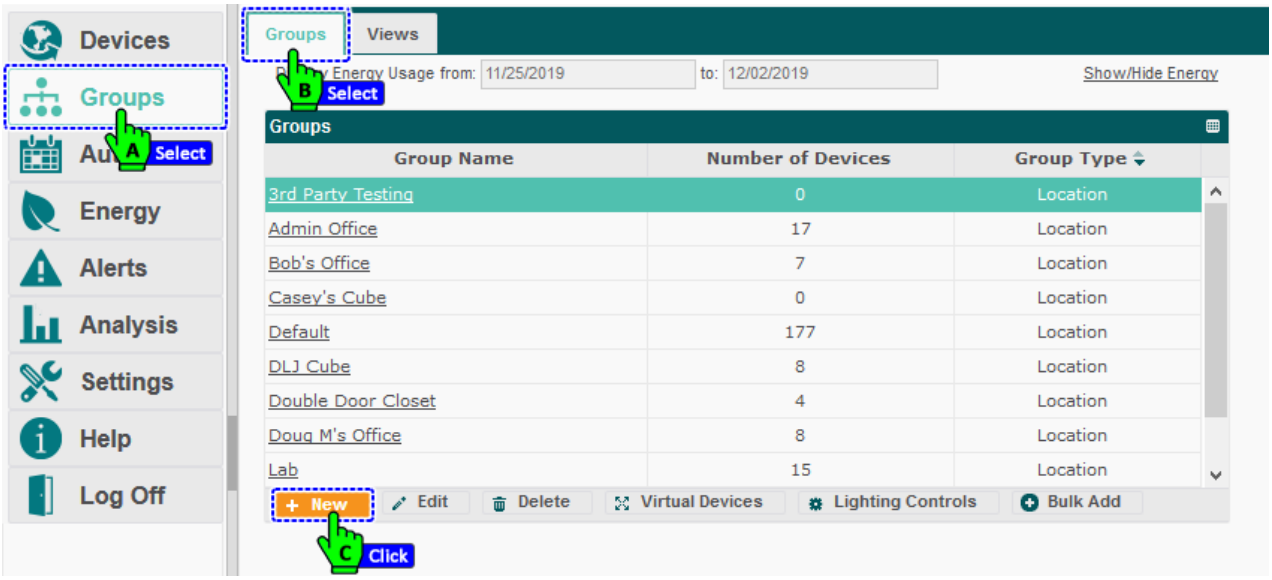
Differences	Location Groups	Collection Groups	Tenant Control
Represent	Devices located in the same physical area.	A logical group of devices regardless of their location.	A group of devices that may be controlled remotely by a tenant.
Examples	▪ Lights in a lobby. ▪ Thermostats that control heating or cooling on different floors of a building. ▪ Meters that monitor the temperature of several apartments in a building.	▪ One, two, or three-bedroom apartments in an apartment complex. ▪ Different types of devices in one or more buildings.	▪ Lights in the house. ▪ Different types of devices in the house.
Device Group Membership Rules	▪ Default group for all configured devices, including if a specific location group is deleted. ▪ May belong to only one location group. ▪ If a location or collection group to which a device belongs is deleted, the device is automatically reassigned to the default location group.	▪ May include multiple locations. ▪ May belong to multiple collection groups.	▪ May belong to only one location group.
Data Displayed	▪ In the Groups screen. ▪ Can be displayed in all group consumption and cost graphs, depending on user selections.	To prevent double counting a device's consumption, collection group data is not used to generate the consumption data displayed in the Groups screen.	
Checkbox Setting	Select the **Use this group to represent a location** checkbox in the New Group dialog box.	Deselect the **Use this group to represent a location** checkbox in the New Group dialog box.	

7.2. Creating a Device Group

Only users with Owner or Contractor user accounts can create device groups. Other users can monitor electricity usage by group but cannot create, edit, or delete groups.

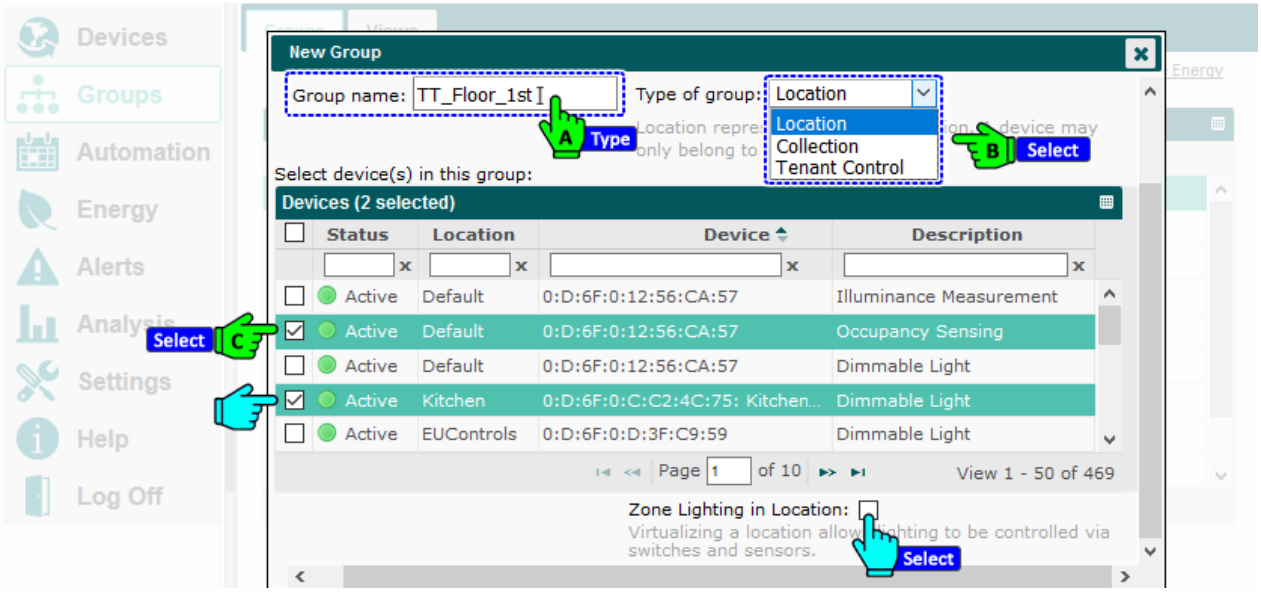
To create a new device group:

1. On the left navigation bar, click **Groups**. Click the **New** button below the list of groups.



2. Enter a name in the **Group Name** textbox.
3. Select the Use this group to represent a location checkbox if the group:
   i. Includes devices from a single geographic location
   ii. Is to be identified as a Location group

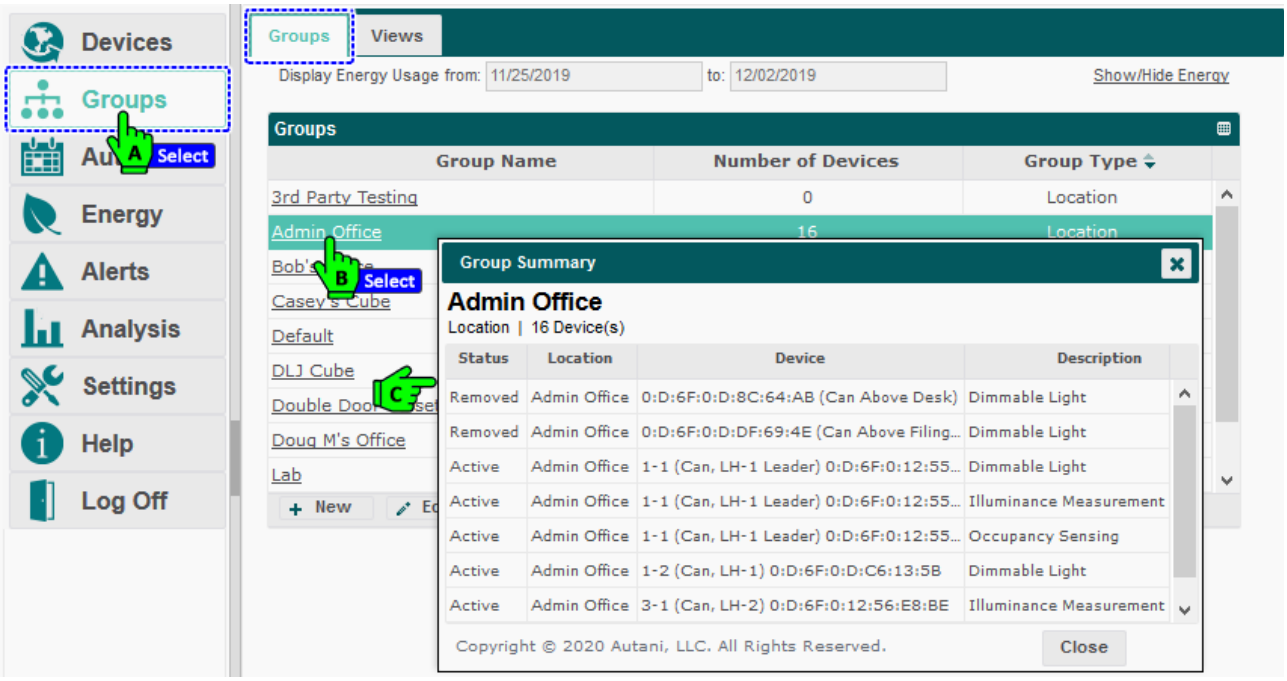
   NOTES:
   - A device can belong to only one location group.
   - To prevent double counting a device's consumption, only Location groups are used to generate the consumption data displayed in the Groups screen.
4. Select the checkboxes next to the devices to be included in the group.



5. If required enable Zone Lighting in Location, which controls virtualized location via switches and sensor.
6. Click **Save** and click **Yes** on the popup window.

7.3. Viewing the Status of a Group

1. On the left navigation bar, click **Groups**.
   Groups are listed by name, number of devices in the group, and the type of group.
2. To view additional information, click the name link of the group.
   A Group Summary screen appears listing the group's status, location, and device name and descriptive information.



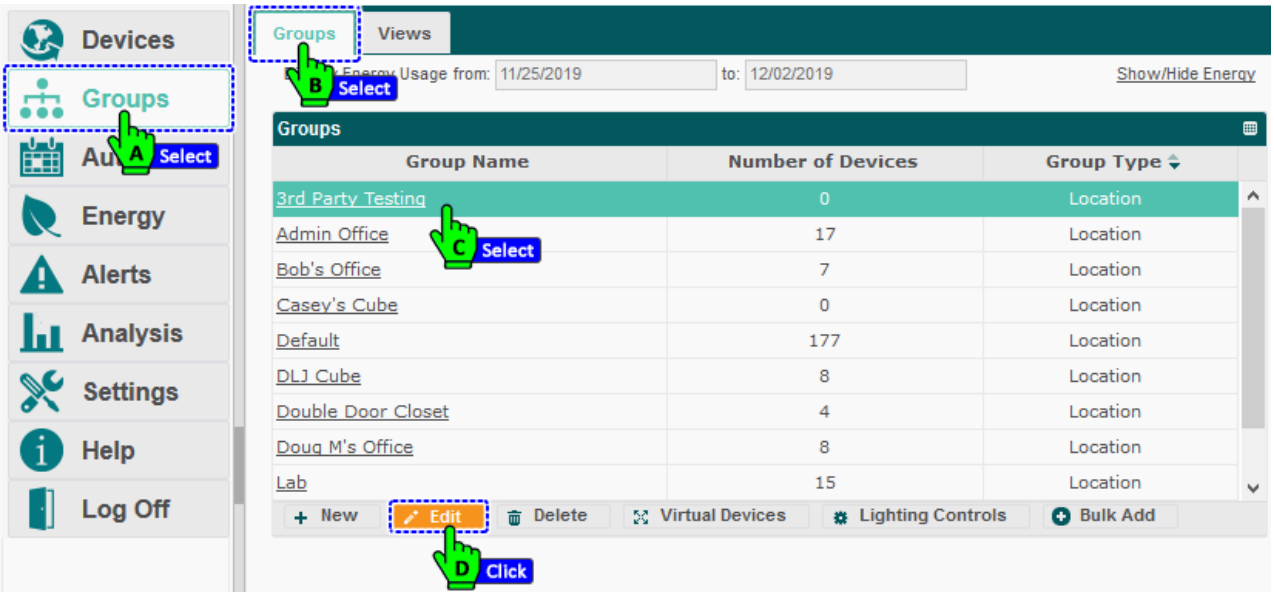
7.4. Changing a Device Group

Devices can be added, deleted, or moved to a different group.

Only users with Owner or Contractor user accounts can edit device groups. Other users can monitor electricity usage by group but cannot create, edit, or delete groups.

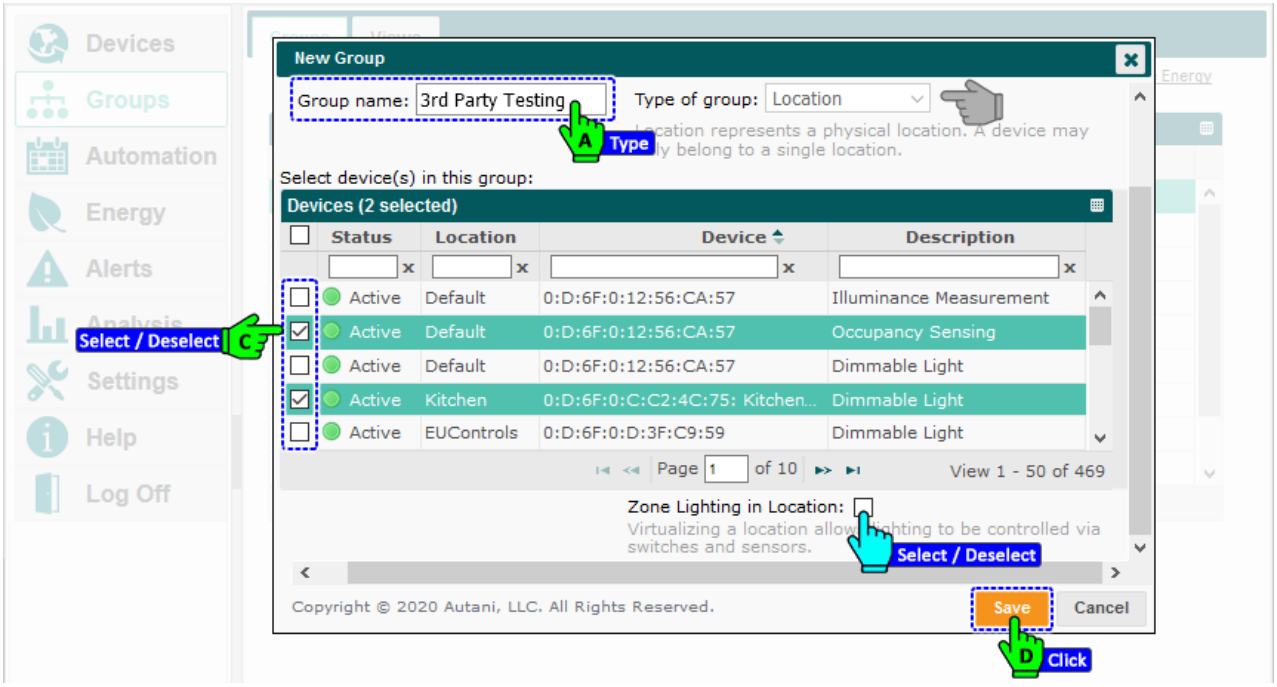
To change the name or composition of a device group:

1. On the left navigation bar, click **Groups**.
2. Select the row of the group to be changed.
3. Click the **Edit** button below the list of groups.



4. To change the name of the group, enter a new name in the **Group Name** textbox.

NOTE: To change the group type, a new group must be created. Consequently, the group type selection is grayed out.



5. To change the list of devices included in the group, select or deselect the checkbox next to each device.

   NOTES:
   - A device can belong to only one location group.
   - To prevent double counting a device's consumption, only Location groups are used to generate the consumption data displayed in the Groups screen.

6. Click **Save** and click **Yes** on the popup to confirm.

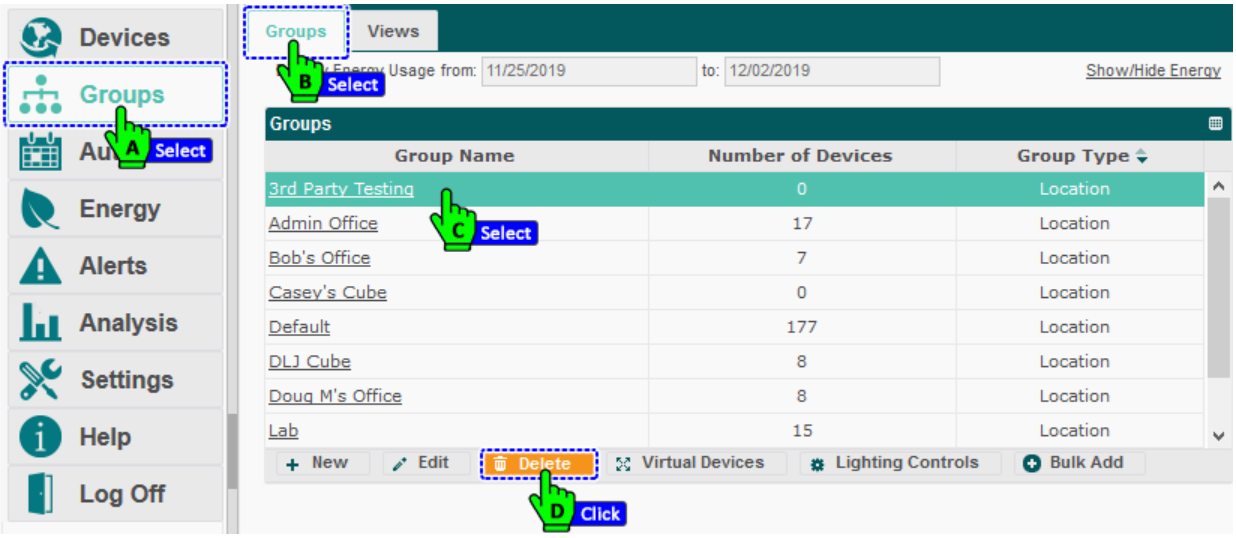
7.5. Deleting a Device Group

Only users with Owner or Contractor user accounts can delete device groups. Other users can monitor electricity usage by group but cannot create, edit, or delete groups.

NOTE: If a group is deleted, devices that were in the group are automatically assigned to the Default location group.

To delete a device group:

1. On the left navigation bar, click **Groups**.
2. Select the row of the group to be deleted.
3. Click the **Delete** button. Click **Yes** to delete the group.

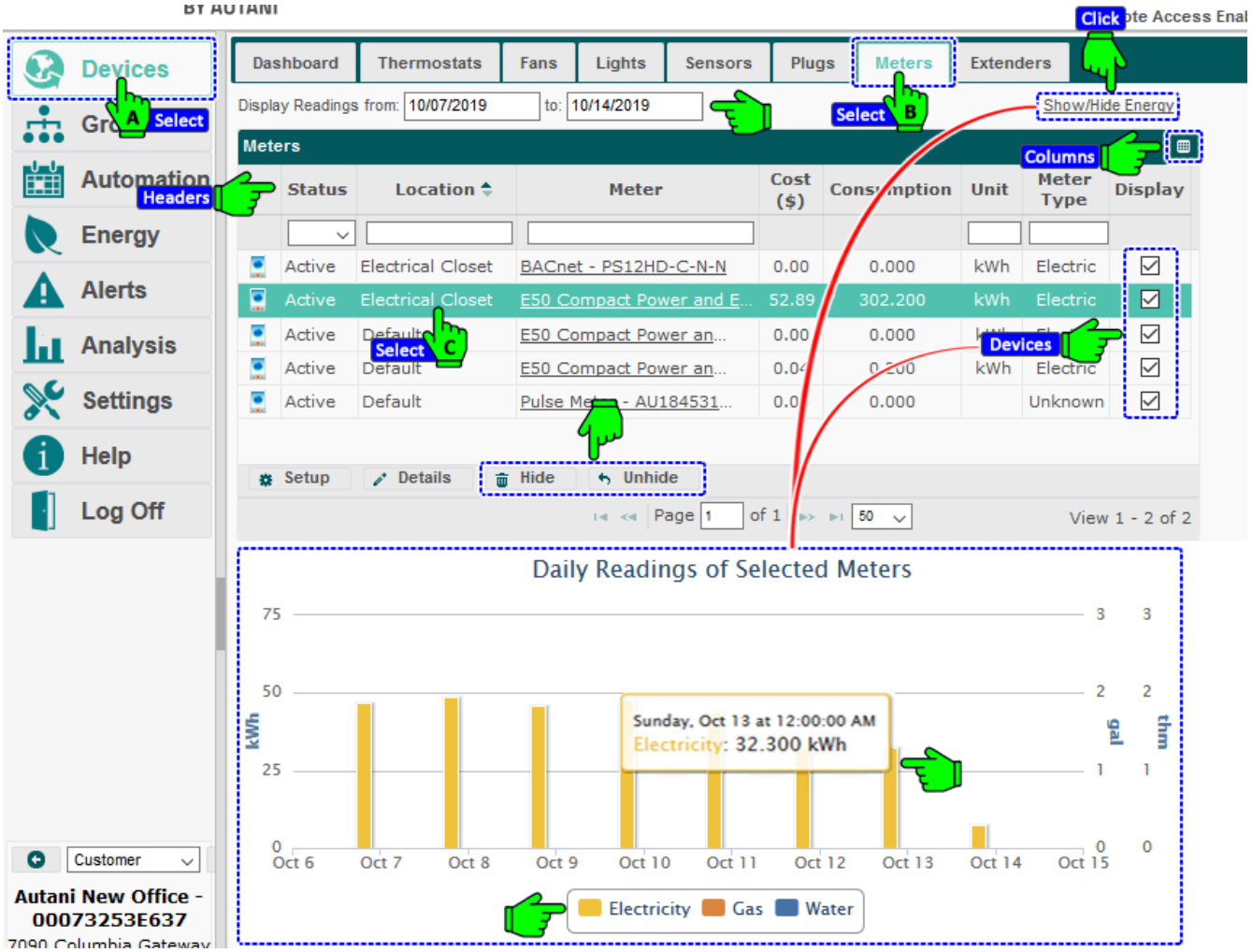


8. Modifying Data Displays

8.1. Changing Device and Group Status Screen

On the left navigation bar, click either:

- **Devices** and click an appropriate devices tab.
- **Groups**



Data is displayed in two ways.

1. A spreadsheet format that can be modified to quickly view needed information.
   - Rows can be sorted by clicking a column heading.
   - Device rows can be hidden or redisplayed using 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.

     NOTE: The Alerts screen also uses this data format.
2. A consumption or run time chart can be displayed for a selected time period.

   NOTE: If the chart is not displayed, click the **Show/Hide** link in the upper right-hand corner of a device tab or the Groups screen.

   - To select the date range for a graph, click the **Start Date** and **End Date** textboxes to access the calendar.
   - To view more exact information, mouse over the displayed data.
   - On device detail charts, 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.

For information on the Dashboard screen that summarizes the status of the system, see *Enabling the System Dashboard*.

8.2. Setting Dates and Date Ranges

To monitor device or group status and/or energy consumption for one or more days, use the calendar function to select the desired date or date range.

Common pairs of date range textboxes include:

- Start Date and End Date
- Display Energy Usage From and To
- Display Run Time From and To

Default date ranges are listed in the table below.

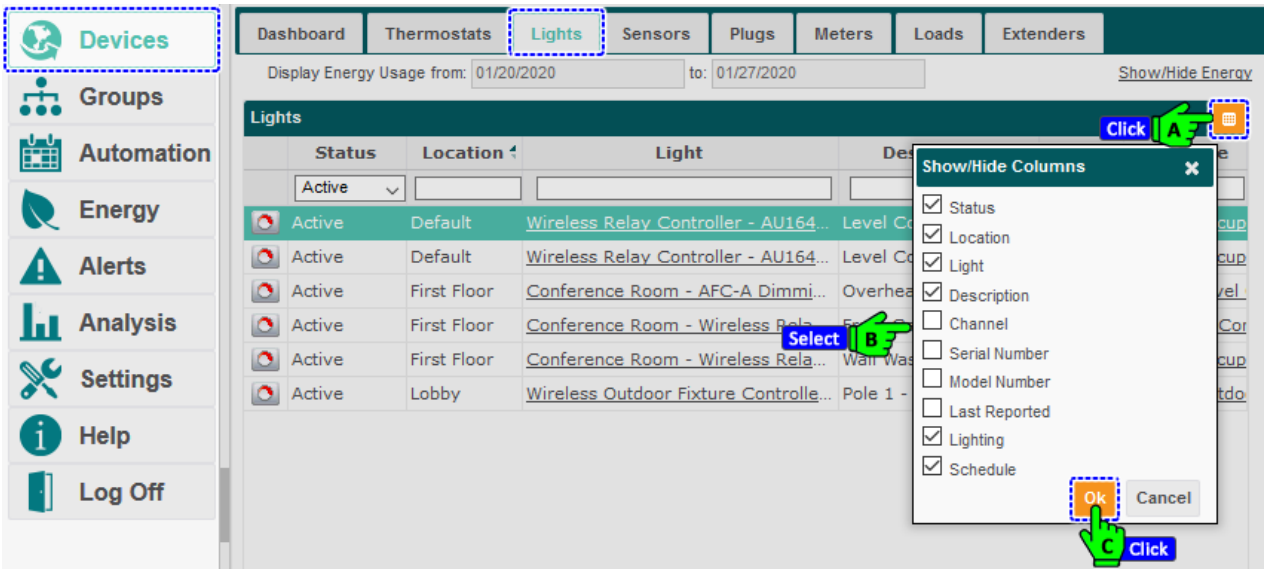
Table 18: Date Range Defaults

Screen	Default Date Range
Dashboard	Current day (not adjustable)
Device tabs	Week ending with current day
Device event logs	Current day
Groups	Week ending with current day
Energy	Week ending with current day

NOTE: If the desired start date is later than the current date, set the end date first to avoid an error message.

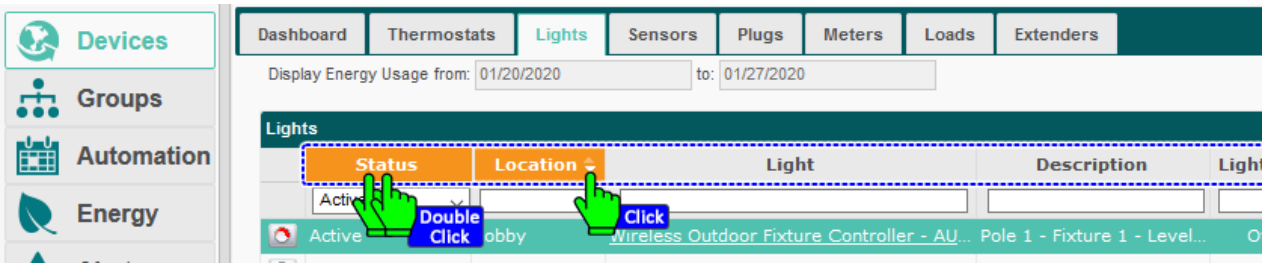
8.3. Displaying or Hiding Data Columns

1. Click the **picker** in the upper right-hand of a heading row.
2. Select which columns to include. Click **OK**.



8.4. Sorting Data in Table Columns

To sort any column in ascending order or descending order, either:

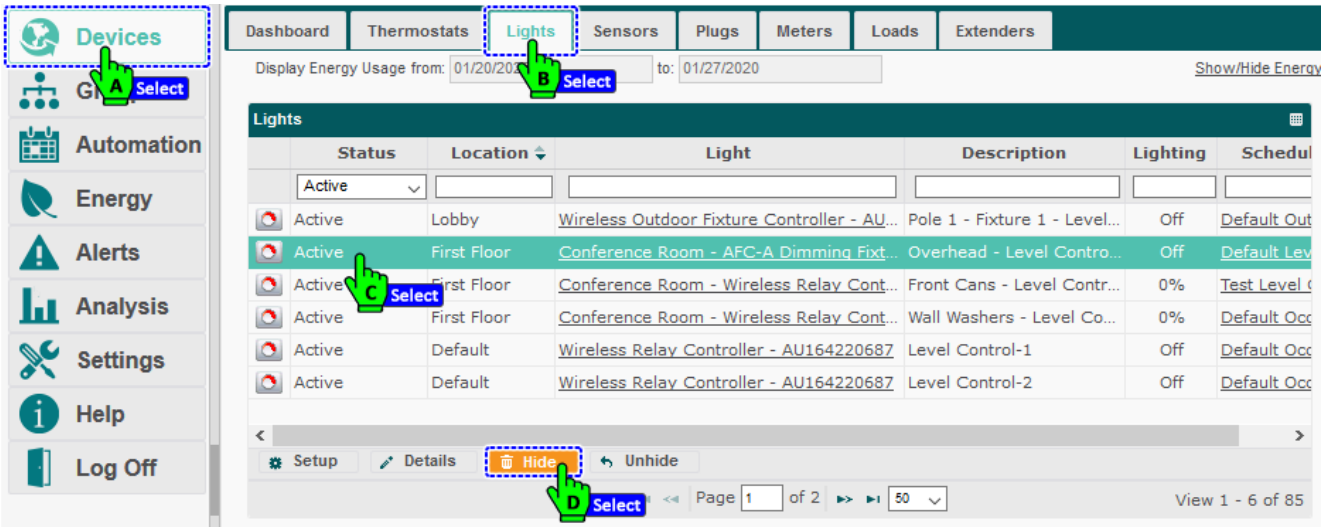


- Double-click the column header.
- Click the column header, and then use the up or down arrows that appear.

NOTE: The Display column cannot be sorted because it consists of checkboxes used to select device data to display.

8.5. Hiding Devices

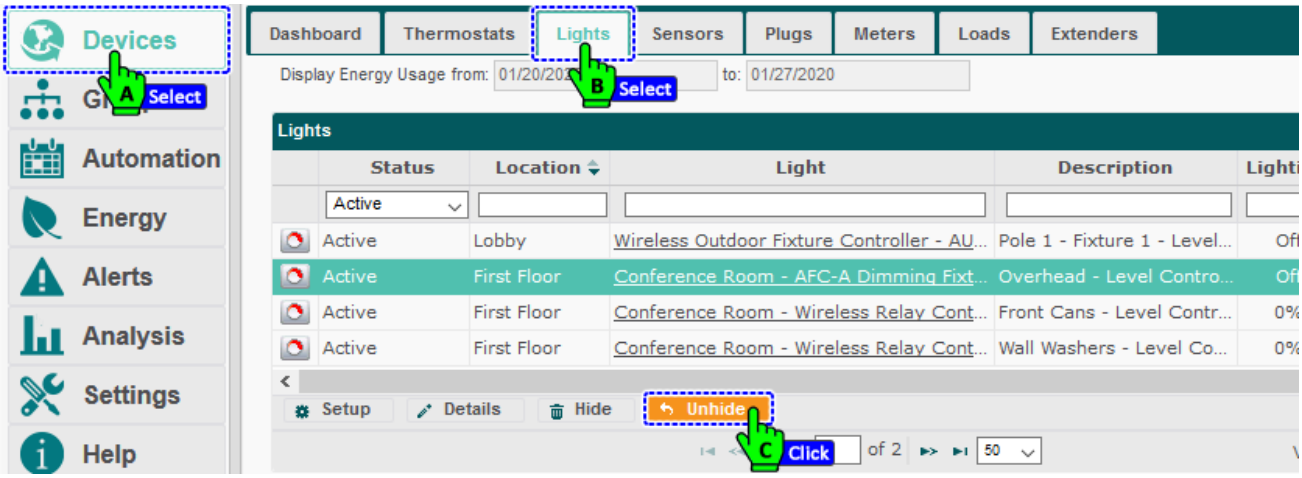
1. On the left navigation bar, click **Devices**.
2. Click the appropriate devices tab.
3. Click the row of the device to be hidden. Click **Hide**.



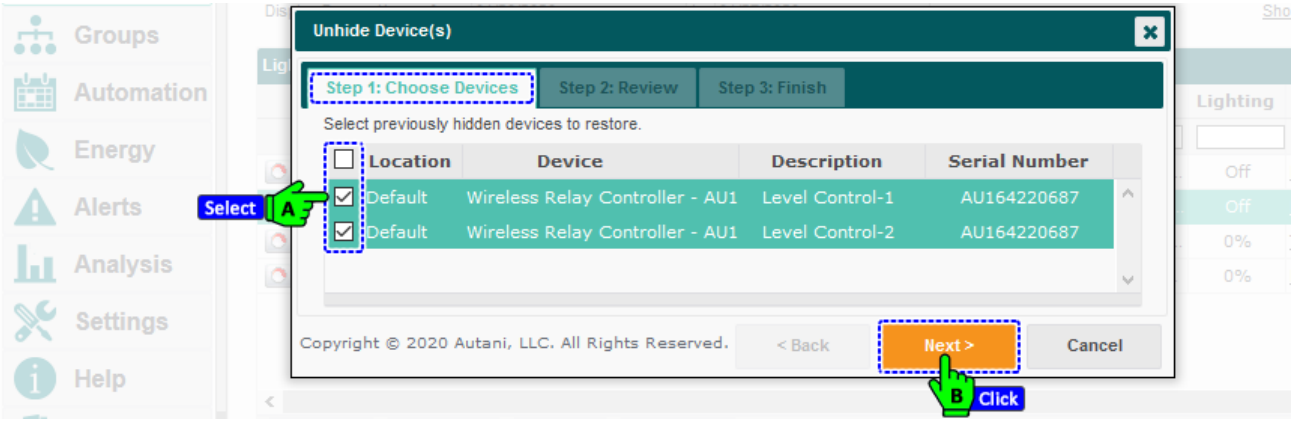
4. Click **Yes** in the confirmation dialog box. Click **Finish**.

8.6. Displaying Hidden Devices

1. On the left navigation bar, click **Devices**.
2. Click the appropriate devices tab. Click the **Unhide** button.



3. Select the checkbox(es) next to the device(s) to be redisplayed. Click **Next**.



4. Confirm the list of selected devices, and then click **Next**. Click **Finish**.

9. Using Schedules, Overrides, and Curtailments

Schedules are used to implement a group of predetermined settings, called Events, to change the behavior of a device or group of devices. Schedules can be superseded by either Overrides or Curtailments, based on predetermined Event Rules as described in the table below.

Table 19: Overview of Schedules, Overrides, and Curtailments

Trigger	Group of Settings	When Implemented	Link
Schedules	Events	Scheduled in advance	*Creating and Assigning a Schedule*
Overrides	Event Rules	Scheduled in advance Supersede schedules	*Creating Overrides*
Curtailments	Event Rules	On-demand Supersede both schedules and overrides	*Creating Curtailments*

9.1. Understanding Schedules, Overrides, and Curtailments

9.1.1. Defining Terminology

Some device settings can be changed on the device itself. Terms associated with changing device settings using the application are defined in the table below.

Table 20: Defining Schedule, Override, and Curtailment Related Terms

Term	Description
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.
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.
Override	Used to schedule an Event Rule(s) to supersede a regularly scheduled Event.
Curtailment	Used to immediately implement an Event Rule(s) to supersede a regularly scheduled Event or Override.
Curtailment Stage	A trigger used to implement a group of curtailments at the same time.

9.1.2. Understanding Advantages of Scheduled Events

Groups of predetermined device settings, called Events, can be created to change the behavior of a device or group of devices. Events can then be scheduled based on time of day and/or occupancy. Schedule templates can be used to quickly create multiple schedules and/or apply schedules to multiple devices.

For example, if a building is empty at night:

1. A Schedule Template could be created, and an Event could be added to turn off the lights, adjust the temperature, and turn off power to Autani load controllers.
2. Another Event could be created to readjust the temperature, turn on specific lights, and repower computers and other electrical equipment shortly before people are expected to arrive in the morning.
3. To implement the changes, the Schedule Template could then be applied to all the appropriate devices.

9.1.3. Understanding Benefits of Using Schedule Templates

Schedule templates can be used to quickly create multiple schedules and/or apply schedules to multiple devices.

There are two default schedule templates for each type of device that can be managed using EnergyCenter®. They are:

- A Default template that includes default groups of scheduled device settings, called events
- An Empty template that does not include any scheduled events and is used to disable regularly scheduled events. The effect of using an Empty template is to return control of the system to those with access to the device(s).

NOTE: LightCenter includes two sets of default templates, one for lights and one for level control sensors.

9.1.4. Understanding How Schedule Templates Are Applied

When a Schedule Template is applied to a device, a copy of the schedule is made for that device as described in the table below.

Table 21: How Schedules Are Assigned

When a Schedule Template is Assigned to	It is Copied to
A specific device	That specific device.
A group of devices of the same type	Each device in the group.
A group that includes the device	Only the devices of that type in the group.

To change the schedule of a device, the schedule settings for that individual device must be changed directly or a revised schedule template must be assigned to the device.

- Changing a Schedule Template does not change a device schedule that was created with the template. Template changes are not automatically copied to devices.
- Devices added to a group are not automatically assigned the Schedule Template that applies to the group.

NOTES:

- A schedule event ends when another event starts.
- Two events cannot start at the same time for the same day.

9.1.5. Understanding Event Rules Triggered by Overrides or Curtailments

Scheduled events can be superseded by Event Rules triggered by either Overrides or Curtailments. See Figure 1 below.

Overrides are scheduled in advance. When a scheduled Override ends, the application automatically reverts to the settings for the device(s) scheduled at that time.

For example, a holiday override can be created to adjust the temperature and turn off lights and computers during multi-day company holidays or other office closings. When the override ends, a regularly scheduled event to adjust the temperature and turn lights and computers on at the beginning of a workday is automatically resumed.

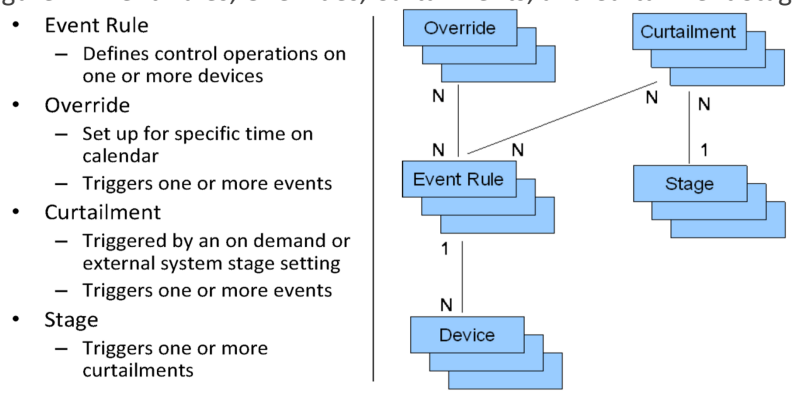
Curtailments supersede both overrides and regularly scheduled events. Like Overrides, Curtailments are based on event rules. However, unlike Overrides, Curtailments are not scheduled but are implemented when user-defined circumstances occur. When used to reduce energy consumption, Curtailments may help an organization qualify for financial rewards from their utility company.

Curtailment stages are used to group together all the events to be implemented during the Curtailment.

For example, Curtailments can be used to reduce energy consumption during periods of peak consumption by turning off or dimming light levels, adjusting the temperature, and minimizing occupancy delay intervals.

When either an Override or a Curtailment is in effect, the name of the Override or Curtailment appears in red text in the Schedule column on all applicable device tabs.

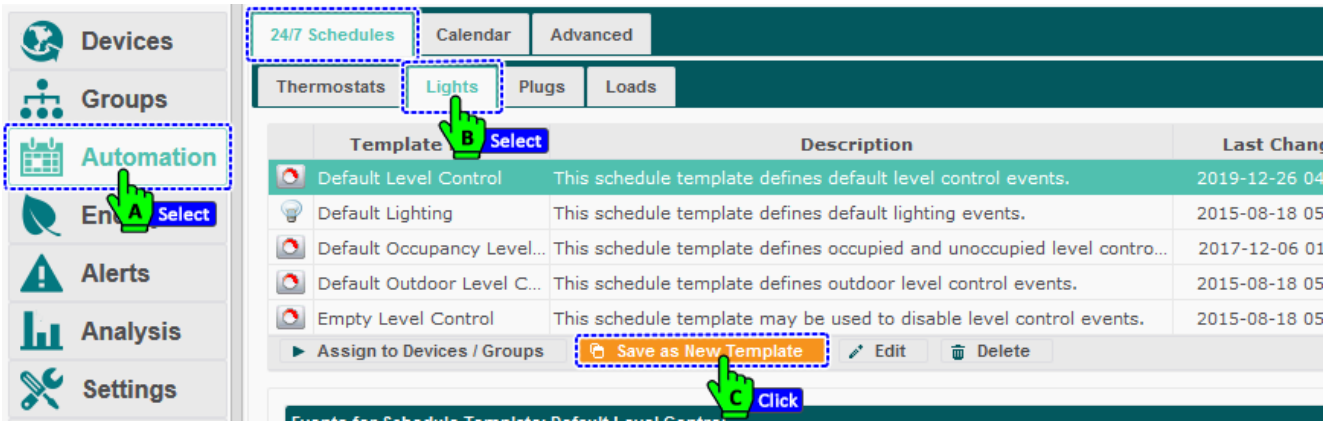
Figure 1: Event Rules, Overrides, Curtailments, and Curtailment Stages



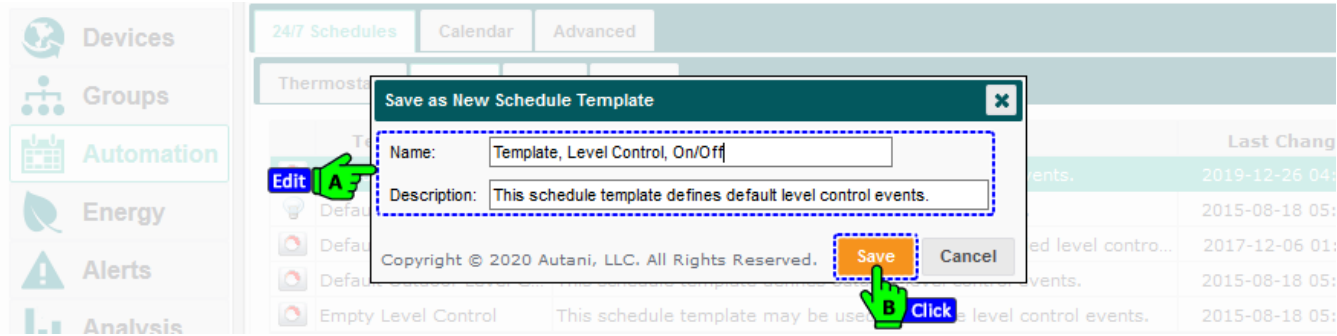
9.2. Creating and Assigning a Schedule

To create a Schedule Template and use it to assign a schedule to a device:

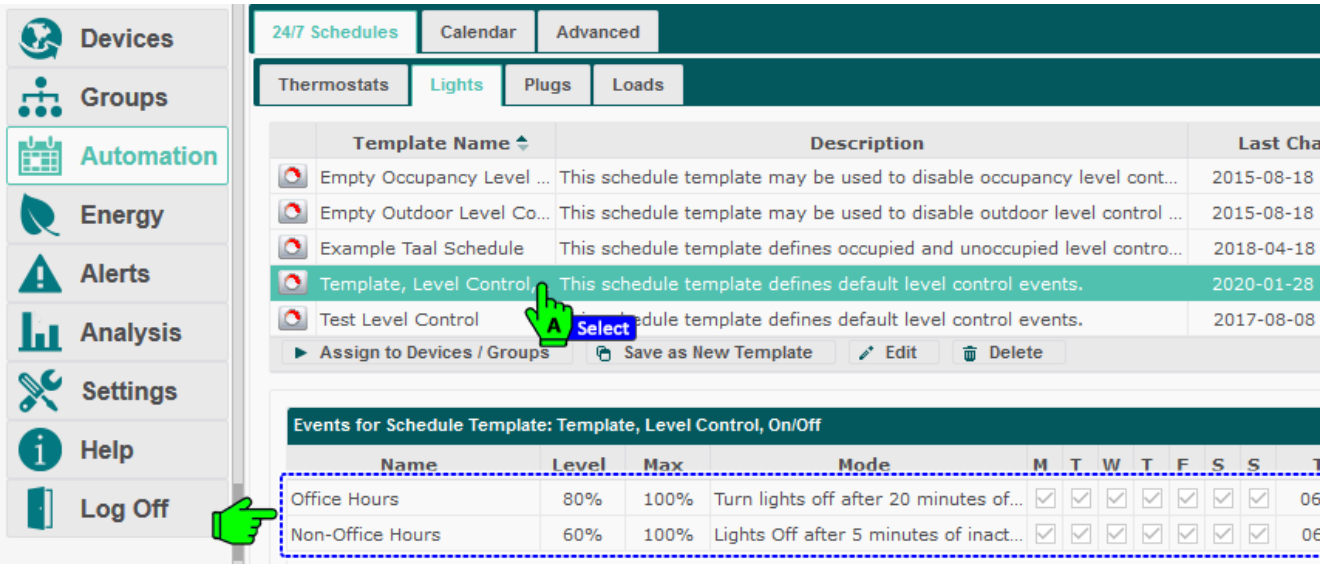
1. On the left navigation bar, click **Automation**.
2. Click the appropriate device tab.
3. Create a schedule template.
    i. Select a **template** to use as a model.
    ii. Click the **Save as New Template** button.



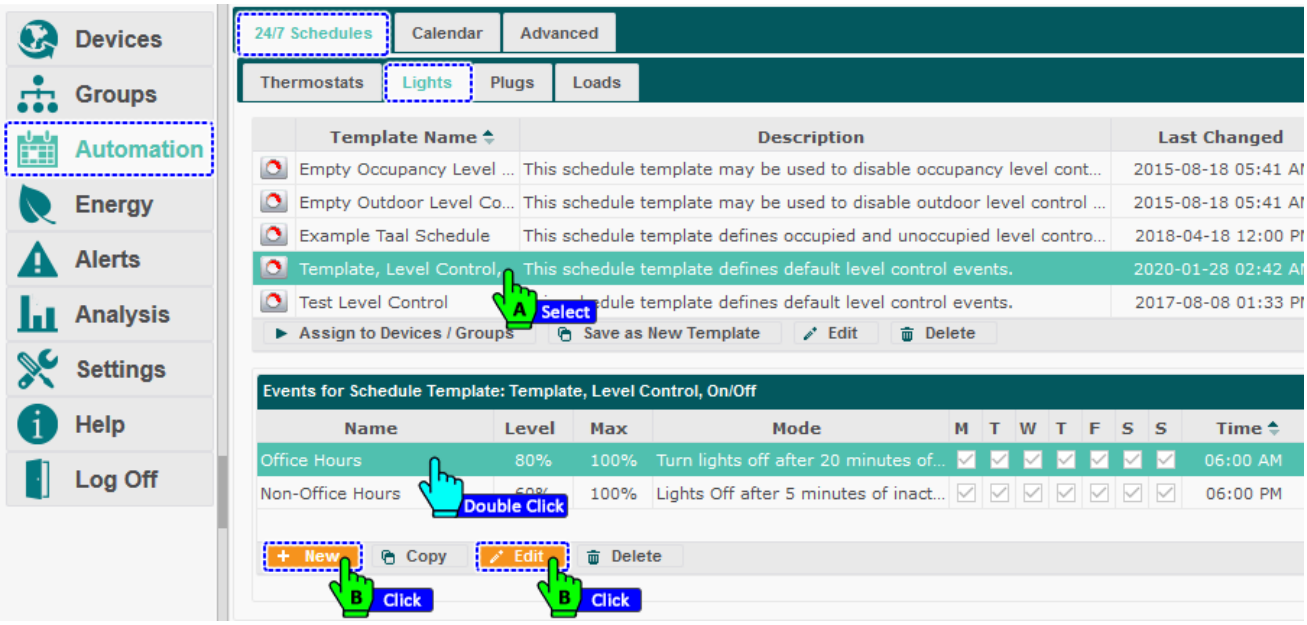
    iii. The name defaults to “Copy of xxx”, where xxx is the name of the template that was copied.
    iv. Enter a template name in the Name field.
    v. Enter descriptive information about the template in the Description field for easy reference.
    vi. Click **Save**.



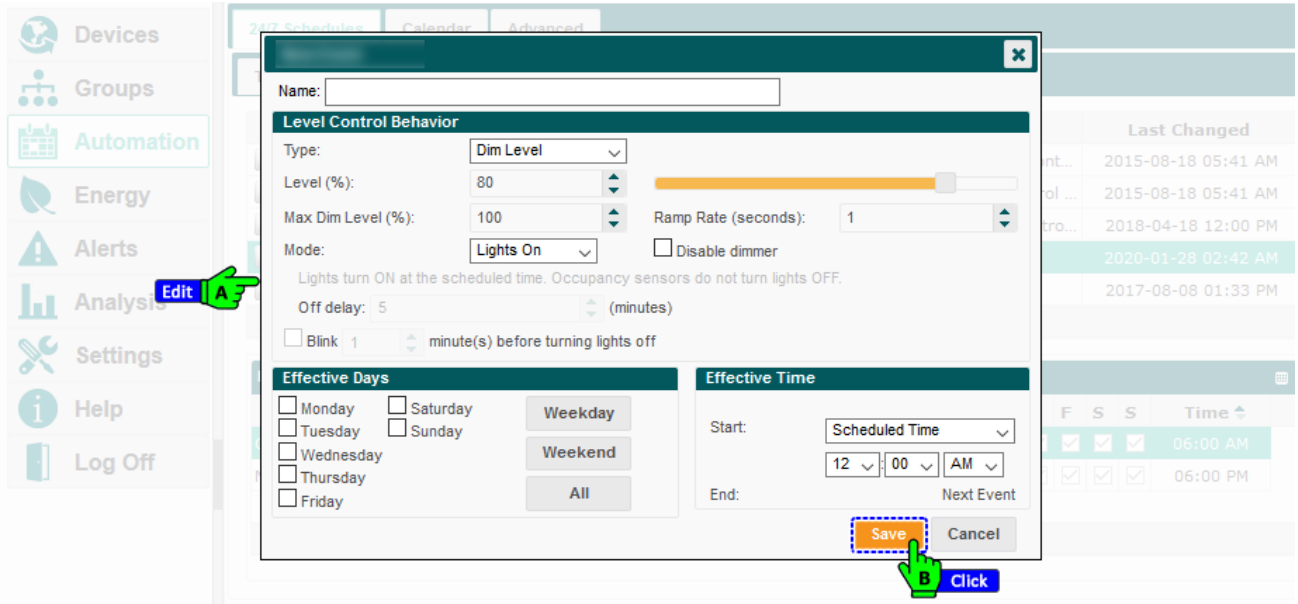
    vii. If necessary, select the row of the new template to view the associated events that have been copied.



4. Create or modify events for the template:
   i. Click the **New** button, click the **Edit** button, or double-click an existing event.



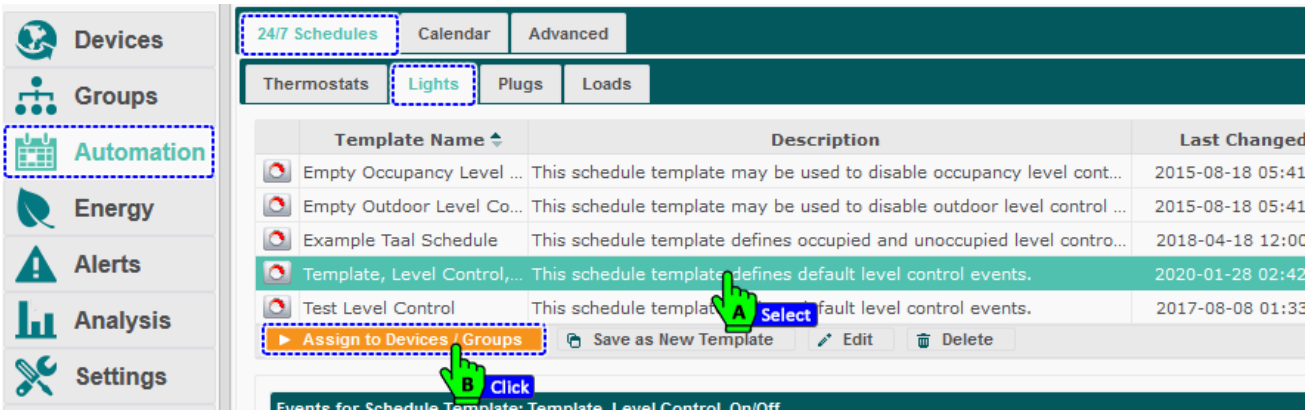
   ii. Select event settings. The options that appear differ by device type. For more information, refer to the EnergyCenter® User Guide module for a respective device, available in the help section of the software.



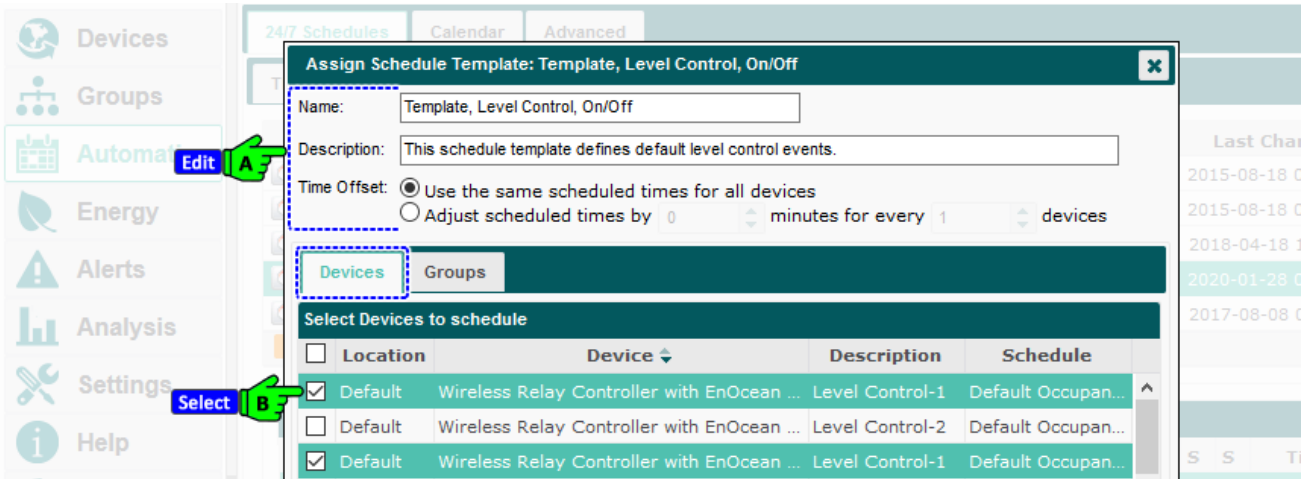
NOTES:
- A schedule event ends when another event starts.
- Two events cannot start at the same time for the same day.

   iii. Click **Save**.

5. Assign a schedule template to one or more devices or groups:
    i. Select the desired template.
    ii. Click the **Assign to Devices/Groups** button.

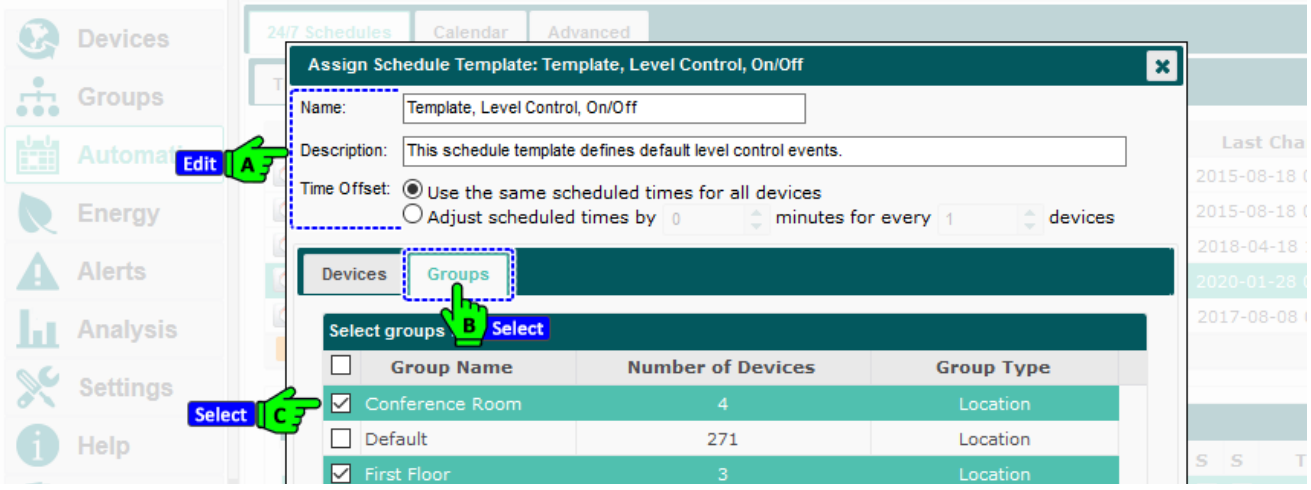


    iii. Change the **Name** and **Description** to reflect a schedule instead of a template.
    iv. Select the checkbox next to the device(s) to which the schedule is to be applied.



    v. If needed, click the Groups tab and then select the checkbox(es) next to the group(s) to which the schedule is to be applied.

NOTE: The schedule will be assigned to the types of devices for which the schedule was created. For example, a fan schedule template will only affect fans in a group.



    vi. Click **Save** or **Apply**.

NOTE: A confirmation dialog box appears if the system includes non-Autani sensors whose delay settings may be changed due to their factory programmed occupancy delays.

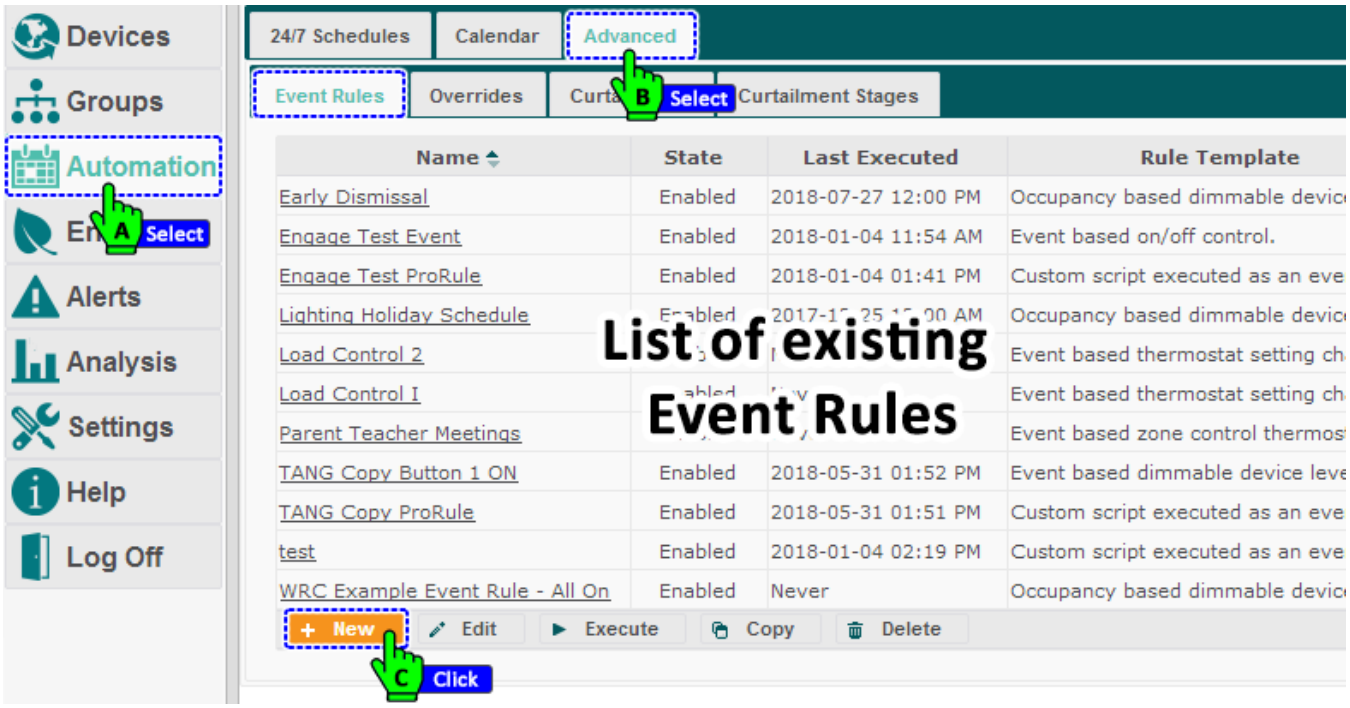
9.3. Creating Event Rules

Event Rules are used to implement scheduled Overrides or on-demand Curtailments. For more information, see *Understanding Event Rules Triggered by Overrides or Curtailments*.

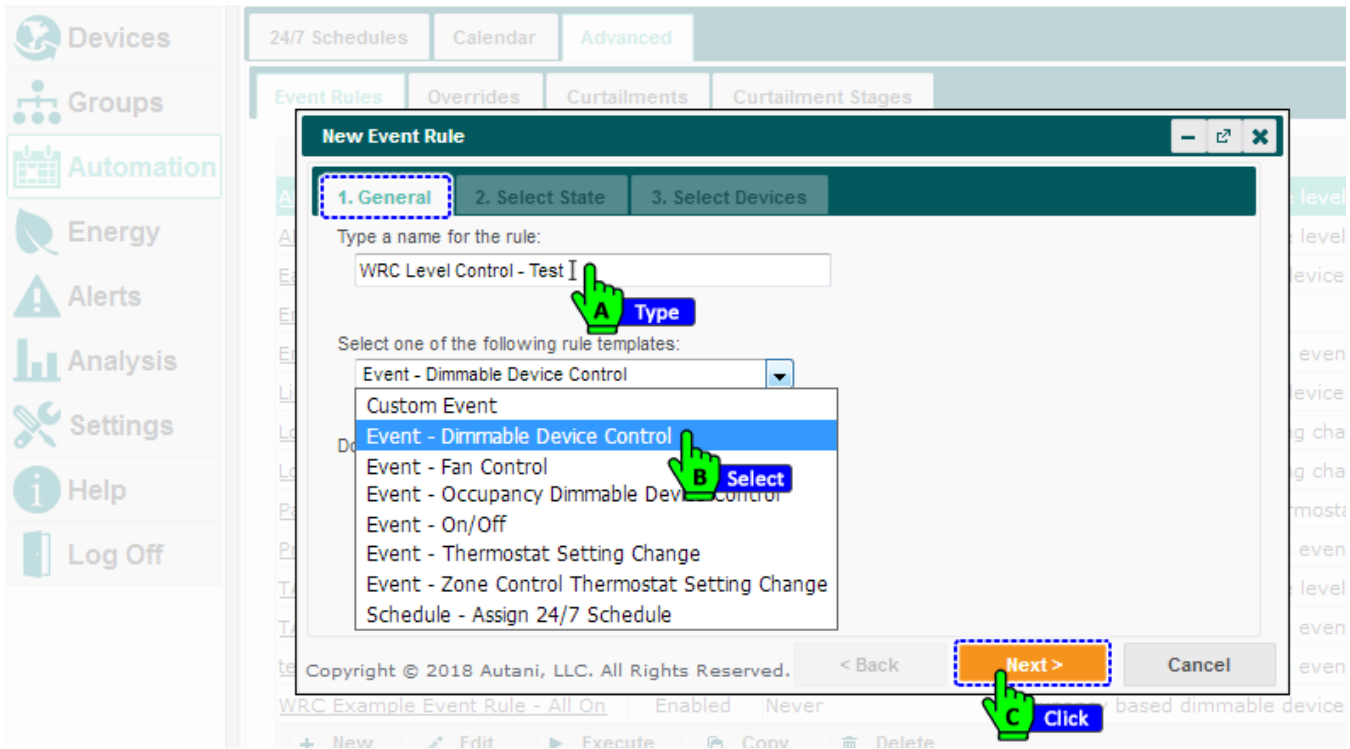
Event Rules are used to implement scheduled Overrides or on-demand Curtailments. For more information, see *Creating Overrides* and *Creating Curtailments*.

To access Event Rule options:

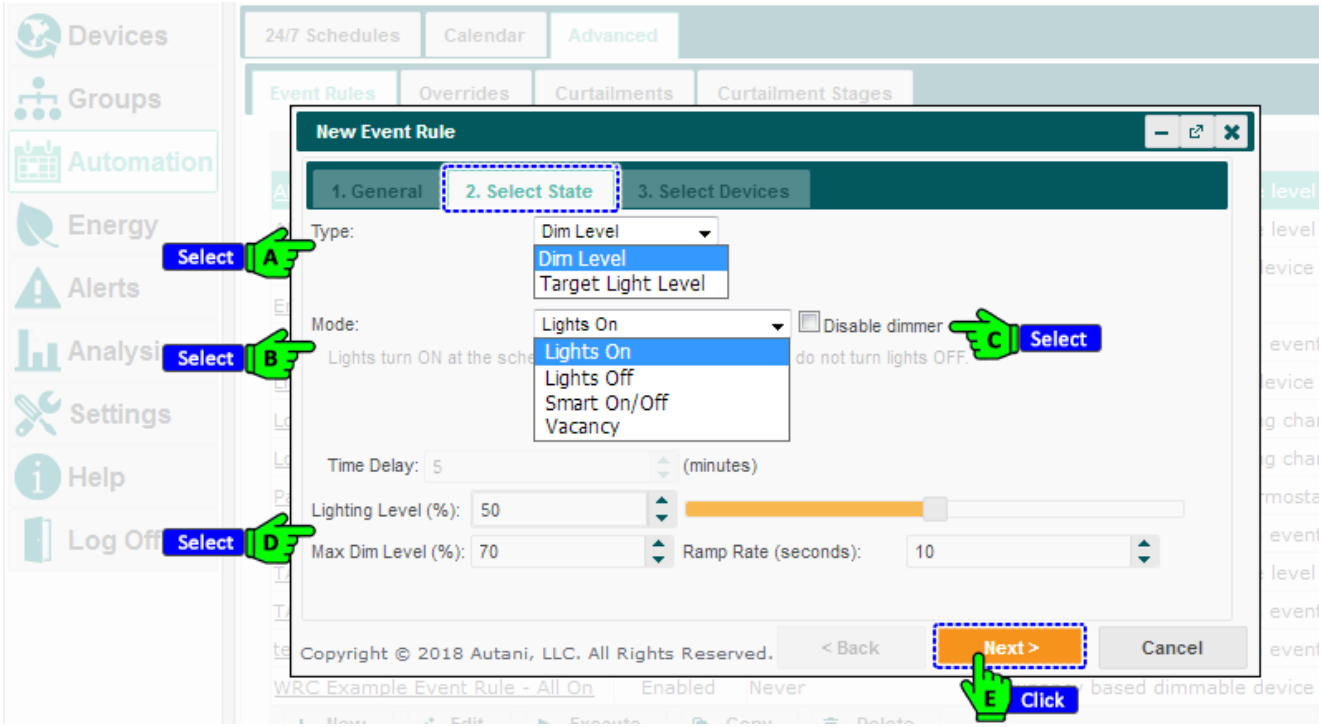
1. On the left navigation bar, click **Automation**.
2. Click the **Advanced** tab.
3. Click the **New** button.



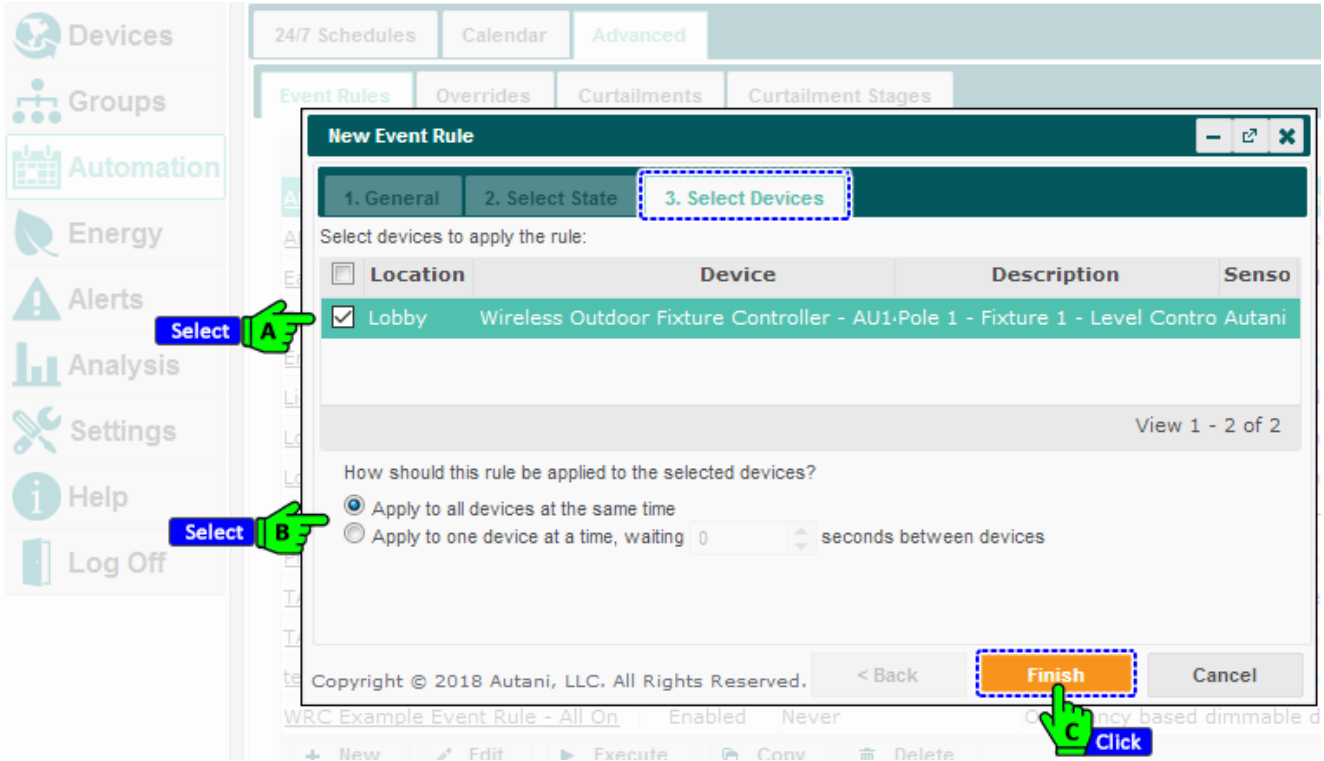
4. Enter information and make selections on the **General** tab, and then click **Next**.



5. Make selections on the **Select State** tab, and then click **Next**.



6. Select the checkbox(es) next to the **device**(s) to be included in the Event Rule.

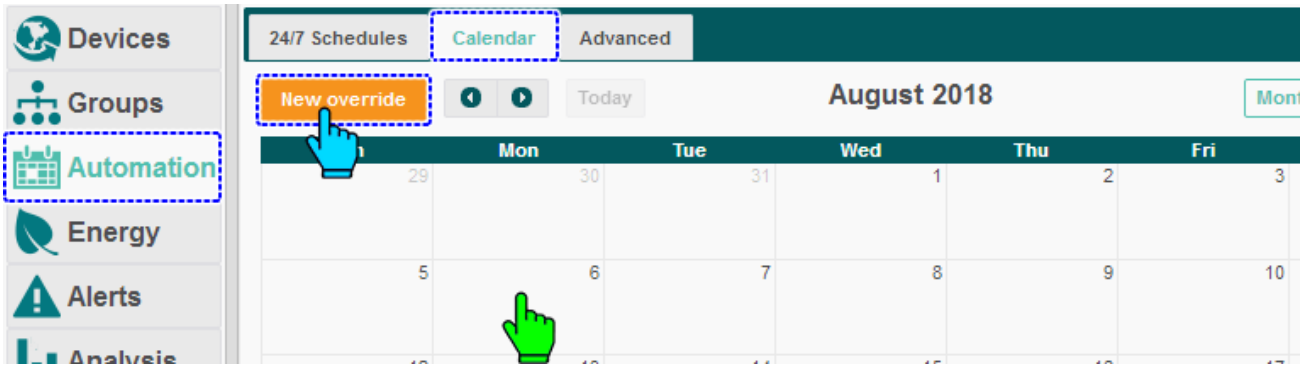


For Event Rule options for a specific device, refer to the EnergyCenter® User Guide module for that device.

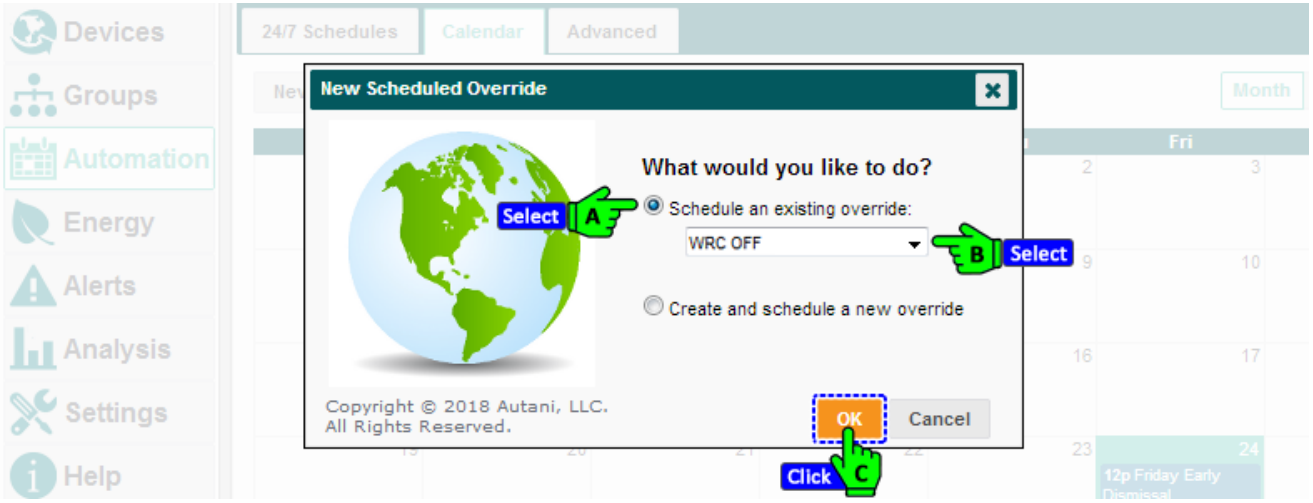
9.4. Creating Overrides

To create an override to supersede a regularly scheduled Event:

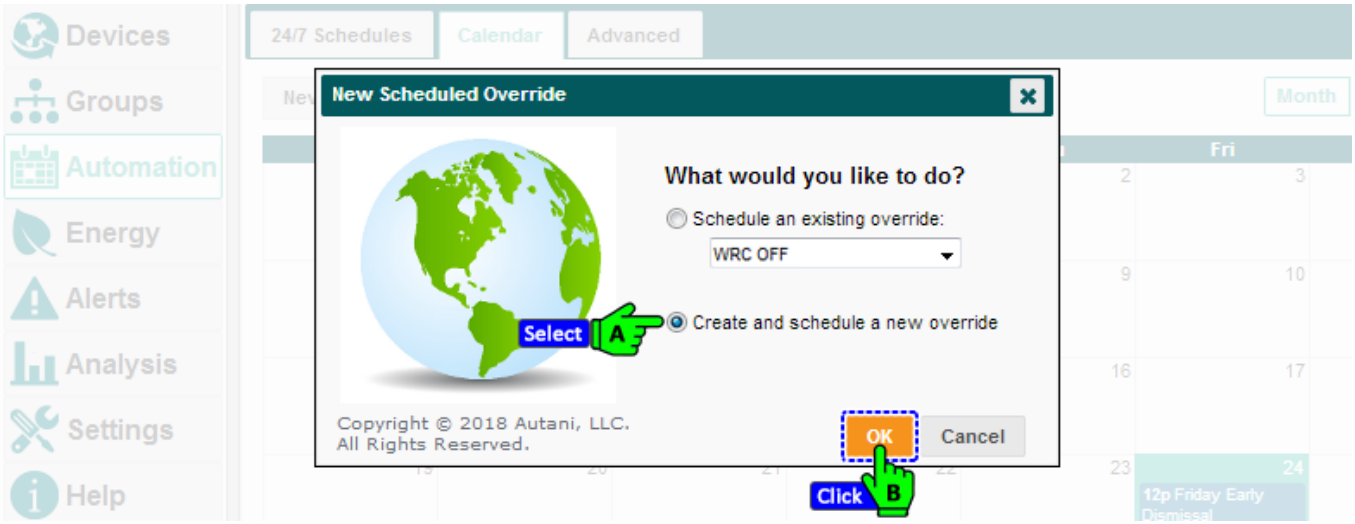
1. On the left navigation bar, click **Automation**.
2. Create override event rules to control device behavior: (Refer to *0 Creating Event Rules* for detailed information.)
    i. Click the **Advanced** tab. The Event Rules tab appears.
    ii. Click the **New** button.
    iii. Enter a name for the rule.
    iv. Select a rule template from the drop-down list.
    v. Select the **Yes** or **No** radio button, depending on whether or not the rule is to be enabled. Click **Next**.
    vi. Select on or off from the **Set State To** drop-down list.
    vii. Select a delay period using the **Off Delay** textbox. Click **Next**.
    viii. Select the checkbox(es) next to the devices to be affected by the override. Click **Finish**.
3. Configure an override:
    i. Click the **Calendar** tab.
    ii. Click the **Override Setup** tab.
    iii. Click the **New** button.
    iv. Select the checkbox next to the desired override rule. Click **Next**.
    v. Enter a name for the override.
    vi. Select the **Yes** radio button to enable the override. Click **Finish**.
4. Schedule the override:
    i. Click the **Calendar** tab. Click the **New Override** button.



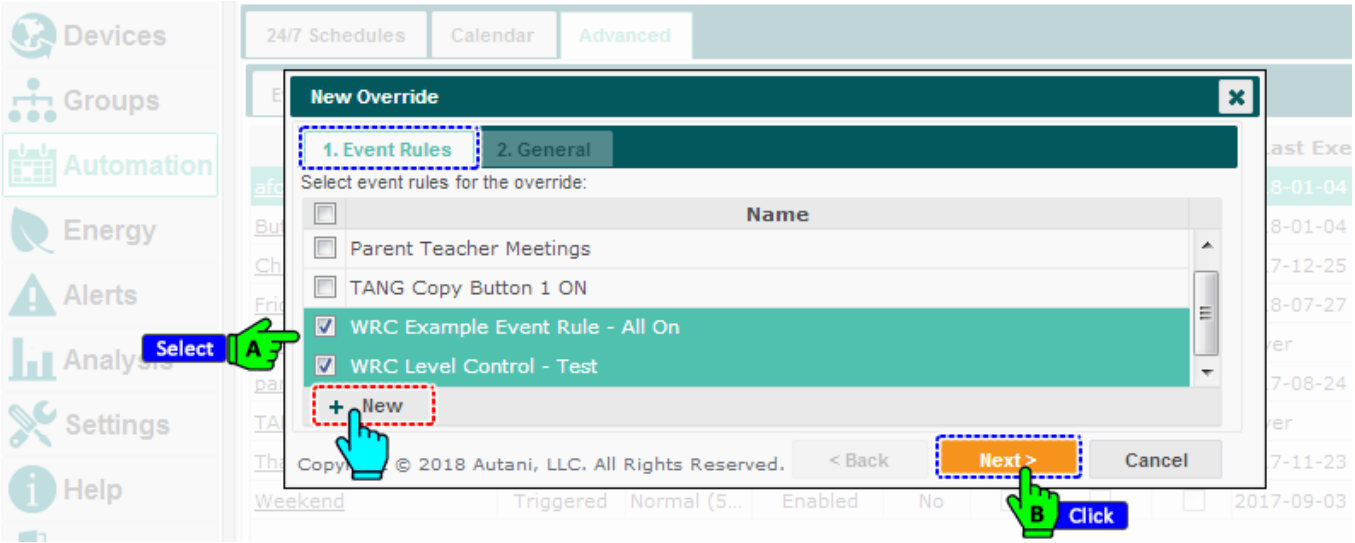
    ii. Select the:
        I. Schedule an existing override radio button. Select the override to schedule from the Override drop-down list. Click **OK**.



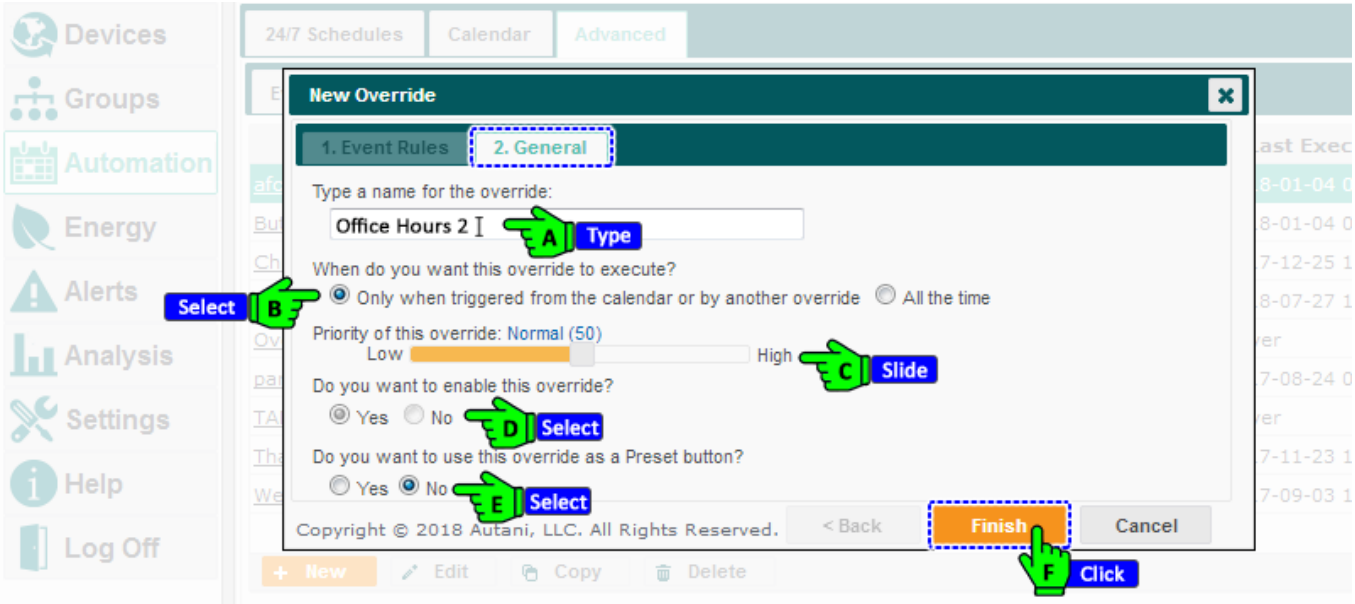
II. Create and schedule a new override radio button.



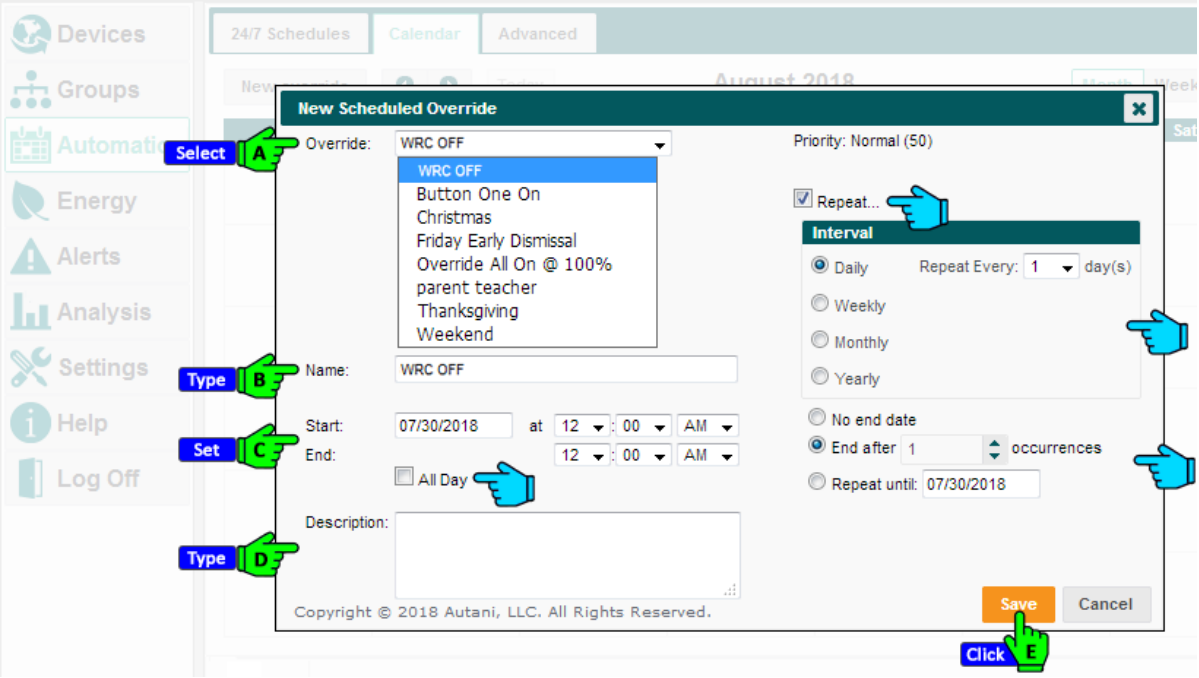
- Select the checkbox(es) for the override event rules.



- Enter a name for the override.
- Select the **Yes** radio button to enable the override. Click **Finish**



iii. Enter a schedule name for the override.



iv. Click in the **Start** and **End** textboxes to access the calendar and select the date range for the override.

v. Use the drop-down lists to select the time for the override to begin and end.

NOTE: If there is no schedule in place after the override has been triggered, the override behavior will continue.

vi. Enter a description of the override event.

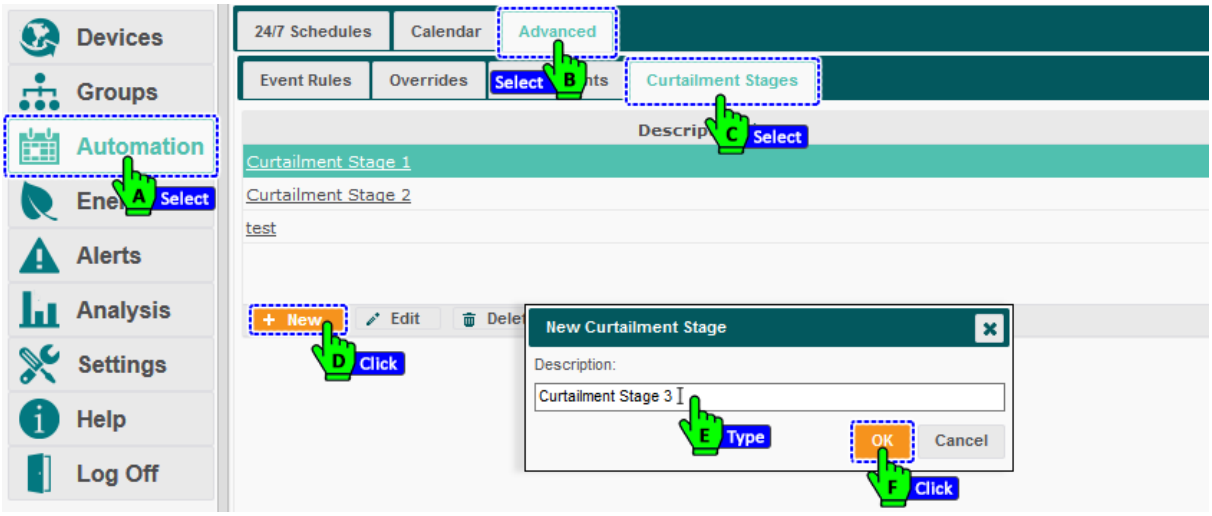
vii. If intended as a recurring override, select the **Repeat** checkbox and then select the recurring interval information. Click **Save**.

9.5. Creating Curtailments

Curtailments supersede regularly scheduled events or overrides when user-defined circumstances occur.

To set up a curtailment:

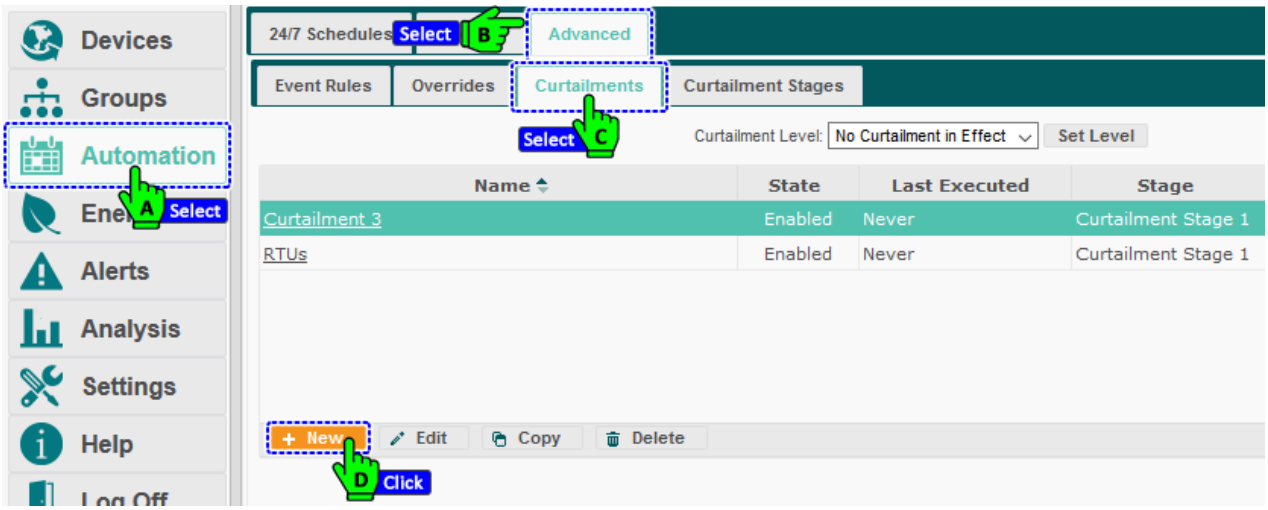
1. On the left navigation bar, click **Automation**.
2. Define the curtailment stage:
   i. Click the **Advanced** tab.
   ii. Click the **Curtailment Stages** tab. Click the **New** button.



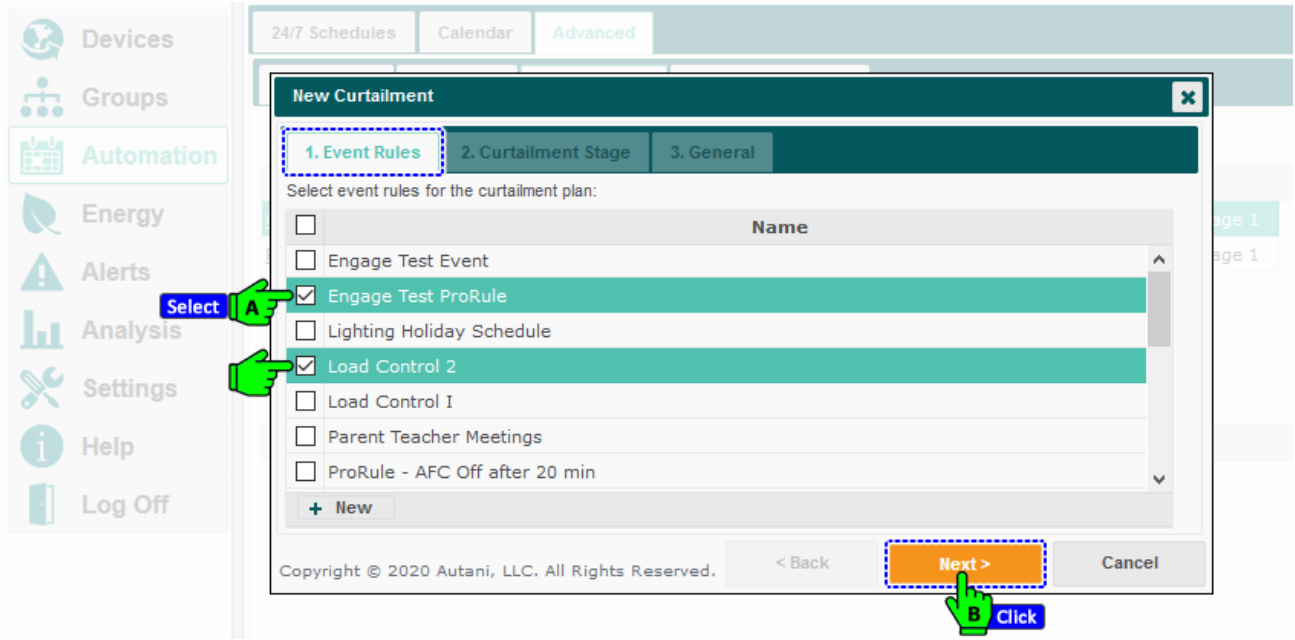
iii. Enter a description. Click **OK** to save the curtailment stage.

3. Create event rules: (Refer to “0 Creating Event Rules” for detailed information.)
    i. Click the **Event Rules** tab.
    ii. Click the **New** button.
    iii. Enter a name for the new event rule.
    iv. Select a rule template from the drop-down list.
    v. Select the **Yes** or **No** radio button, depending on whether or not the rule is to be enabled. Click **Next**.
    vi. Select on or off from the **Set State** drop-down list.
    vii. Select the delay using the **Off delay** textbox. Click **Next**.
    viii. Select the checkbox(es) next to the devices to be affected by the curtailment. Click **Finish**.

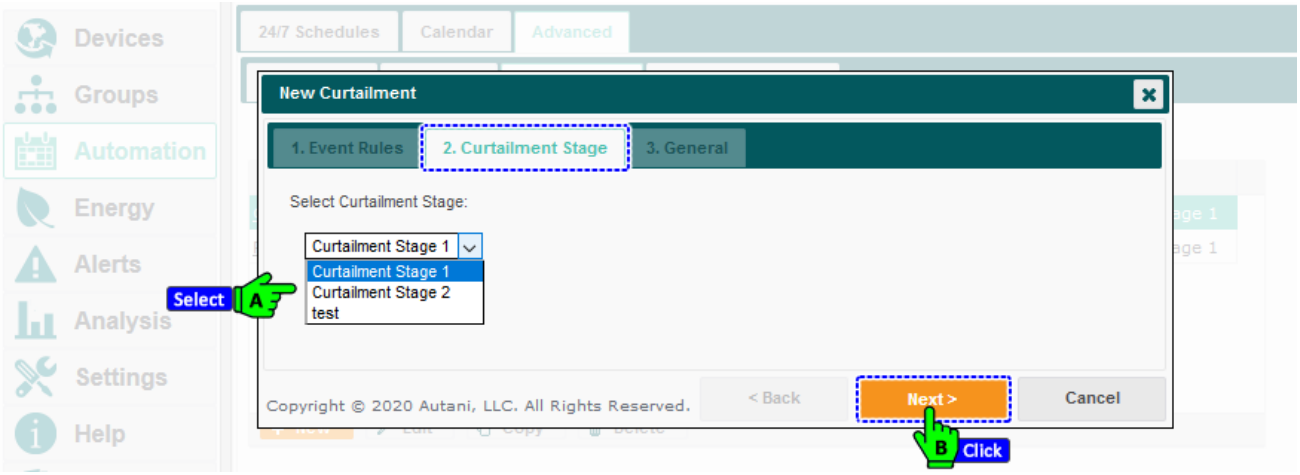
    NOTE: Only the same type of sensor can be selected.
4. Configure a curtailment:
    i. Click the **Curtailments** tab. Click the **New** button.



5. Select the checkbox next to the event rule to be configured:
    i. Click **Next**.



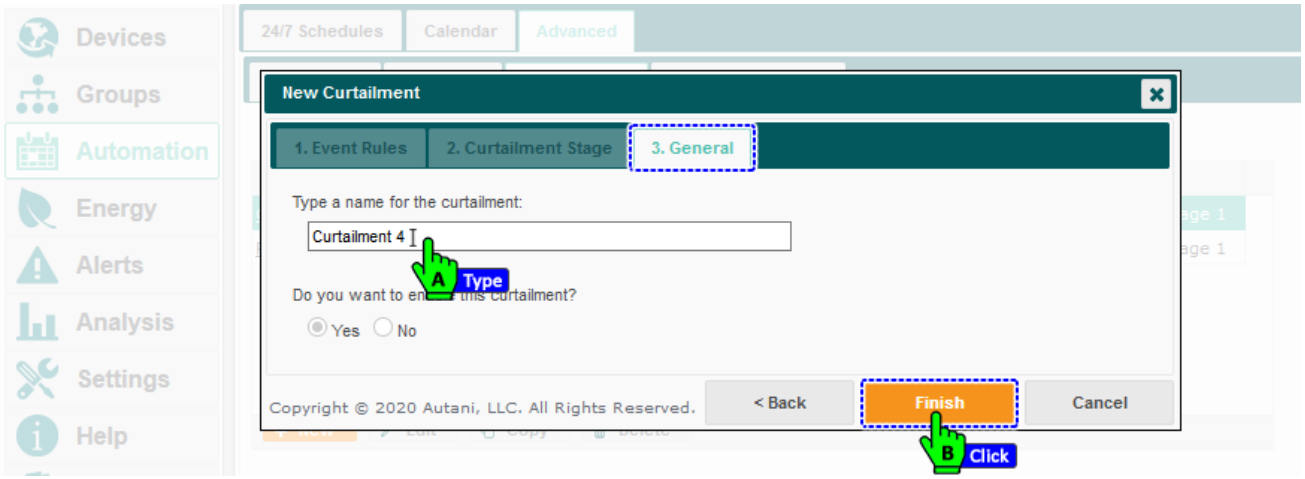
ii. Select the desired option from the **Select Curtailment Stage** drop-down list. Click **Next**.



iii. Enter a name for the curtailment.

iv. Select the **Yes** radio button. (Selected by default).

v. Click **Next**.



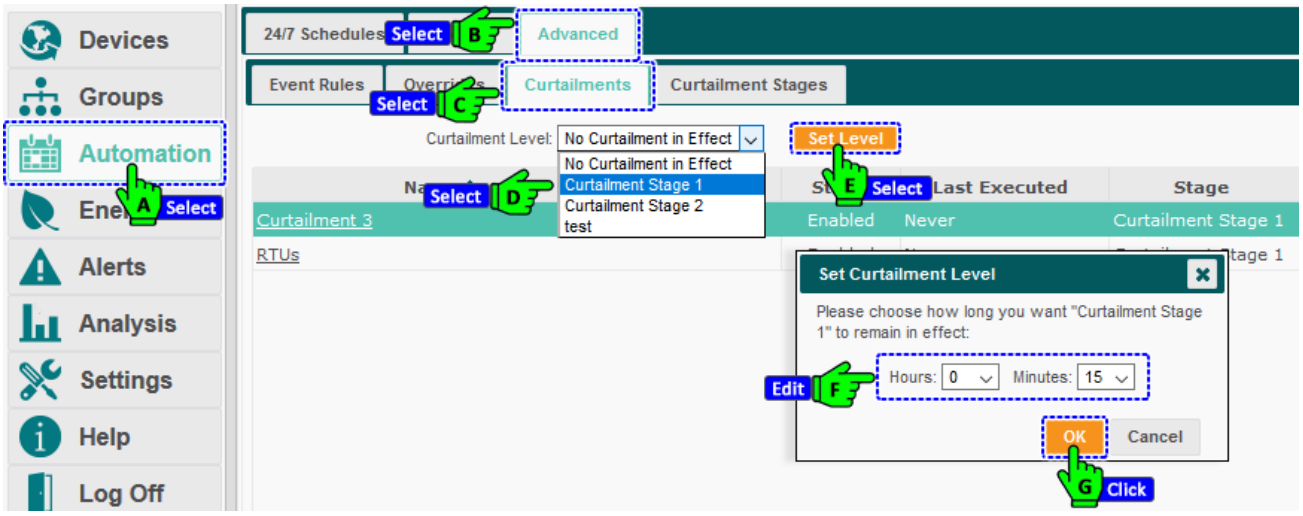
6. Implement a curtailment:

i. If needed, click the **Curtailments** tab.

ii. Select the desired option from the **Curtailment Level** drop-down list.

iii. Click the **Set Level** button.

iv. Use the drop-down lists to set how long the curtailment should remain in effect. Click **OK**.



10. Defining and Monitoring Alerts

10.1. Understanding Alerts

Alerts are used to notify personnel when user-defined events, system warnings, and/or system errors occur. Alert notifications can be created for a single device or for a group of devices of the same type.

EnergyCenter® automatically records any event that meets defined criteria, including trigger events or conditions. To facilitate a quick response, EnergyCenter®:

- Displays alerts on the Recent Alerts tab
- Displays alerts on the General tab for each type of device
- Can be configured to send alert e-mail messages to one or more customer-specified alert destinations

Recent user-defined alerts and alerts regarding system faults or failures are stored for further review.

10.2. Understanding Types of Alerts

The application uses three types of alerts as described in the table below.

Table 22: Types of Alerts

Alert	Description
User-Defined Alerts	▪ Conditions or events to trigger an alert ▪ Device(s) or group(s) to be monitored ▪ How often alerts should be generated ▪ E-mail address(es) to which alerts are to be sent
System Errors	▪ Generated by EnergyCenter® to indicate that a device is not functioning properly and requires attention ▪ May be generated if communication between the wireless communication device and the Autani Manager has been lost or a device fails to communicate because it is no longer on the network
System Warnings	▪ Generated by EnergyCenter® to indicate possible problems with a device(s) ▪ Examples include: □ A device has not been configured or is not configured properly. □ A wireless communication device (Autani transceiver or Autani room controller) missed its first reporting interval. □ A device has power failure. □ The filter on an HVAC unit needs to be replaced.

10.3. Understanding User-Defined Alert Trigger Options

Alert trigger conditions and corresponding options vary by device. A complete list of trigger conditions and options is described in the next three tables.

The following table describes conditions and corresponding options for lighting and occupancy sensors. The subsequent tables describe conditions and options for electric meters and thermostats.

Table 23: User-Defined Alert Triggers for Lighting and Occupancy Sensors

Device	Alert Condition	Options
Lights	False positive; unoccupied for less than	Five to 9,999 seconds (167 hours or 2.78 days)
	Lights turned on between	▪ Days of the week ▪ Time in hours
Occupancy Sensors	Occupancy detected from	▪ Days of the week ▪ Time in hours
	Battery is low (available only for battery-powered sensors)	Not applicable

Table 24: User-Defined Alert Triggers for Electric Meters

Type of Meter	Alert Conditions	Options
Pulse	Daily consumption above	One to 999,999 kWh
Digital	▪ Current above ▪ Current below	One to 999 Amps
	▪ Frequency above ▪ Frequency below	▪ Zero to 999 Hz ▪ Up to increments of hundredths of Hz
	▪ Line to line voltage above ▪ Line to line voltage below	▪ Zero to 99,999 V ▪ Up to increments of hundredths of V
	▪ Line to neutral voltage above ▪ Line to neutral voltage below	▪ Zero to 99,999 V ▪ Up to increments of hundredths of V
	Power factor below	▪ A dimensionless number between zero and one ▪ Up to increments of hundredths
	Real demand above	▪ One to 999,999 kWh

Table 25: User-Defined Alert Triggers for Thermostats

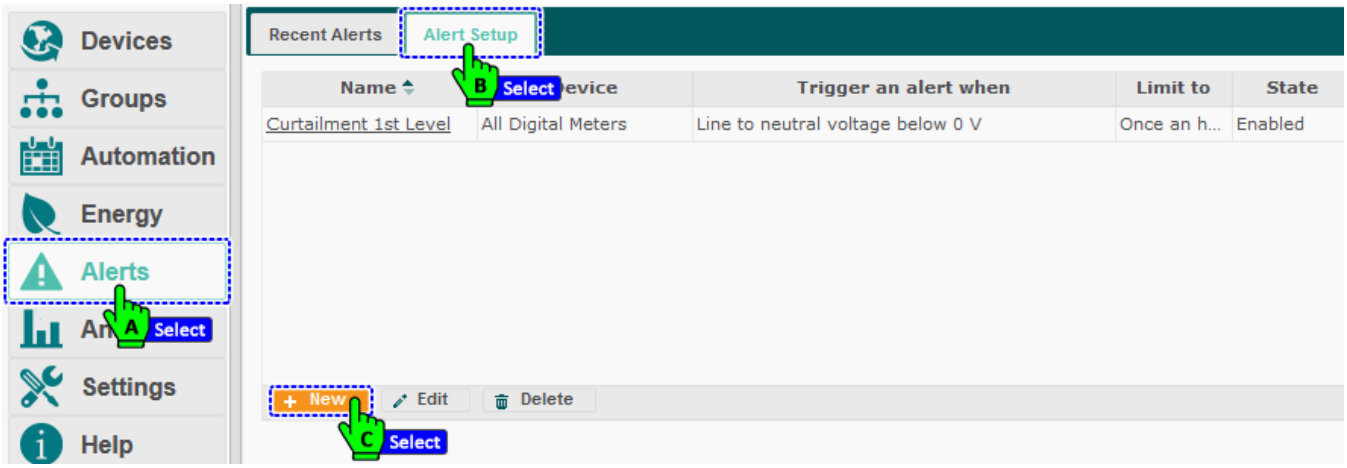
Alert Conditions	Options
Check or replace filter, and reset runtime counter	Not applicable
Cool running continuously for longer than	Zero to 999 minutes
Cool running for longer than	Zero to 23 hours in a day
Heat running continuously for longer than	Zero to 999 minutes
Heat running for longer than	Zero to 23 hours in a day
▪ Temperature above ▪ Temperature below	▪ 40°F to 120°F ▪ 4°C to 49°C
▪ Make-up Air sensor reading ▪ Return Air sensor reading ▪ Supply Air sensor reading	

10.4. Selecting a User-Defined Alert Trigger

Alerts can be created for a single device or all devices of the same type.

To define a single condition to trigger an alert:

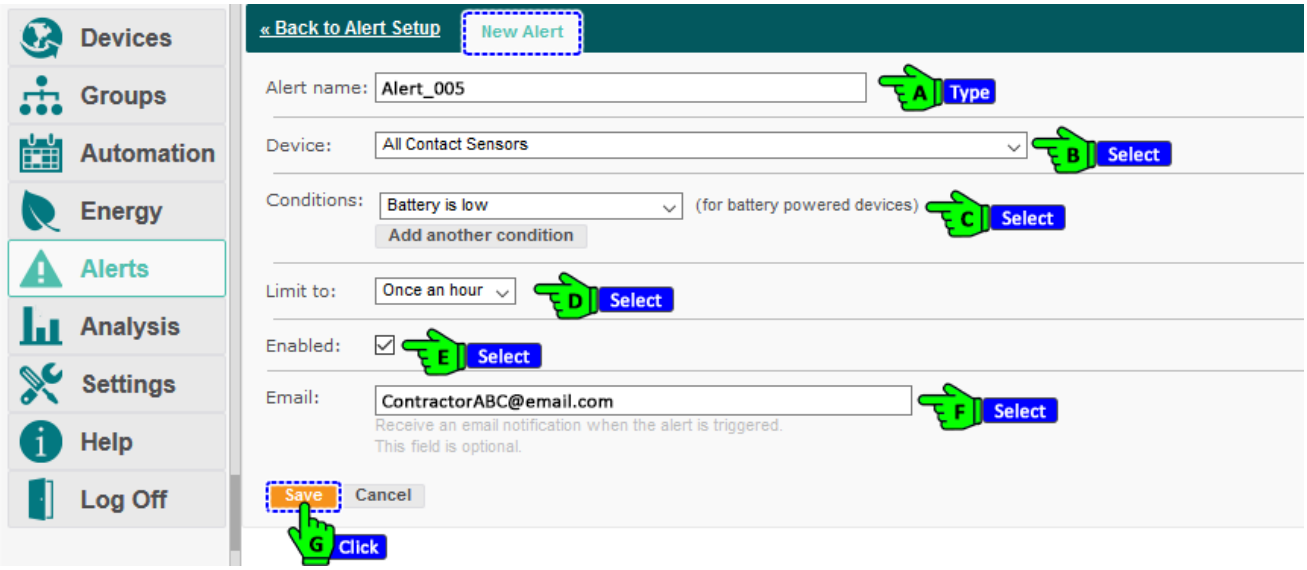
1. On the left navigation bar, click **Alerts**.
2. Click the **Alert Setup** tab.
3. Click **New** below the list of alerts.



4. Enter a unique name for the alert.
5. In the **Device** drop-down box, select the device, or the option to select all devices of the same type, to be included in the alert.
6. Select a condition to trigger an alert using the **Condition** drop-down list and any other textboxes that appear for that condition. For complete listings of device conditions and corresponding options, see *Understanding User-Defined Alert Trigger Options*.
7. From the **Limit to** drop-down list, select how frequently the alert is to be sent.
8. Select the **Enabled** checkbox.
9. Enter the e-mail addresses of personnel to be notified when an alert is triggered.

   NOTE: E-mail alerts may be viewable on a mobile phone as a text message. For more information, see your service provider.

10. Click **Save**.

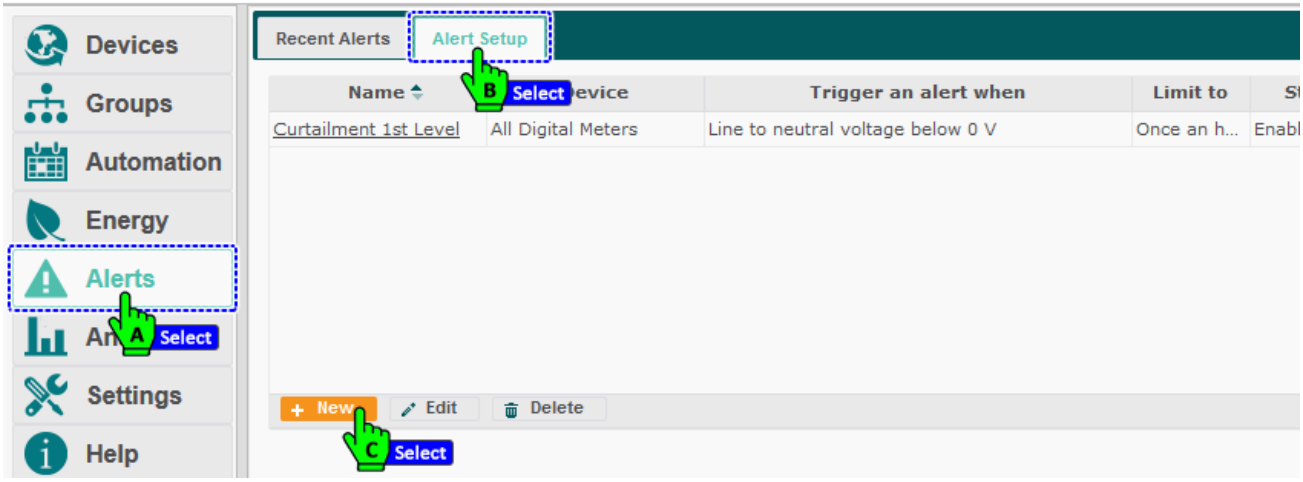


10.5. Creating a User-Defined Alert with Multiple Triggers

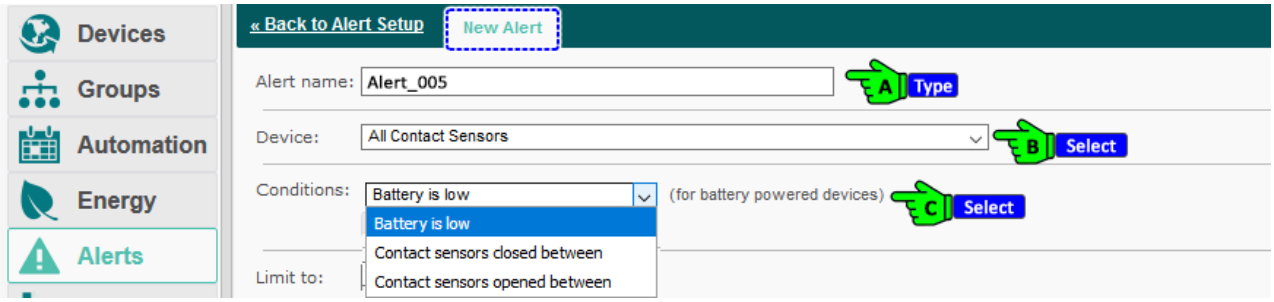
Alerts can be created for a single device or all devices of the same type.

To define multiple conditions that must occur before an alert is triggered:

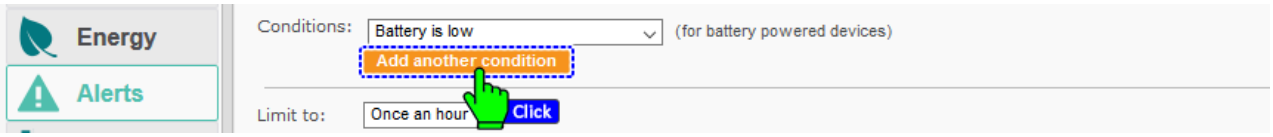
1. On the left navigation bar, click **Alerts**.
2. Click the **Alert Setup** tab.
3. Click the **New** button.



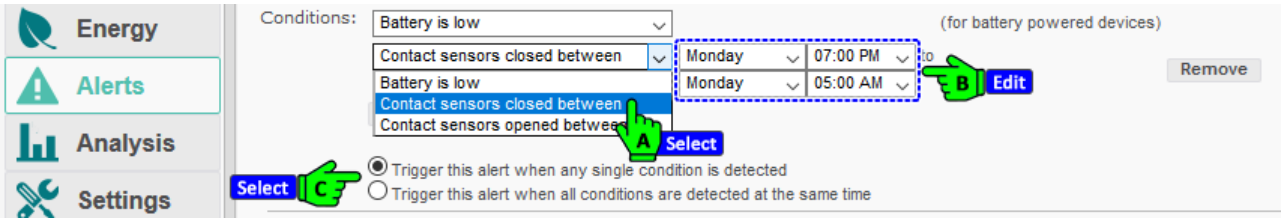
4. Enter a unique name for the alert.
5. In the **Device** drop-down box, select the device, or the option to select all devices of the same type, to be included in the alert.
6. Select a condition to trigger an alert using the **Condition** drop-down list and any other textboxes that appear for that condition.



7. For complete listings of device conditions and corresponding options, see *Understanding User-Defined Alert Trigger Options*.
8. Select additional trigger conditions:
   i. Click the **Add another condition** button.



   a. Select a new trigger using the Condition drop-down list and any additional textbox that appears for the selected condition.



   ii. Select one of the radio buttons to trigger the alert when a single condition or all the conditions are met simultaneously.
   iii. To add additional triggers, repeat this step.
9. From the **Limit to** drop-down list, select how frequently alerts are to be sent.
10. Select the **Enabled** checkbox.
11. Enter the e-mail addresses of personnel to be notified when an alert is triggered.

    NOTE: E-mail alerts may be viewable on a mobile phone as a text message. For more information, see your service provider.

12. Click **Save**.

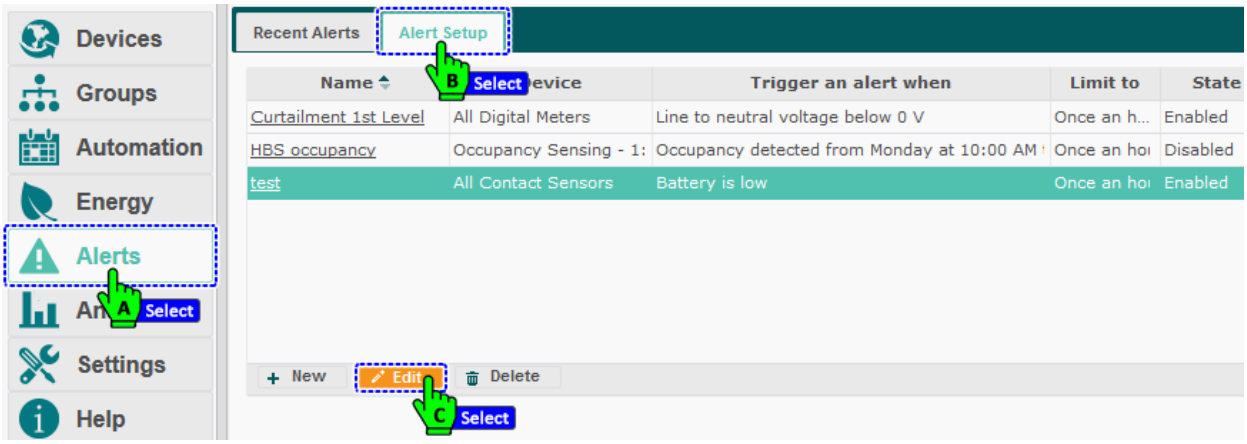
10.6. Changing User-Defined Alert Triggers

Changes can be made to an alert's name and description, the device(s) affected by the alert, and/or the conditions to trigger an alert.

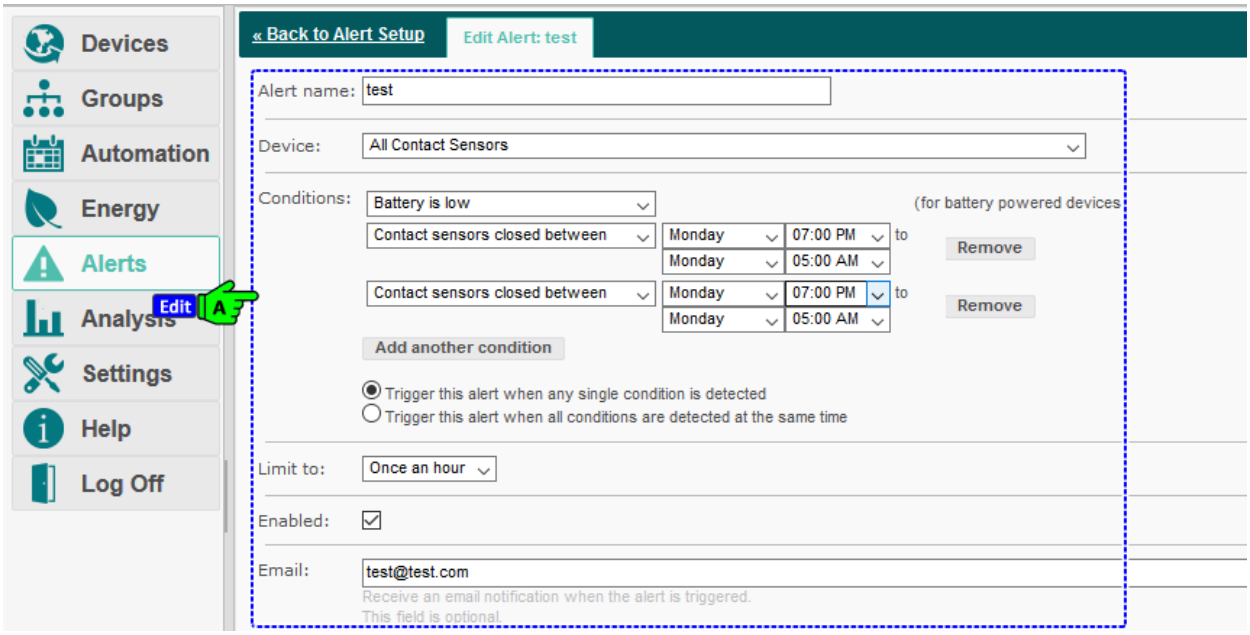
NOTE: If the device type for an alert is changed, previous settings are deleted and replaced by options associated with the new device type.

To change an alert:

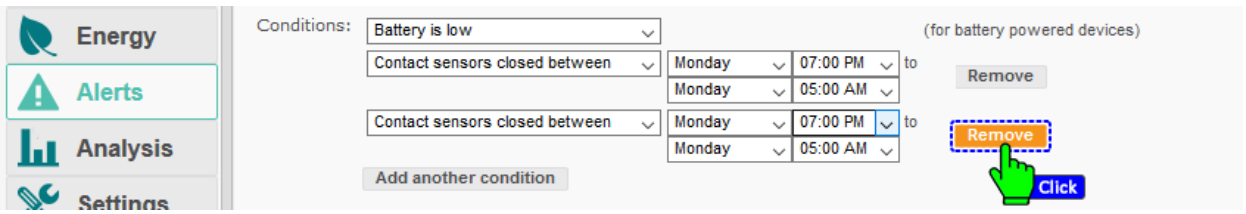
1. On the left navigation bar, click **Alerts**.
2. Click the **Alert Setup** tab.
3. Select the row of the alert to be edited. Click the **Edit** button.



4. Update the condition information as appropriate. For more information about available conditions and options, see *Understanding User-Defined Alert Trigger Options.*



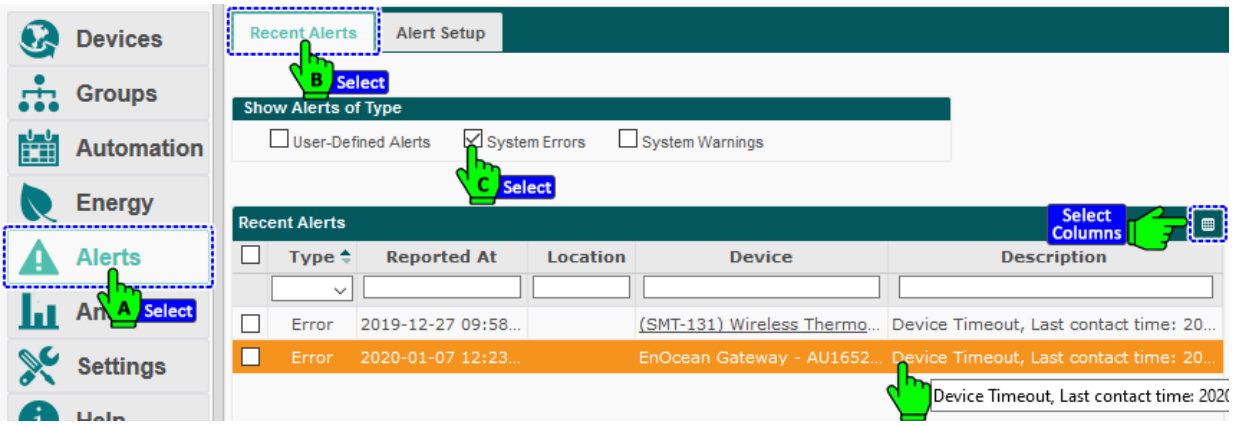
5. To remove a trigger:
   a. Use the **Condition** drop-down list to locate the trigger to be deleted.
   b. Click the **Remove** button. Click **Save**.



10.7. Viewing Alert Details

To view the details of an alert as described in the table below:

1. On the left navigation bar, click **Alerts**.
2. Select one or more of the **Show Alerts of Type** checkbox(es). For information about alert types, see *Understanding Types of Alerts*.



3. Select the columns of alert data to be displayed:
   - Click the picker. Select the checkboxes of the columns to be displayed. Click **OK**.

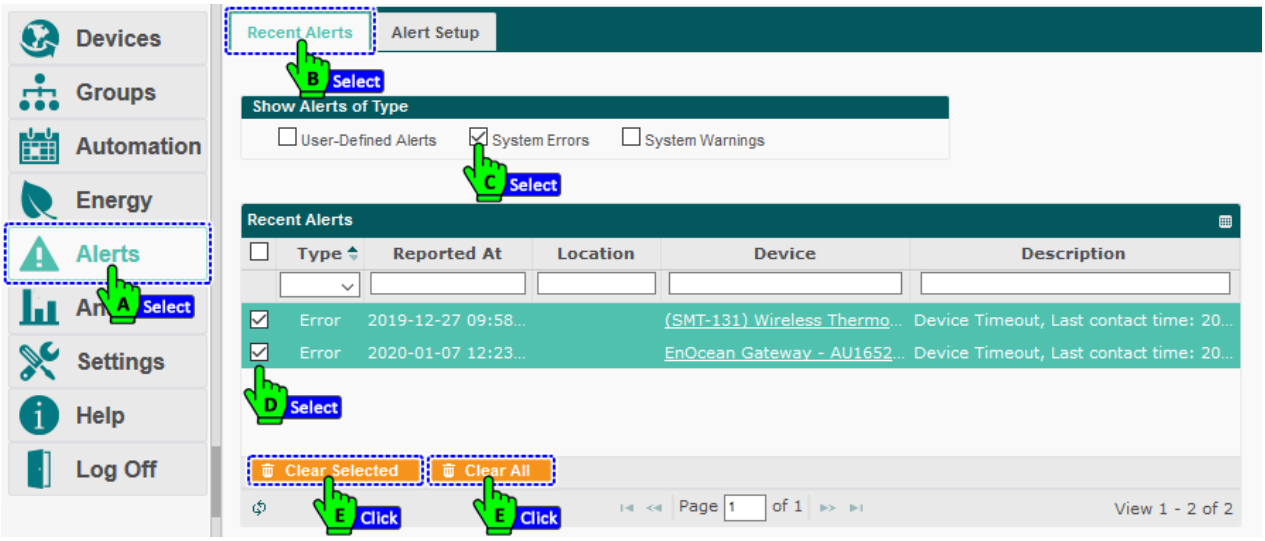
   NOTE: To view the entire description, mouse over the description cell, enlarge the column width, or click on the device link to see the detail in a pop-up box.

Table 26: Alert Information

Column	Description
Type	Type of alert: User-Defined Alerts, System Errors, and System Warnings
Reported At	Date/time stamp of alert in the following format: yyyy-mm-dd hh:mm AM/PM
Location	Location group to which the device belongs
Device	Name of the device
Description	Name of the alert followed by the condition that triggered the alert

10.8. Clearing Alerts

1. On the left navigation bar, click **Alerts**.
   - To delete all alerts from the screen, click the **Clear All** button.
   - To delete selected alerts from the screen:
     I. Click the checkboxes next to the rows of the alerts to be deleted.
     II. Click the **Clear Selected** button.
2. Click **Yes/OK** to confirm the alerts are to be deleted.



11. Using Energy Consumption Data

11.1. Understanding Sources of Consumption Data

When using the HVAC and/or lighting management modules, system wide energy consumption and related data is calculated using the Estimation Engine. If the system includes meters, it can be configured to use the data reported by the meters and use Estimation Engine calculations only when metered data is not available. For more information, see the table below.

Table 27: EnergyCenter Sources of Consumption Data

Data	Estimation Engine	Meters
Device Sources	▪ Is the default source of consumption data. ▪ EnergyCenter® devices selected by a user. ▪ Aggregates data from multiple devices.	▪ User can choose to use data reported by a single meter or multiple meters.
Type	▪ Calculates energy consumption and cost data ▪ Can be used to isolate consumption from a specific system when consumption data is aggregated.	▪ Uses actual consumption data from digital or pulse meters. ▪ Includes consumption data from all devices reporting to a meter(s).
Displayed	Estimated consumption is displayed on the following screens, as appropriate: ▪ Thermostats ▪ Thermostats in groups ▪ Lights ▪ Lights in groups	Metered energy consumption is displayed on the following screens, if applicable: ▪ Meters screen ▪ Meters device detail screen
Summaries	▪ Energy screen ▪ Statistical consumption data ▪ Estimated Total Energy Usage graph ▪ Usage Today display accessed from the drop-down menu under the left navigation bar.	

11.2. Understanding Energy Consumption Displays

The software compiles consumption data for:

- Individual devices
- All devices
- Device groups

To facilitate analyzing energy use, trends, costs, and potential cost savings, the software displays estimated and/or actual energy consumption data in:

- Spreadsheet formats
- Charts
- Consumption reports

NOTES: Consumption is based on usage rates defined by the customer or technician. For more information, see Entering Energy Consumption Rates.

CAUTION: Using both meters and the Estimation Engine for HVAC and/or lighting consumption causes EnergyCenter® to double-count that data and inaccurately estimate energy costs and CO2 emissions.

To view:

- Consumption data and charts by device, see *Viewing Consumption Data and Charts by Device*.
- Consumption-related data and charts for the entire system, see *Viewing System Consumption Data and Charts*.

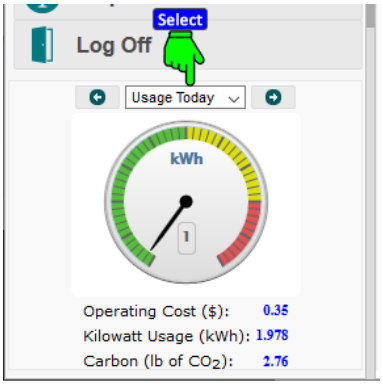
11.3. Viewing Energy Consumption Screens

11.3.1. Viewing System Consumption Data and Charts

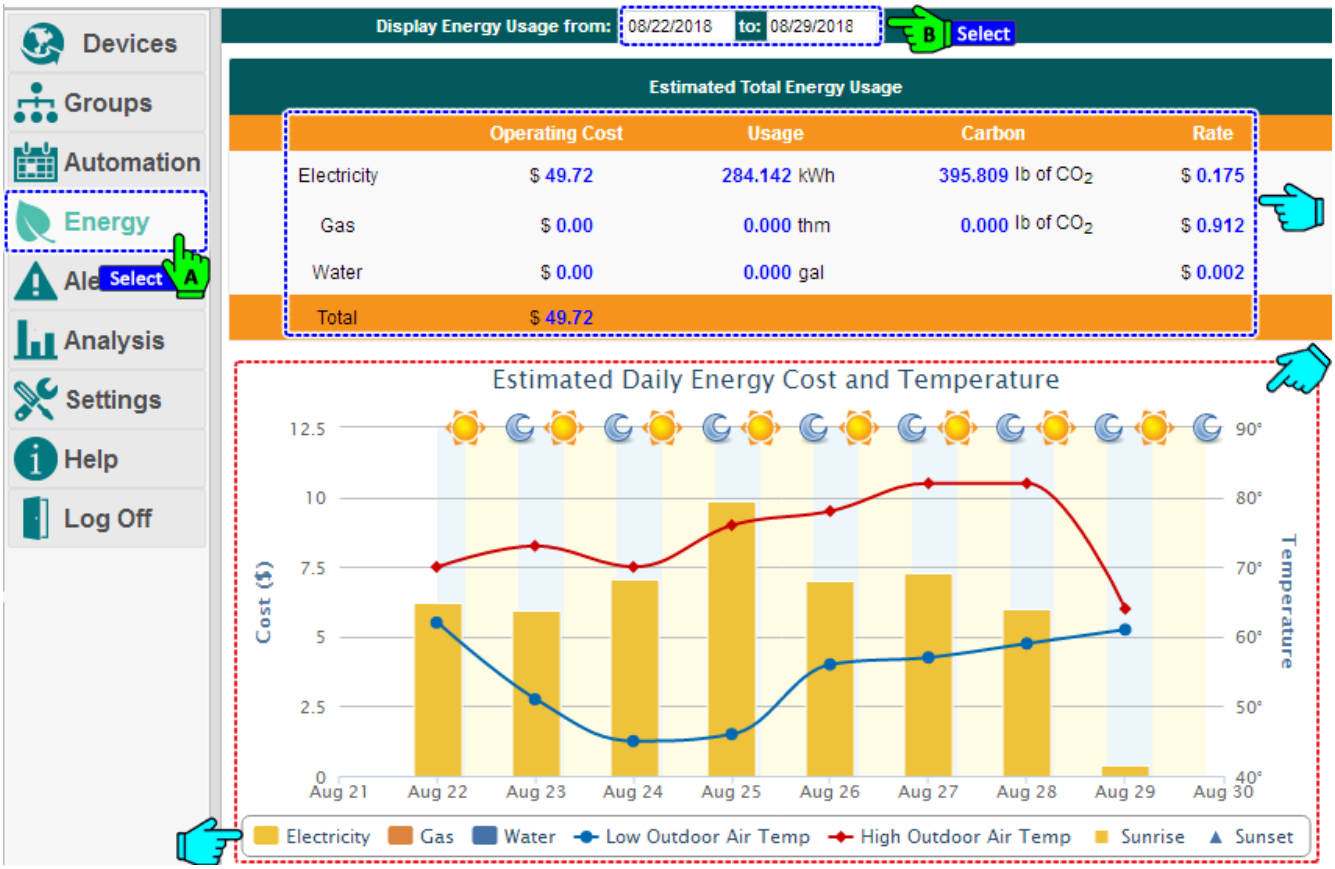
When using the HVAC, lighting, and/or meter management modules, system-wide consumption data can be viewed in two places. Both places list summary information for operating costs, energy consumed in kilowatt hours, and the calculated carbon footprint.

To view:

1. System summary information for the current day, select **Usage Today** from the drop-down list under the left navigation bar.



2. Additional information and select the day or date range of the information:



   i. On the left navigation bar, click **Energy**.

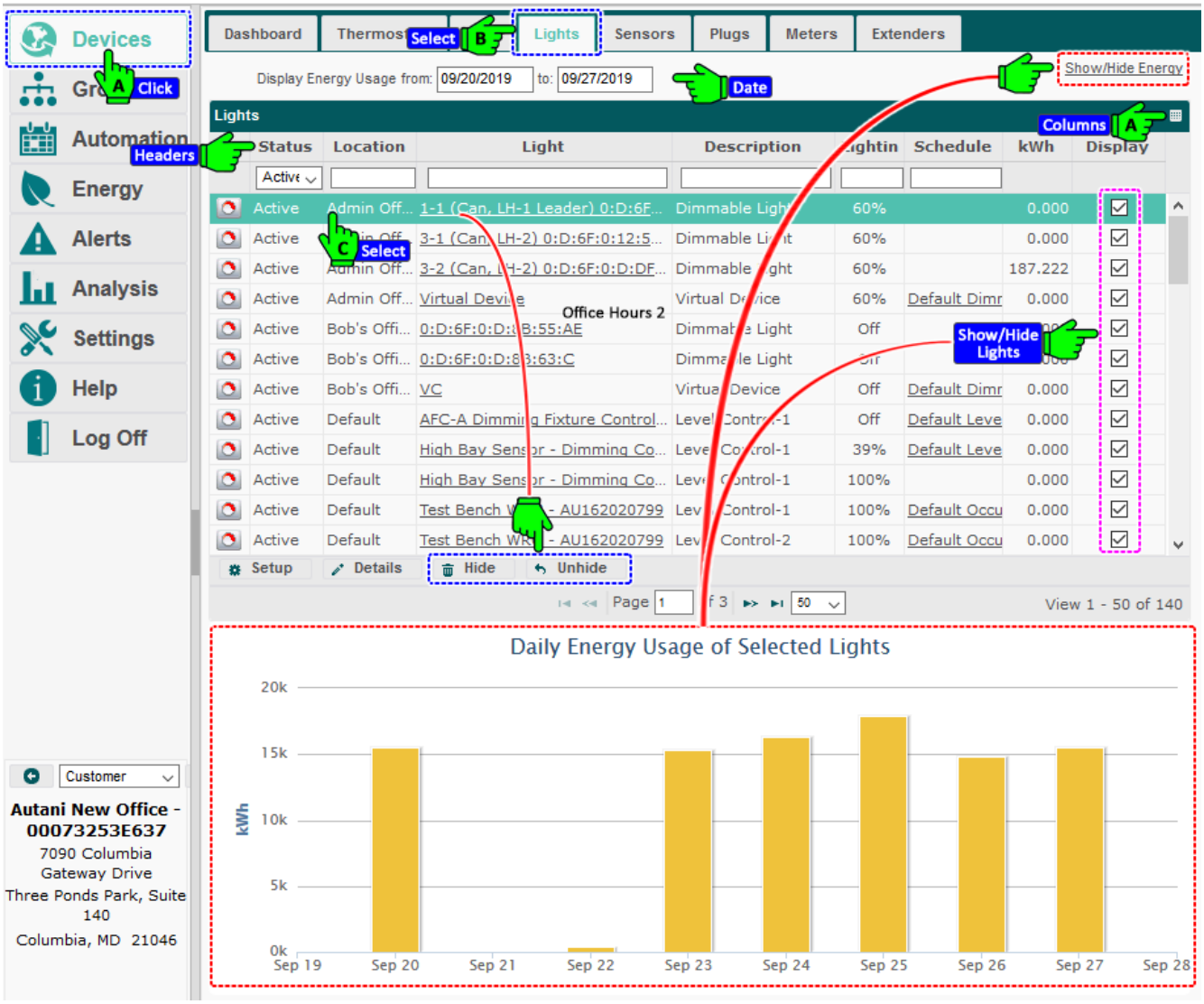
   ii. Click in the **Display Energy Usage from** and **Display Energy Usage to** textboxes to access the calendar and select a day or date range.

   The **Estimated Daily Energy Cost and Temperature** chart appears.

   - Data is displayed by totals for electric use, gas use, and total system use.
   - To view specific details, mouse over a bar or trend line in the bar chart.

11.3.2. Viewing Consumption Data and Charts by Device

1. On the left navigation bar, click **Devices**.
2. Click the **tab** of the device.



The data spreadsheet format that appears can be modified to quickly view needed information.

- Rows can be sorted by clicking a column heading.
- Rows can be hidden or displayed 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.

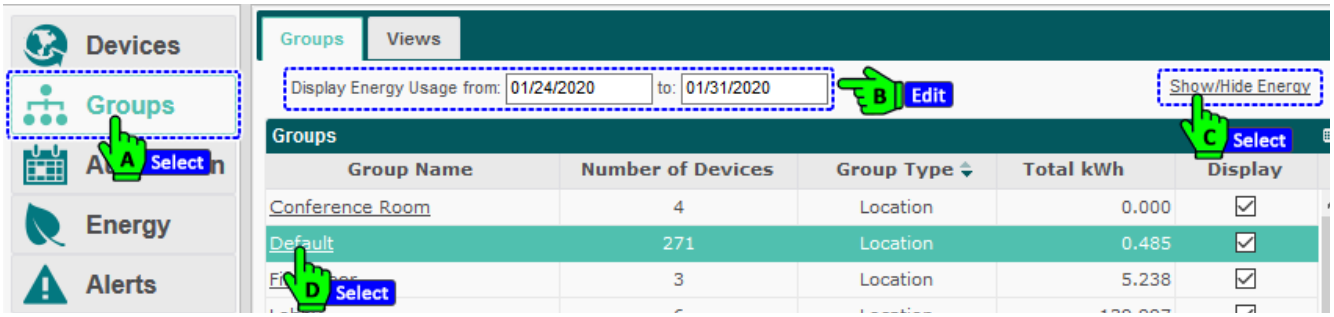
3. If the consumption data graph is not visible, click the **Show/Hide Energy** link.
4. To view additional details using the graphing feature:
   - Select a different date range for a graph by clicking the **Start Date** and **End Date** textboxes to access the calendar feature.
   - Mouse over the displayed data.
   - On device detail charts, 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.
5. To view more detailed information about consumption as reported by meters, click the **Meters** tab.

11.3.3. Viewing Details of Energy Consumption by Group

NOTES:

- The default source for consumption data is the Estimation Engine.
- To use actual consumption data reported by meters, see Selecting Meters as a Source for Energy Consumption Data.
- If multiple EnergyCenter® modules are used in the system, aggregated consumption data may be a combination of estimated and actual data.

To view data by group as outlined in the table below:



1. On the navigation bar, click **Groups.**

   NOTE: If a graph appears on the bottom of the screen and you want to view only the data in the spreadsheet format, click the **Show/Hide Energy** link.

2. Use the **Display Energy Usage from** and **Display Energy Usage to** textboxes to access the calendar, specify a day or date range.

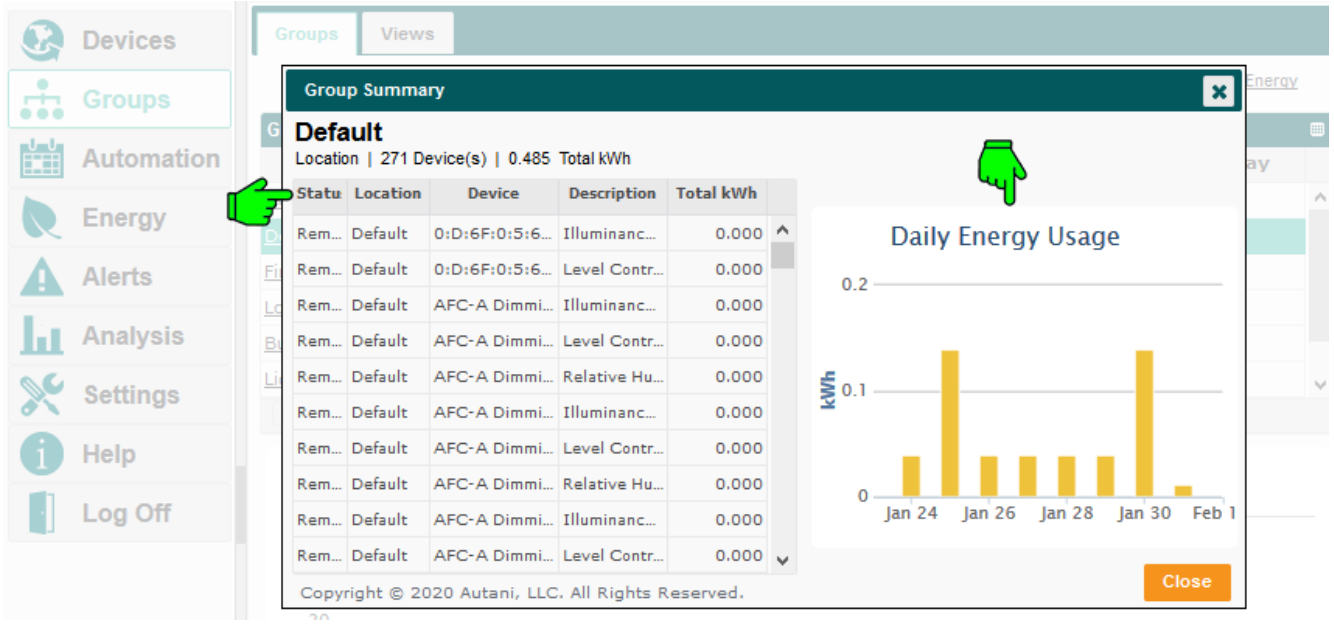


Table 28: Group Summary Information

Column/Graph	Description
Status	Most recently reported status.
Location	Name of location group to which each device belongs.
Device Name	Name and serial number of each ARC or ZRB in the group.
Description	Type of device.
Total kWh	Combined energy consumption data collected by all the devices in the group.
Daily Energy Usage bar graph	Energy consumption reported by the group of devices during the specified time period.

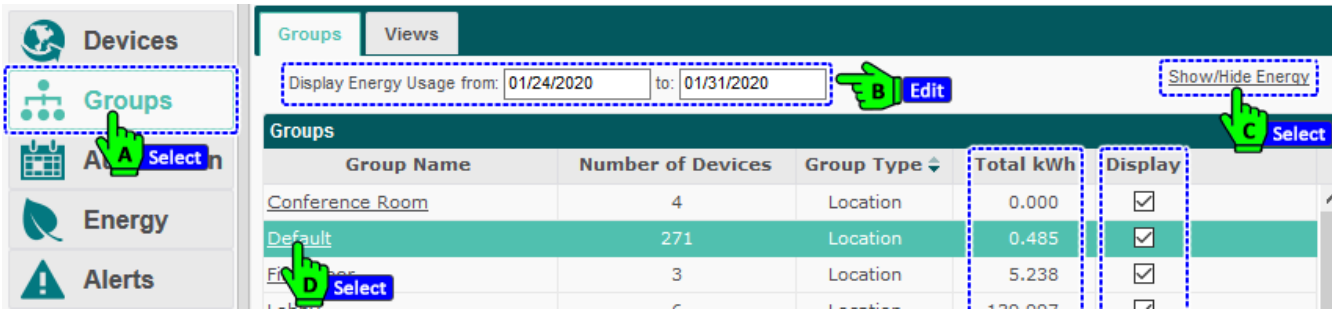
11.3.4. Creating Graphs of Energy Consumption by Group

Data on energy consumed by one or more device groups is used to create graphs for a specific day or date range.

- The default source for consumption data is the Estimation Engine.
- To use actual consumption data reported by meters, see Selecting Meters as a Source for Energy Consumption Data.
- If multiple EnergyCenter® modules are used in the system, aggregated consumption data may be a combination of estimated and actual data.

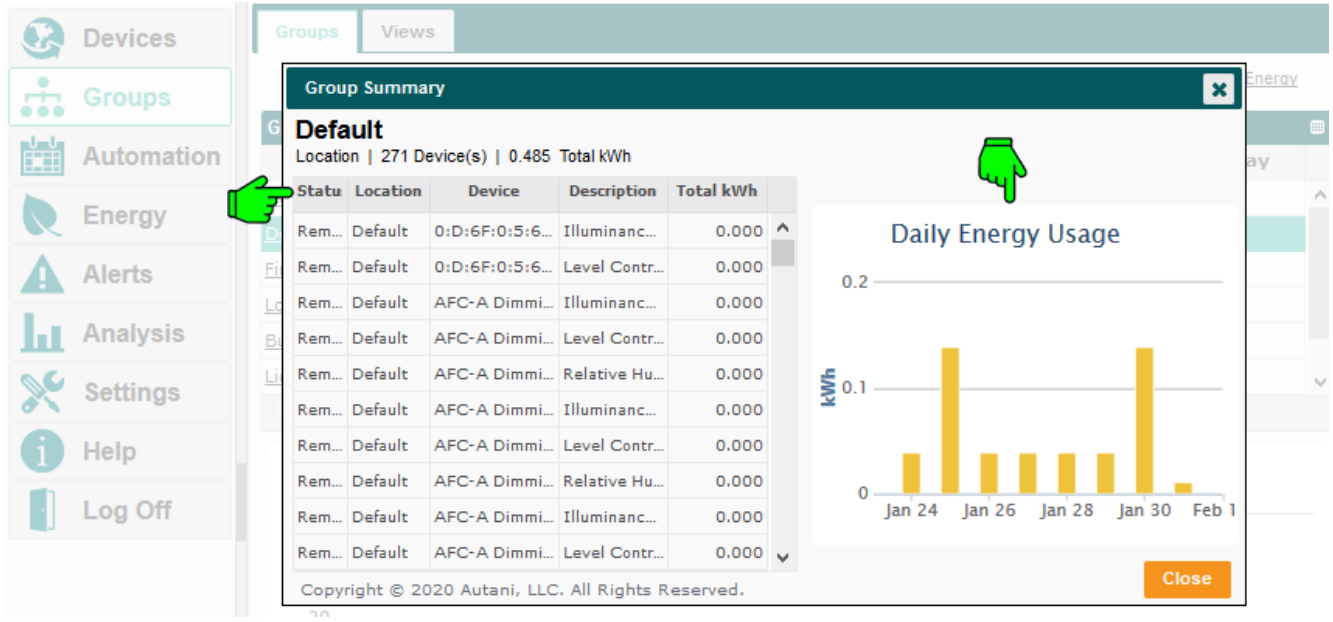
To view a graph of energy use for a selected group(s):

1. On the navigation bar, click **Groups**.
2. If the graph is not visible, click the **Show/Hide Energy** link.
   - The Total **kWh** column provides an estimate of kilowatt hours of electricity or gas used by the devices in the selected group(s). The estimate is based on data received from midnight on the first day in the date range until the most recent report for the current day.
   - The **Display** column displays the energy consumption of location groups and can be used to select device groups to include in the energy usage graph.
3. Use the **Display Energy Usage from** and **Display Energy Usage to** textboxes to access the calendar and specify a day or date range.



4. To create a chart:
   i. For a single group, **double-click** on the name link of the group.

      A Group Summary screen appears that includes a Daily Energy Usage chart and a data table that lists the group status, location, device name, descriptive information, and total consumption in kWh.



   ii. For multiple groups, select the Display column checkboxes of the groups to be included in the chart.

12. Using Reports

12.1. Understanding Reports

Reports can be created, saved, and used to analyze and compare data over different periods of time. Based on the devices in the system, the following types of reports can be generated:

- Energy consumption reports
- Run time reports by device
- Device inventory reports
- Raw data reports from meters

When using the HVAC and/or lighting management modules, system wide energy consumption and related data is calculated using the Estimation Engine. If the system includes meters, it can be configured to use the data reported by the meters and use Estimation Engine calculations only when metered data is not available.

Consumption and cost savings are calculated by comparing actual usage when devices are controlled using the software with the usage that would have occurred if all devices had been running during the selected hours of operation.

Reports can be generated in pdf format or exported to any spreadsheet application as a comma-delimited file (CSV format).

The following sections describe the various reports that can be generated, the data contained in each kind of report, and how to create reports.

12.2. Using Energy Consumption Reports

Table 29: Energy Consumption Reports

Report	Description	PDF Format	Spreadsheet Format (CSV)
Analysis: Consumption Comparison	An Average Daily Cost chart.	x	NA
	Total Savings and Average Daily Savings summaries.	x	NA
	Usage and cost data for electricity and gas.	x	x
	Combined use and cost data, including the calculated carbon footprint.	x	x
	Baseline and control period data.	x	x
Energy	Chart of Daily Energy Usage by cost.	x	NA
Consumption: Billing	Data for Daily Energy Usage by cost: ▪ Electricity and gas consumed ▪ Total cost	x	x
Energy Consumption: Usage History	▪ Provides monthly billing information for the consumption reported by devices over the past 13 months. ▪ Includes consumption for a month, including the billing date. For example, if the third of the month is the end of the billing cycle, the application produces a report for January 4 to February 3, February 4 to March 3rd, and so on. **NOTE**: If the billing date occurs after the current date, the current month's data is not included in the report.	x	x
Lighting Analysis: Energy & Cost Savings - Detailed by Day	▪ Savings Summary table that aggregates the data described below in the daily data table.	x	NA
	▪ Electricity rate charged by utility (defined by user).		NA
	Daily data table including: ▪ Maximum load, usage, and energy saved in kWh. ▪ Total cost. ▪ Total savings, savings by day, and percentage of kWh saved.		x
Lighting Analysis: Energy & Cost Savings - Detailed by Light	▪ Same data as previous lighting energy and cost savings report. ▪ Sorted by light instead of by day.	x	x

12.3. Using Run Time Reports

Table 30: Run Time Reports

Report	Description	PDF Format	Spreadsheet Format (CSV)
Lighting	Chart of Top Ten Run Times by light channel in hours.	x	NA
	Data by controller/channel ▪ Location group. ▪ Total and average daily run time.	x	x
Thermostat Relays	▪ Summary chart of Total Relay Run Times. ▪ Chart of Top Ten Relay Run Times for each relay.	x	NA
	Table of Relay Run Times in hours for each relay.	x	x

12.4. Using Device Inventory Reports

The following table includes the information that is found in both Device Inventory Reports and Detailed Device Inventory Reports. It appears in both the pdf and spreadsheet (CSV Report) formats.

The subsequent table describes additional information that appears in the reports and/or formats.

Table 31: Data in All Device Inventory Reports

Report	Description
All Device Inventory Reports	Detailed information by device name ▪ Communication status and time discovered. ▪ Type of device, including serial number, model number, and MAC Address. ▪ Autani firmware version. ▪ For devices controlling multiple end points, specific data on the end-point devices, including: □ Location group. □ Time/date stamp of last report. □ Overall and device status. □ If the device is hidden (does not appear on EnergyCenter® screens).

Table 32: Additional Device Inventory Data by Report and Format

Report	Description	PDF Format	Spreadsheet Format (CSV)
Device Inventory	Summary data for: ▪ System Status ▪ Overall Status ▪ Communication Status ▪ Device Status	x	x
Detailed Device Inventory	Summary data for: ▪ System Status ▪ Overall Status ▪ Communication Status ▪ Device Status	x	x
	Setting data for thermostats ▪ Security and display options. ▪ Mode, temperature, and freeze protection options. ▪ Thermostat and switch configuration settings. ▪ Heat pump options. ▪ Relay function, status, and consumption.	x	x
	Setting data for lights, including whether the data should be used to calculate energy usage. ▪ Switch configuration. ▪ Switch outputs, including: □ Number of fixtures, bulbs per fixture, and wattage of a single bulb □ Energy Usage Rate charged by utility in kWh.	x	x
	Setting data for light level controllers.	x	x

12.5. Using Raw Data Reports from Meters

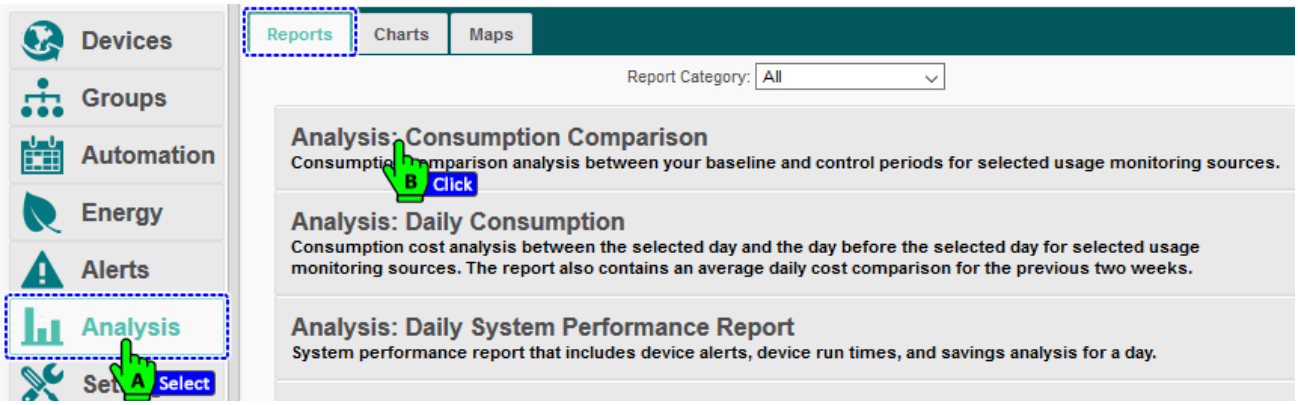
The following table includes the information that is found in both Device Inventory Reports and Detailed Device Inventory Reports. It appears in both the pdf and spreadsheet (CSV Report) formats.

Table 33: Digital Meter Raw Data Reports

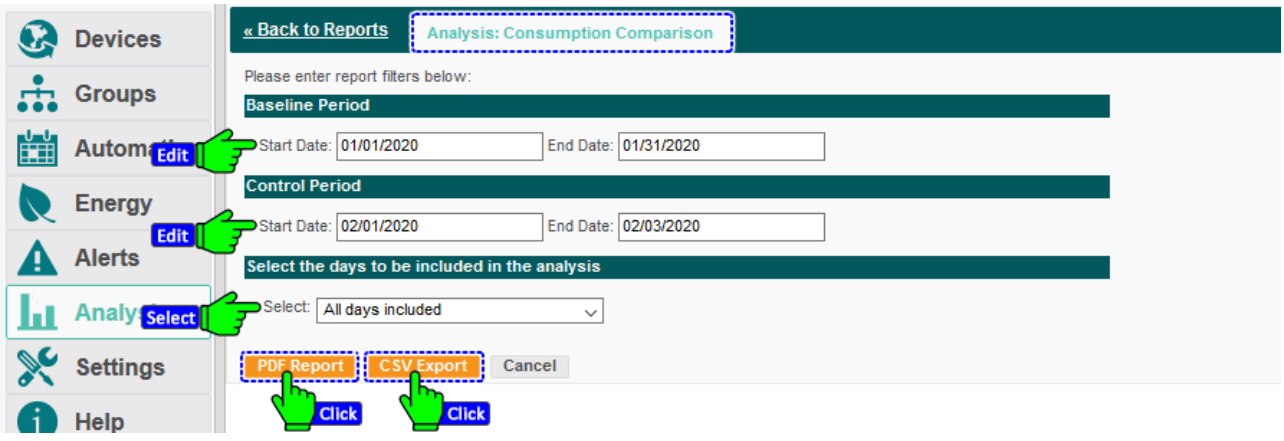
Report	Description
Meters	Data reported by meter: ▪ Start and End time/date stamps ▪ Report Count ▪ Reading Type selected for report ▪ Reading reported to EnergyCenter®

12.6. Creating a Report

1. On the left navigation bar, click **Analysis > Reports**.



2. Click the name link of the report to be created.
3. If **Start Date** and **End Date** textboxes appear, click in them to access the calendar and select the day or date range for the report.
4. If other setting drop-down lists appear, use them to select additional settings for the report.
5. Click the **PDF Report** or **CSV Report Export** button to select the report format.



Depending on your computer settings, the reports will appear momentarily or after a brief wait you may have to click to open the reports.

- PDFs appear in another window of the browser.
- CSV reports appear in your default spreadsheet program where they can be sorted.

6. If needed, save the report to keep it for later reference or comparison purposes.

13. Troubleshooting

13.1. Devices are Not Reporting Data

13.1.1. Device is in Error or Warning State

During initial setup, devices are in an error state until the mesh network is established. If the status does not change momentarily to Active, click **Alerts** on the left navigation bar to check the alert log.

Table 34: Alert Troubleshooting

Issue	Cause	Potential Solution
Device Timeout Error	Excessive distance between devices or thick walls.	▪ Move devices closer together. ▪ Install an extender.
Error	Device is not communicating with the Autani Manager over the autaniNet network.	Check power status of Autani Manager.
Warning	Specific condition listed.	Dependent on warning condition listed.

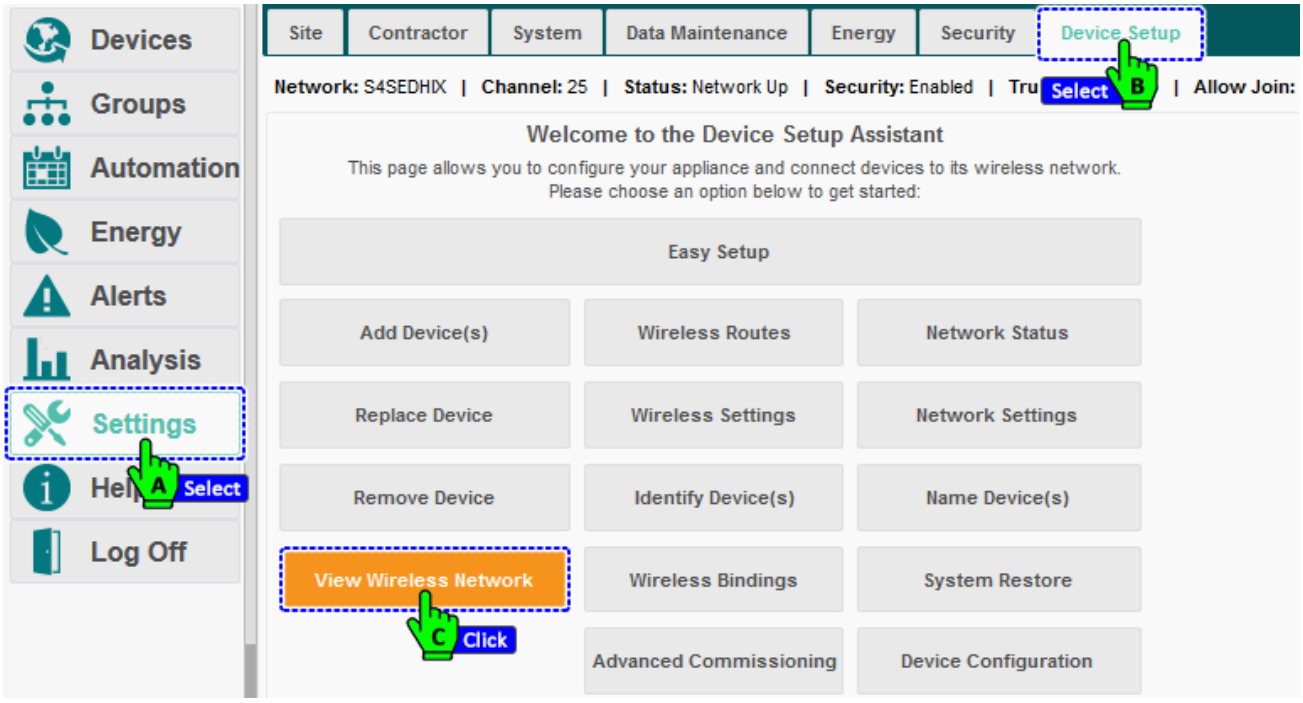
13.1.2. LED on the Autani Manager is not Green

Check the power connection:

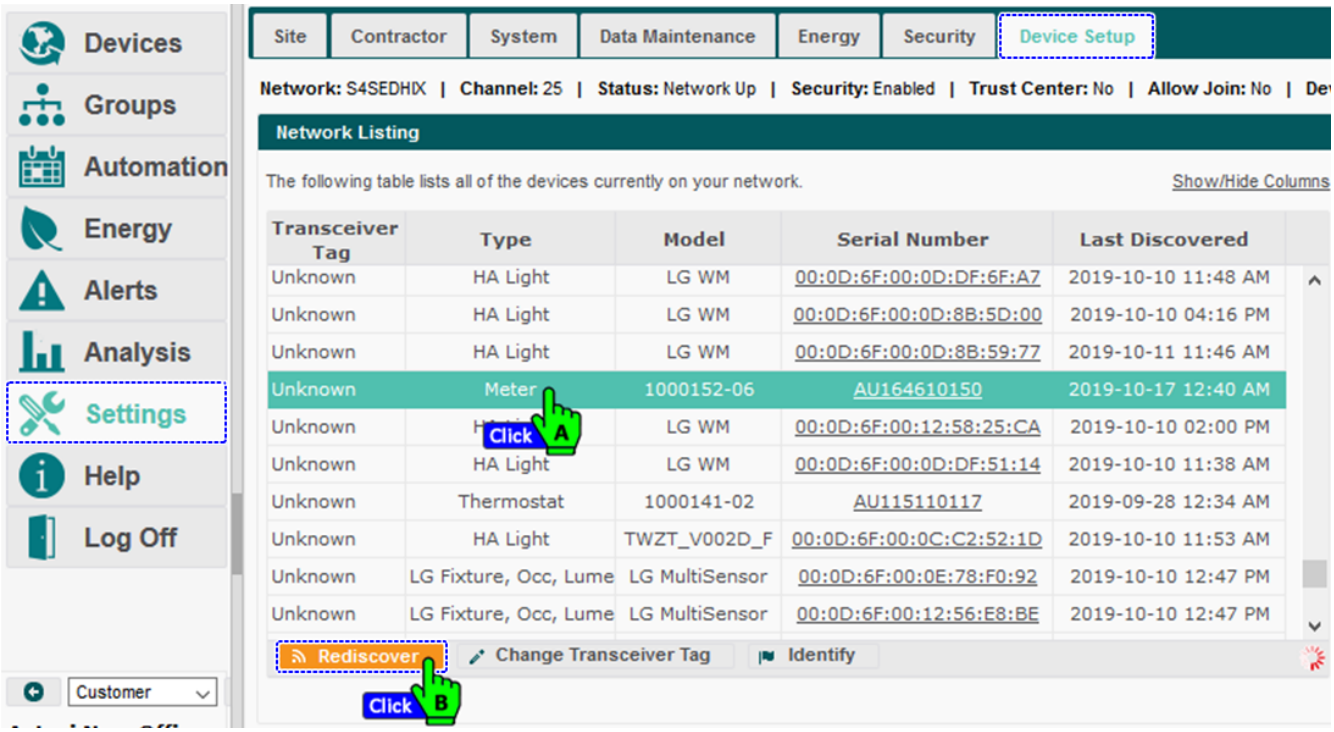
1. Verify the Autani Manager is firmly plugged into the electrical outlet.
2. To make sure it is a working electrical outlet, test it:
   - Using a voltage meter
   - Connecting another device to the outlet, and testing that it turns ON

13.1.3. Rediscover the Device

1. On the left navigation bar, click **Settings**.
2. Click the **Device Setup** tab.
3. Click the **View Wireless Network** button.



4. Click the row of the device to be rediscovered, and then click the **Rediscover** button.



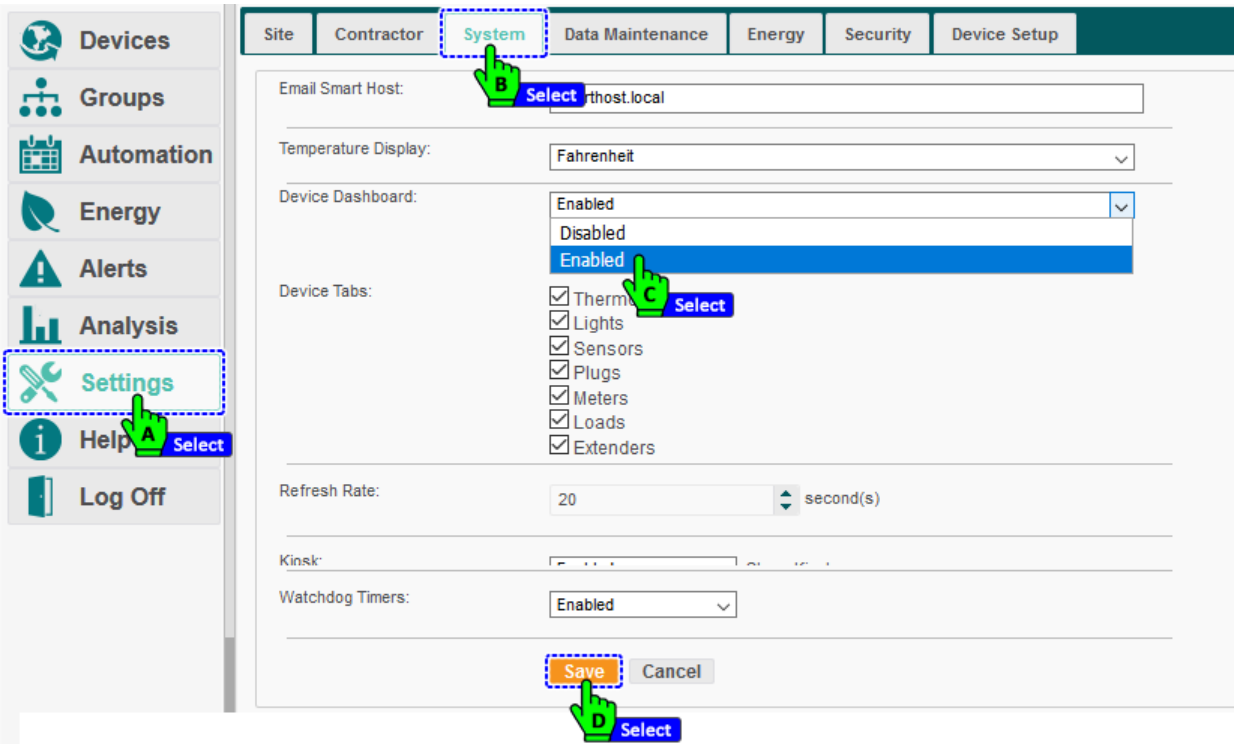
- The description in the Type column changes to "Discovering."
- The time/date stamp in the Last Discovered column changes to "Starting discovery" in red.

- When the device has been rediscovered, the type of device reappears, and the new date/time stamp is listed.

13.2. Dashboard Does Not Appear

To enable the dashboard:

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



13.3. Energy Consumption Data Does Not Appear

Local utility billing rates are used to calculate energy costs and an emission conversion rate is used to determine a carbon footprint. It is likely that rates were not entered during commissioning. For more information, see *Entering Energy Consumption Rates*.

For more information on energy consumption calculations, see *Understanding Sources of Consumption Data*.

13.4. Events Are Not Occurring As Scheduled

There are a number of 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 event was subjected to a scheduled override. For more information, see *Creating Overrides*.
- The event was superseded by a curtailment. For more information, see *Creating Curtailments*.
- Programmed delays may be affected if third-party sensors are involved that have their own delay schedules. For more information, refer to the documentation that came with the sensor.
- A Schedule Template may have been changed. Schedule template changes are not automatically copied to a device.
- A device was added to a group. Devices are not automatically assigned the Schedule Template that applies to the group.

13.5. 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.

EnergyCenter® 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 overlap the specified date range.

13.6. Error Message When Selecting a Date Range

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

13.7. Contacting Customer Support

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

- **Contact Autani Support.**

  Phone: 443.320.2233 x2

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

  Support / Commissioning Services: support@autani.com

- **Contact Autani Sales**

  Phone: 443.320.2233 x1

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

  General Inquiries: information@autani.com

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

14. Glossary

Table 35: Glossary

Term	Description
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.
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
Curtailment Stage	A trigger used to immediately implement a group of curtailments at the same time
Demand	Maximum amount of electrical energy being consumed during a specific time period called a demand interval
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 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

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