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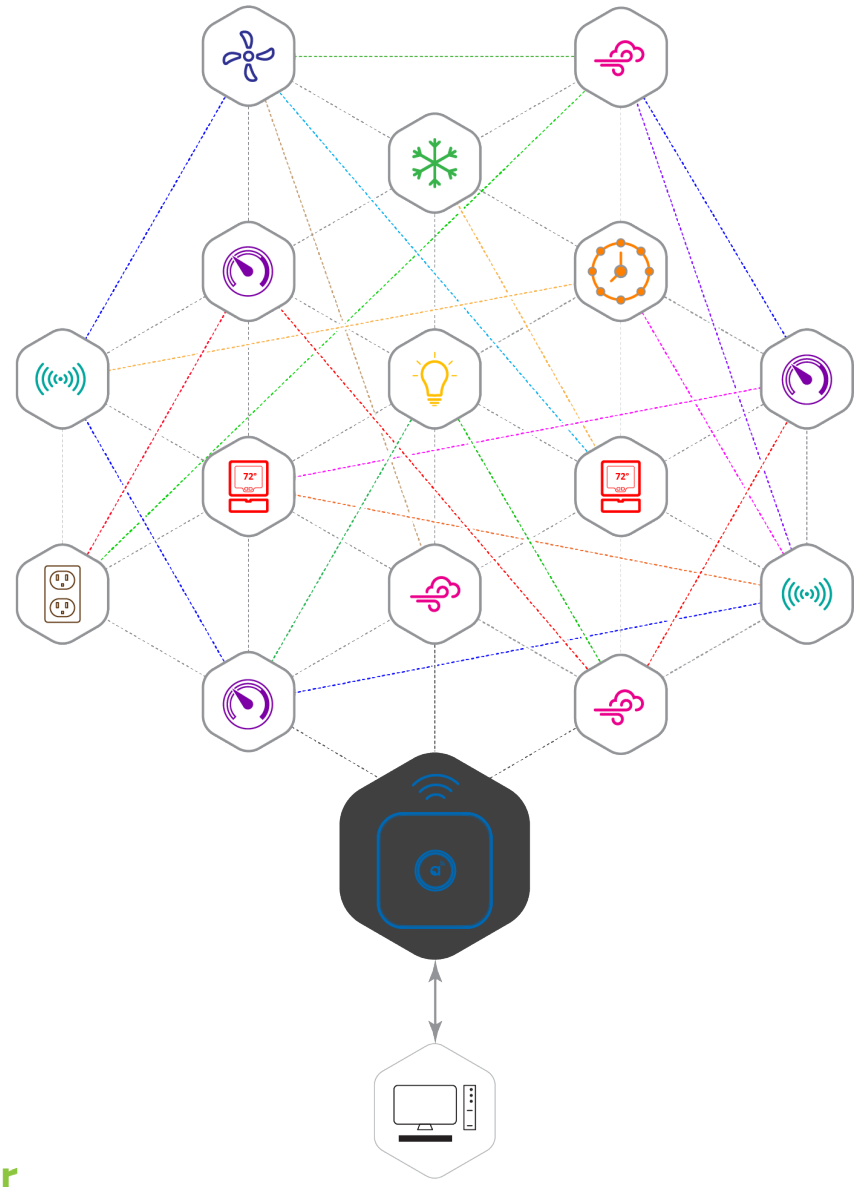
autani
building controls

User Guide

EnergyCenter®

Fan Management



EnergyCenter
BY AUTANI

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1. FanCenter Overview

The fan management software module is compatible with most commercial ventilation systems and is designed to quickly and easily configure, program, monitor, and control destratification fans from a remote location.

- To schedule changes to the speed and direction of the blades of an individual fan or a group of fans
- To wirelessly network multiple fans throughout a building or multiple buildings
- To monitor run time, settings, and schedule information
- In conjunction with the HVAC management software module, to control temperatures based on whether or not the space is occupied

For information on features and procedures that are the same in all EnergyCenter® software components, refer to the User Guide module entitled 'Tasks Common to All Applications (Zigbee)'.

NOTE: Energy consumed by destratification fans is not included in the system wide totals of energy-related data.

1.1. Navigating Through the Application (Site map)

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

Table 1: Site Map for Entering Fan Data or Selecting Options

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

Table 2: Site Map for Viewing Fan Data

Groups	Energy	Alerts	Analysis > Reports	Help
Groups List Display and System Views	Not applicable for destratification fans **NOTE**: Data from fans associated with the heating/cooling system is included in system totals.	▪ Recent Alerts ▪ Alert Setup	▪ Devices: Device Inventory ▪ Devices: Detailed Device Inventory	▪ User Guide modules: □ Tasks Common to All Applications (Zigbee) □ FanCenter ▪ About

1.2. Configuring the Application

To utilize all the features available for fans, complete the steps summarized in the table below.

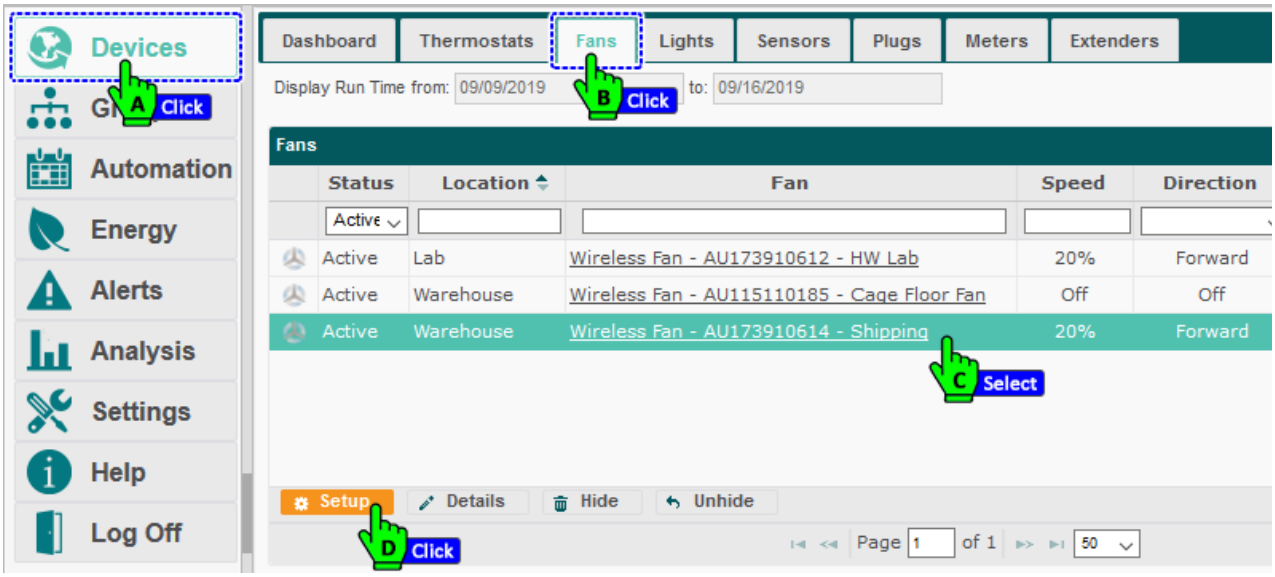
NOTE: Installation and configuration tasks are typically performed by the contractor that installs the system.

Table 3: System Setup Tasks

Task	Description	See
Complete hardware setup tasks	Install fans	Installation instructions that came with the fan
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 ▪ Adding fans ▪ Creating custom schedules with events ▪ Creating e-mail alert notifications	User Guide module entitled 'Tasks Common to All Applications (Zigbee)'
Commission fans	Select fan settings	Commissioning Fans

2. Commissioning Fans

1. On the left navigation bar, click **Devices**.
2. Click the **Fans** tab.
3. Click the row of the fan, and then the **Setup** button.



4. Update the settings as needed. Click **Save** or **Apply**.

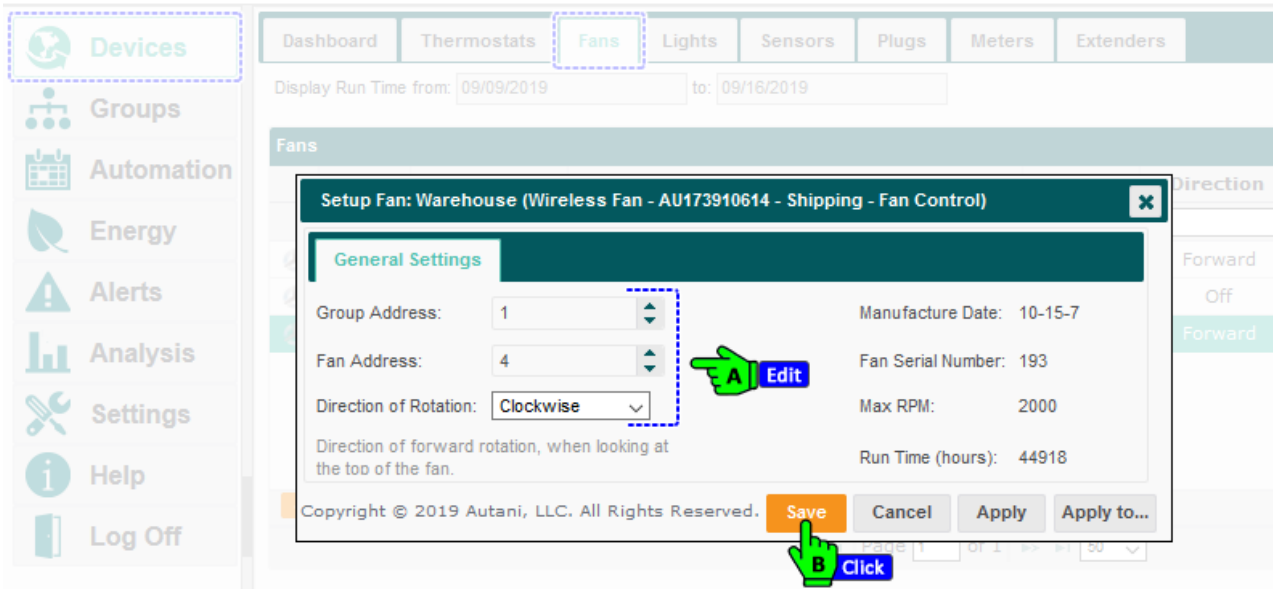
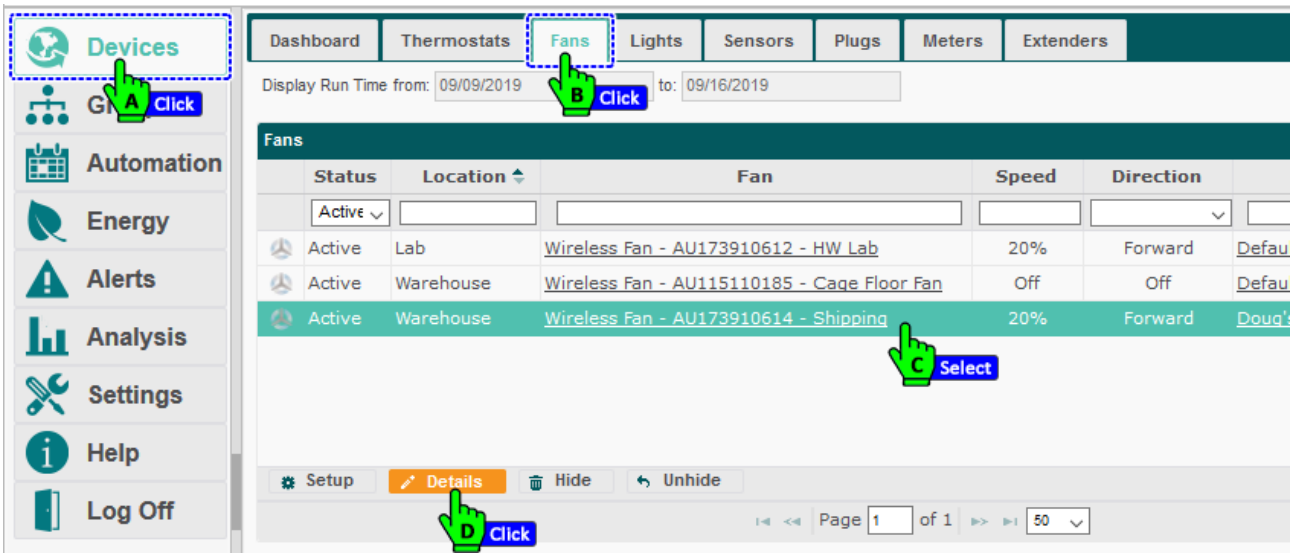


Table 4: Changing Fan Settings

Setting	Used To	Options
Group Address	Identify the group to which the fan belongs	▪ User-defined number ▪ Zero to 255
Fan Address	Select a number to identify the fan	▪ User-defined number ▪ Zero to 255
Direction of Rotation	Specify direction of fan blades	▪ Counter-clockwise ▪ Clockwise

3. Changing Fan Settings

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



4. Update the settings as needed, click **Save** or **Apply**.

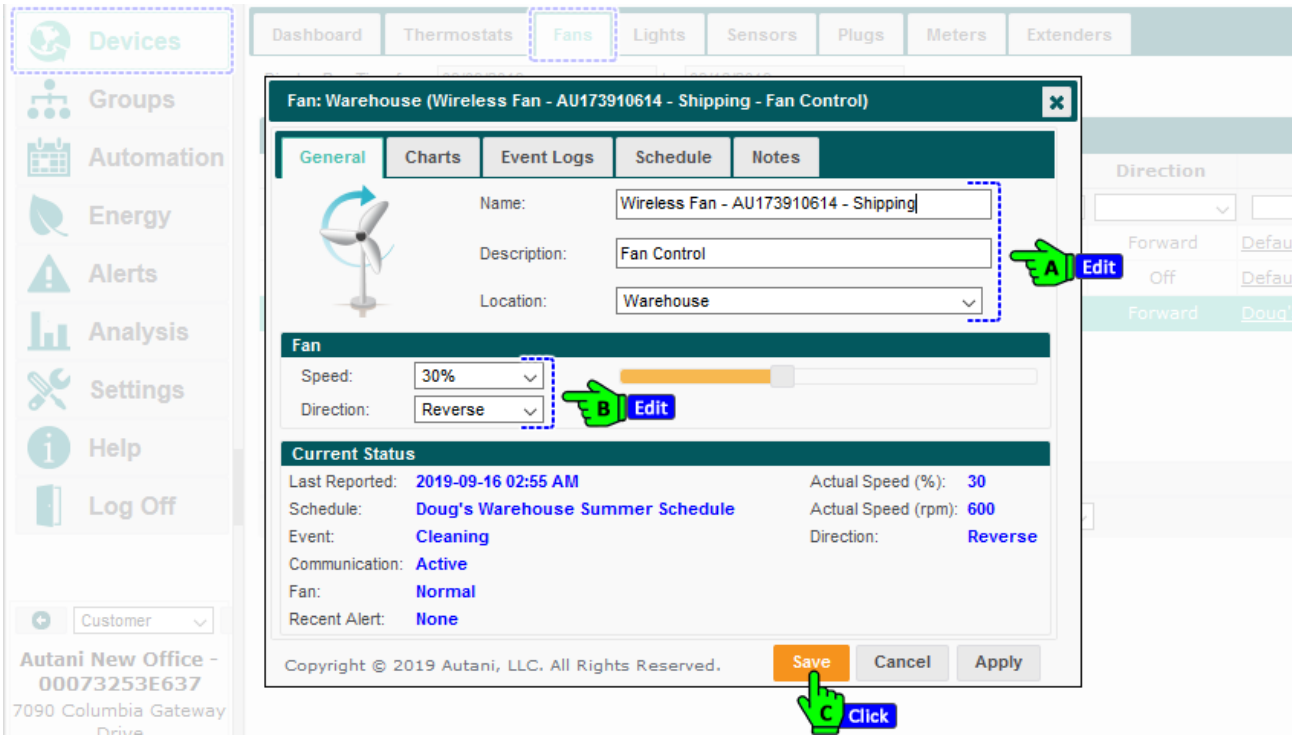


Table 5: Changing Fan Settings

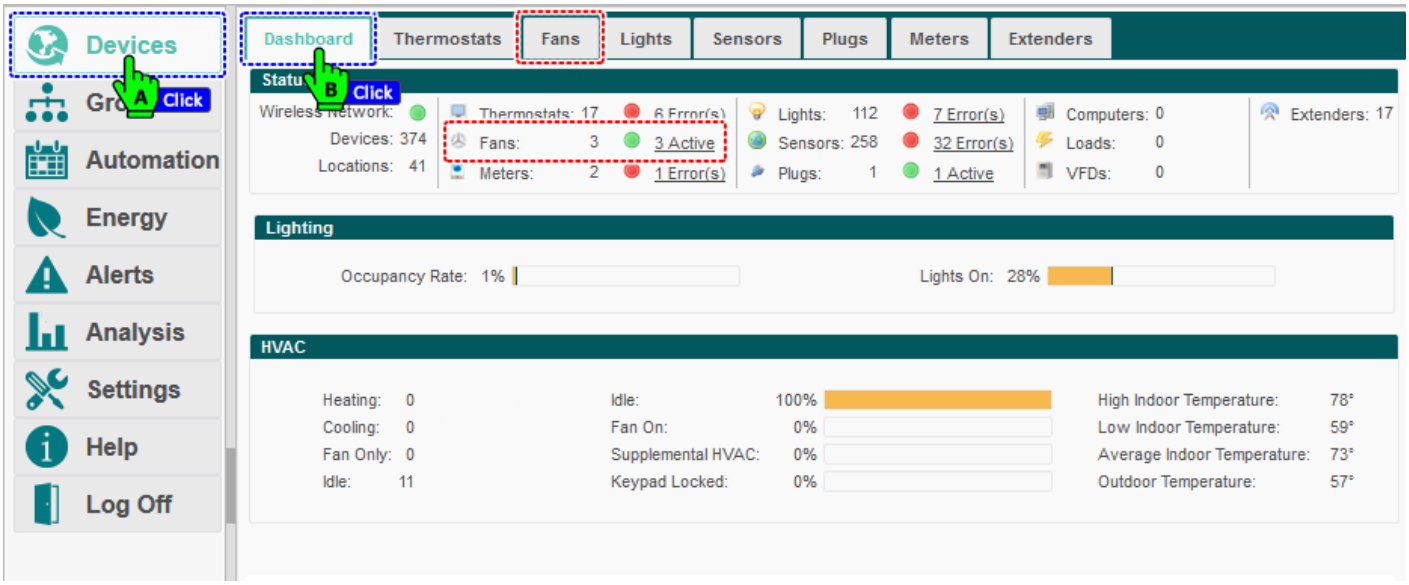
Setting	Used To	Options
Name	Specify the name of the fan **NOTE**: The serial number for a wired fan is an internal identification number and is not physically printed on the fan.	▪ Fans are initially displayed as: □ **Fan** for wireless fans □ Fan - serial number for wired fans ▪ Users can change ▪ Alphanumeric characters
Description	Identify the fan	▪ User-defined description ▪ Alphanumeric characters
Location	Name of the location group to which the fan belongs	▪ Assigned to the Default location group when a fan is first added to the network ▪ User can change for each fan independently ▪ Alphanumeric characters
Speed	Change fan speed	▪ Zero to 100% ▪ In increments of 10%
Direction	Specify direction of fan blades	▪ Forward ▪ Reverse

4. Checking Status of Fans

4.1. Viewing Dashboard Data

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

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



4.2. Viewing Tabular Data on Fans Tab

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

   NOTE: The grid can be modified to quickly view needed information.

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

3. Click the **Show/Hide Run Time** link in the upper right-hand corner of the screen to display aggregate run time for the fans selected in the grid. For more information, see
4. *Viewing Run Time Chart on Fans* Tab.

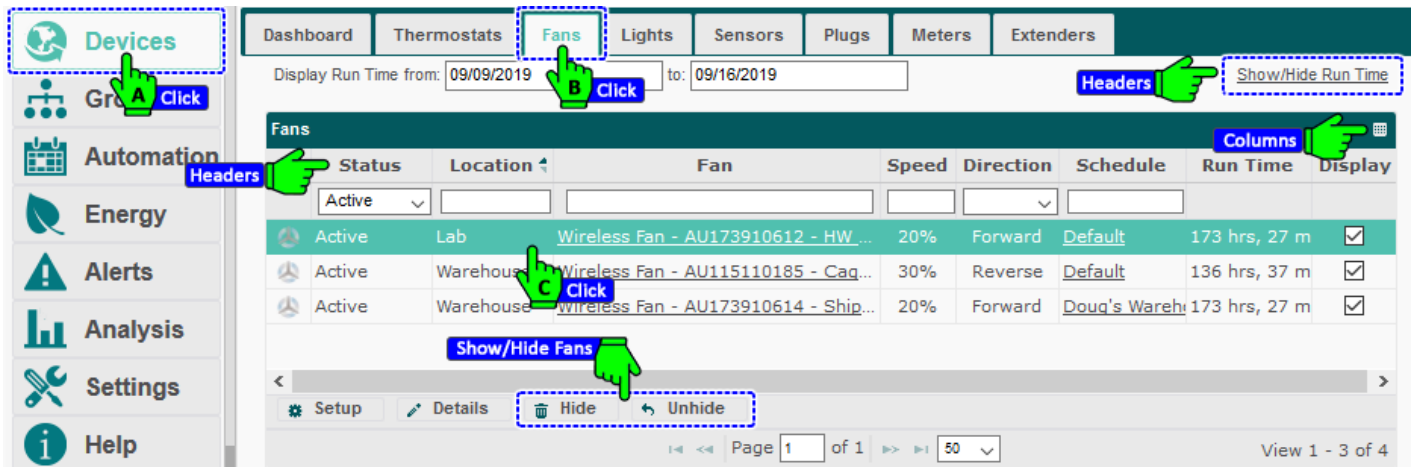


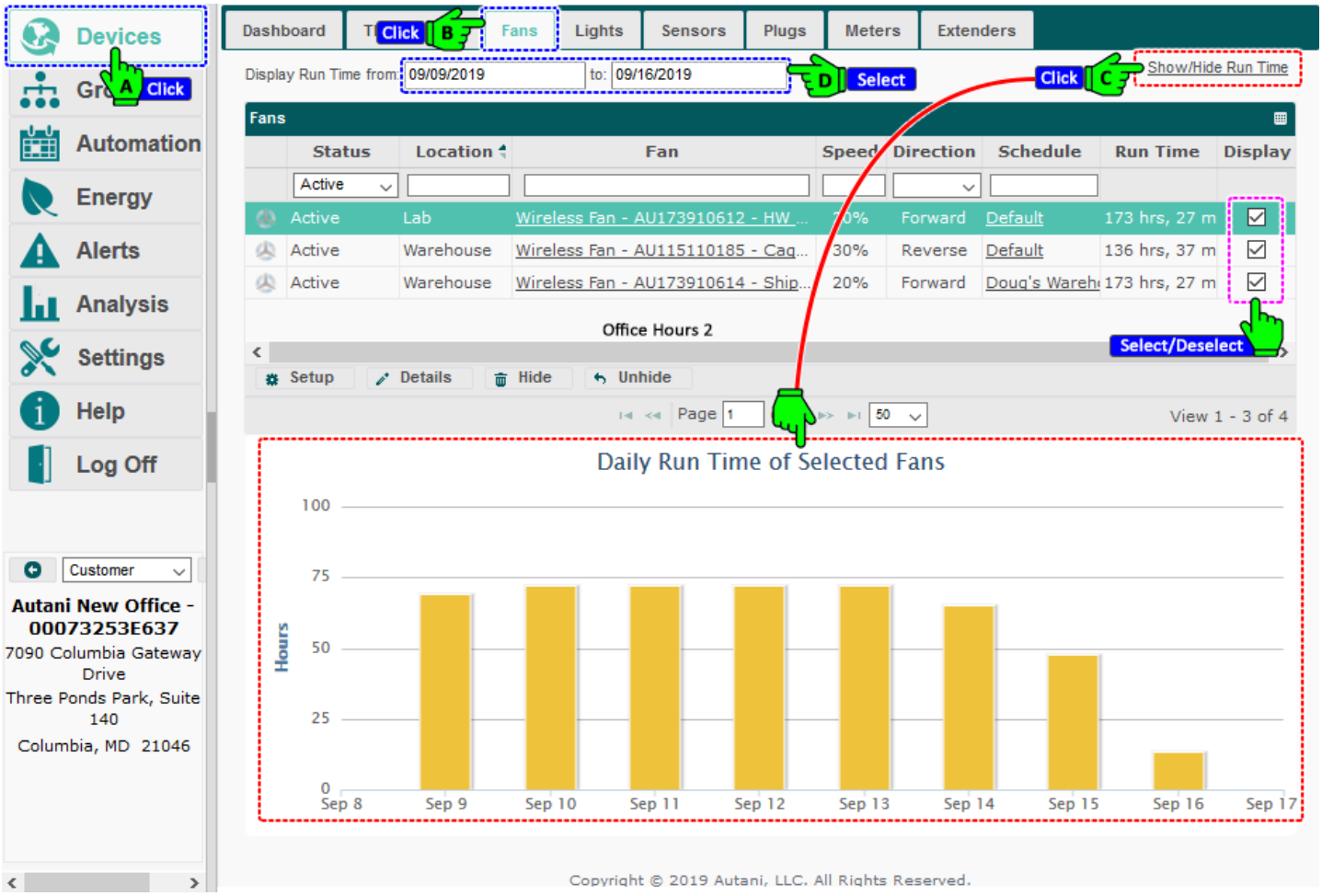
Table 6: Information on Fans Tab

Column	Used To	Options
Status (with icon)	Describe the communication status for each fan	▪ Active: Fan is reporting data. ▪ Error: The fan is not communicating with the Autani Manager over the autaniNet network.
Location	Identify the location group to which the fan belongs **NOTE**: A fan can belong to only one location group.	▪ Assigned to the **Default** location group when a fan is first added to the network ▪ User can change ▪ Alphanumeric characters
Fan	▪ List the names of fans ▪ Provide link to open other tabs for fans ▪ Links to tabs: □ General □ Charts □ Event Logs □ Schedule	▪ User-defined name ▪ Alphanumeric characters
Speed	Change fan speed	▪ Zero to 100% ▪ In increments of 10%
Direction	Specify direction of fan blade rotation	▪ Forward ▪ Reverse
Schedule (Available if a fan schedule is enabled)	▪ Display the name of the schedule associated with the fan ▪ Link to the Schedule tab to: □ Change the name or description of the schedule □ Enable or disable the schedule for the fan □ View or modify schedule events associated with the fan ▪ Indicate in red text if a curtailment or scheduled override is in effect	▪ Schedule: □ Name □ Description □ Disable ▪ Events: □ New □ Copy □ Edit □ Delete
Run Time (Appears if Daily Run Time Chart is displayed)	▪ Display the run time for the fan by day ▪ Display data from midnight on the first day in the date range until the most recent daily report	Hours and minutes
Display	Select fans to display in the Daily Run Time of Selected Fans chart on the bottom of the screen **NOTE**: If the chart does not appear, click the Show/Hide Run Time link in the upper right-hand corner of the screen.	Checkbox for each fan

4.3. Viewing Run Time Chart on Fans Tab

To view a run time chart for selected or all fans:

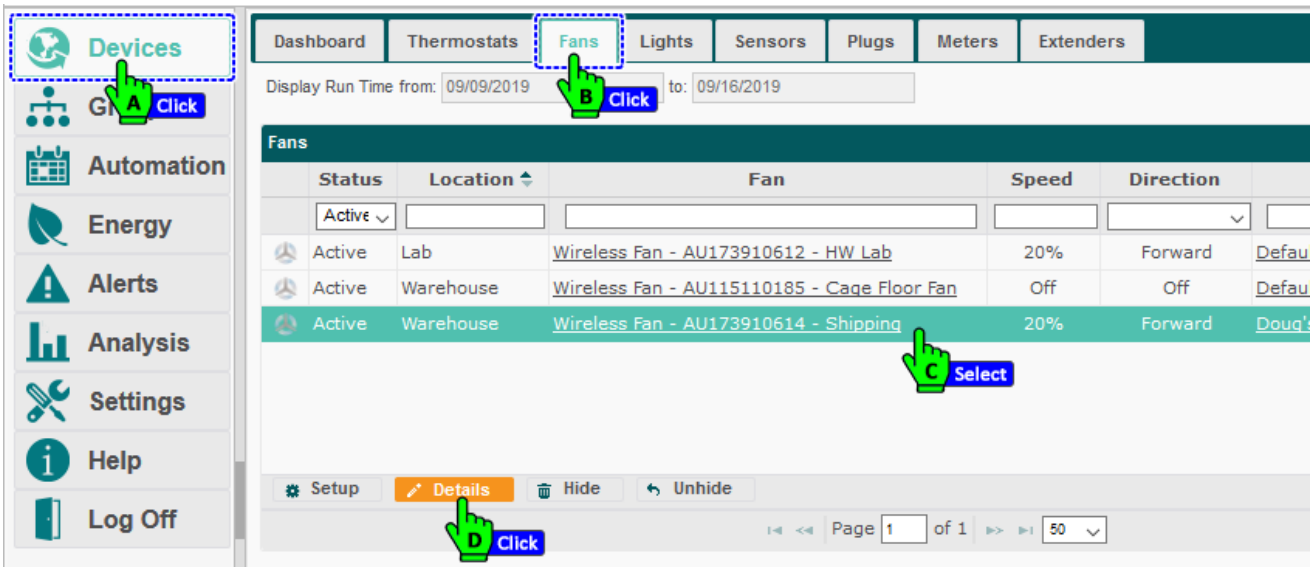
1. On the left navigation bar, click **Devices**.
2. Click the **Fans** tab.
3. If the chart is not displayed, click the **Show/Hide Run Time** link in the upper right-hand corner of the screen. The default display is for the week ending with the current day.
4. To select a different date range for the chart, click the **Display Run Time from** and **to** textboxes to access the calendar.
5. Select the Display column checkbox(es) for an individual fan, several fans, or all the fans in the system.
6. To view more exact information:
    i. Mouse over the displayed data
    ii. Zoom in on a defined area of the chart by clicking and dragging the mouse to create a rectangular box. To return the view to its original size, click **Reset Zoom** in the upper right-hand corner of the chart.



4.4. Using Detailed Fan Data

To access information related to individual fans:

1. On the left navigation bar, click **Devices**.
2. Click the **Fans** tab. For more information, see Viewing Tabular Data on Fans Tab.
3. Click the fan name link, **double-click** the row of the fan, or click the row of the fan and then the **Details** button.



4. The details about each are described in the following table.

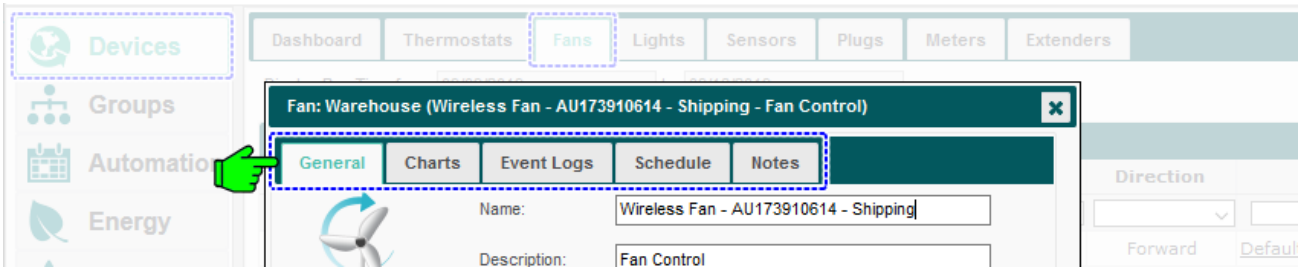
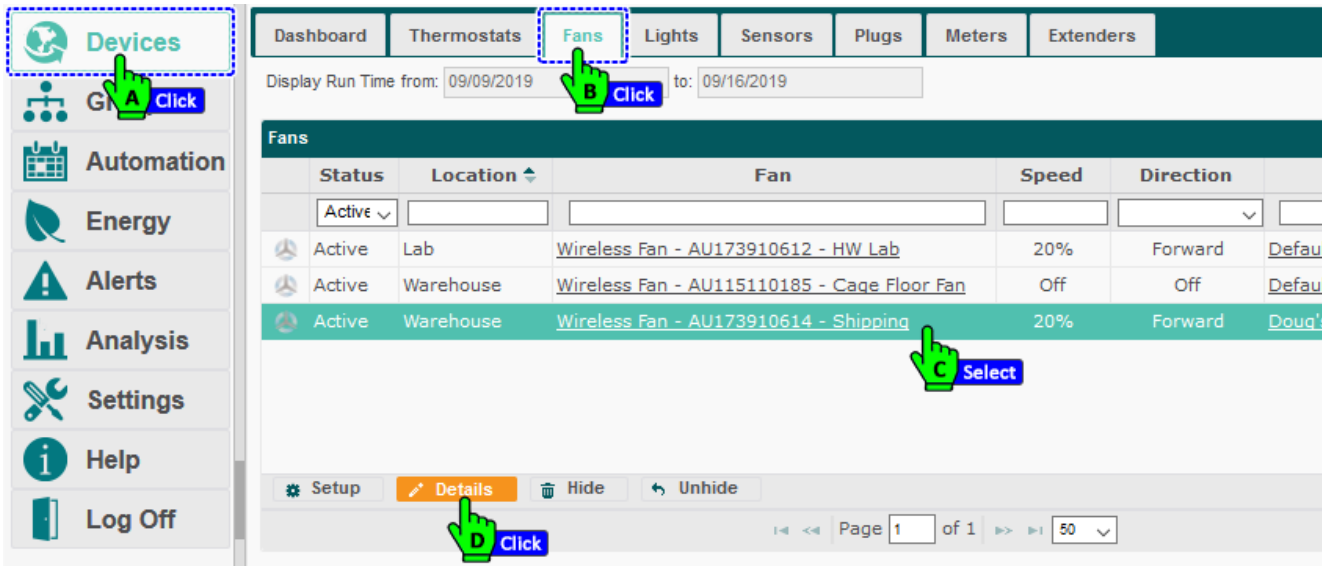


Table 7: Detailed Fan Data

Tab	Used To
General	▪ Change general descriptive information ▪ Change the location group ▪ Change the fan speed ▪ Change the direction of the fan blades ▪ View current status information
Charts	View graphical representations of fan status changes over a defined date range
Event Logs	View data on recent events
Schedule	▪ View event schedule information ▪ Change general descriptive information ▪ Disable the schedule ▪ Create or modify scheduled events
Notes	▪ The user can enter miscellaneous notes for other users.

4.5. Checking Fan Status Data

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



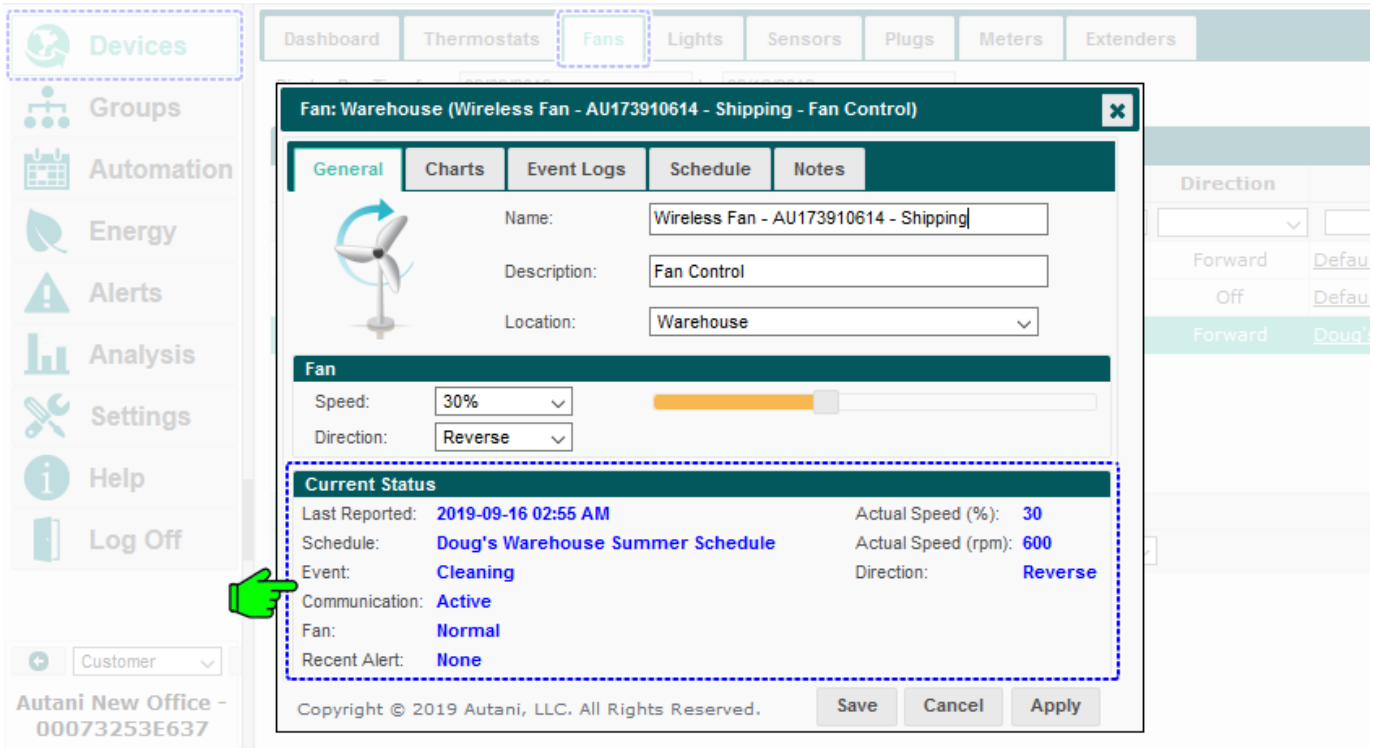


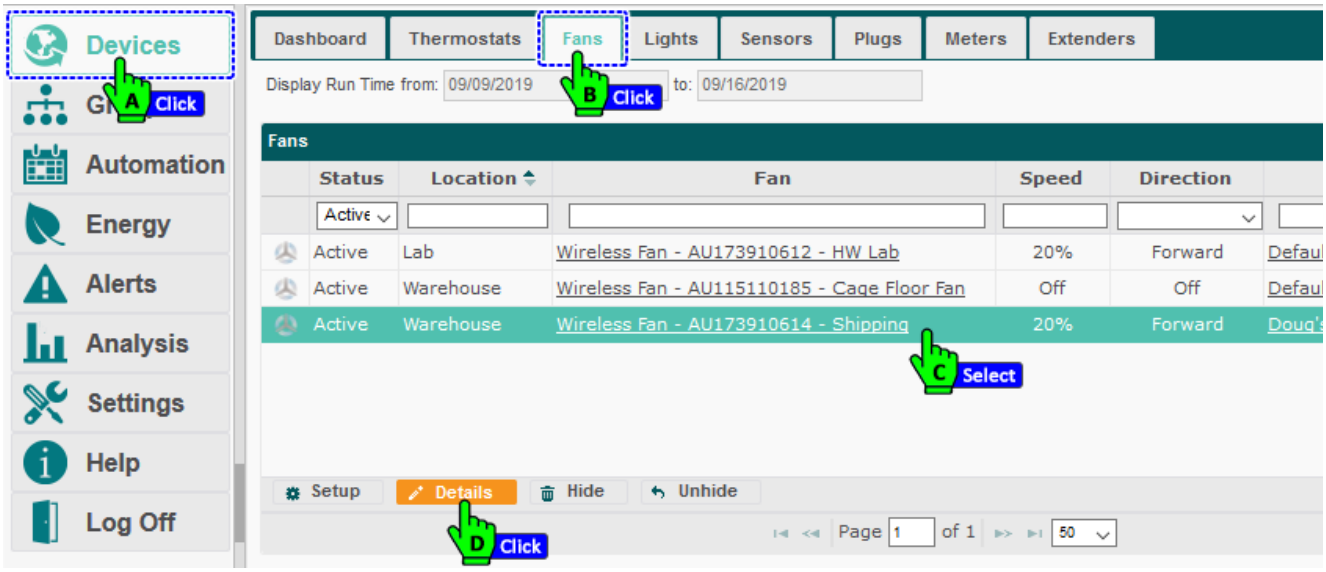
Table 8: Current Status of Fans

Setting	Used To	Options
Last Reported	Display time/date stamp of the last communication between the fan and the Autani Manager	In the following format: yyyy-mm-dd hh:mm AM/PM
Schedule	Identify schedule currently applied to the fan, if applicable	▪ Default ▪ User-defined schedule names ▪ Alphanumeric characters
Event	Identify schedule event currently applied to the fan	▪ Default ▪ User-defined schedule events ▪ Alphanumeric characters ▪ Not Applicable: Schedule is disabled or no schedule has been applied to the fan.
Communication	Indicate the communication status of the fan	▪ Active: Fan is reporting data. ▪ Error: Fan is not communicating with the Autani Manager over the autaniNet network. ▪ Removed: The fan was removed from the autaniNet network.
Fan	Identify the status of the fan	▪ Normal ▪ Warning: Specific error status message ▪ Error: Device timeout ▪ Unknown
Recent Alert	Display the condition that triggered a warning or error **NOTE**: To clear an alert, click Alerts on the left navigation bar and then delete it.	▪ None ▪ Error: The fan is not communicating with the Autani Manager over the autaniNet network. ▪ Warning: Specific error or warning status message
Actual Speed (%)	Indicate current fan speed as a percentage of maximum speed	▪ Zero to 100% ▪ In increments of 10%
Actual Speed (rpm)	Indicate speed at which fan blades are moving	▪ Measured in revolutions per minute ▪ Dependent on type of fan
Direction	Specify direction of fan blade rotation	▪ Forward ▪ Reverse

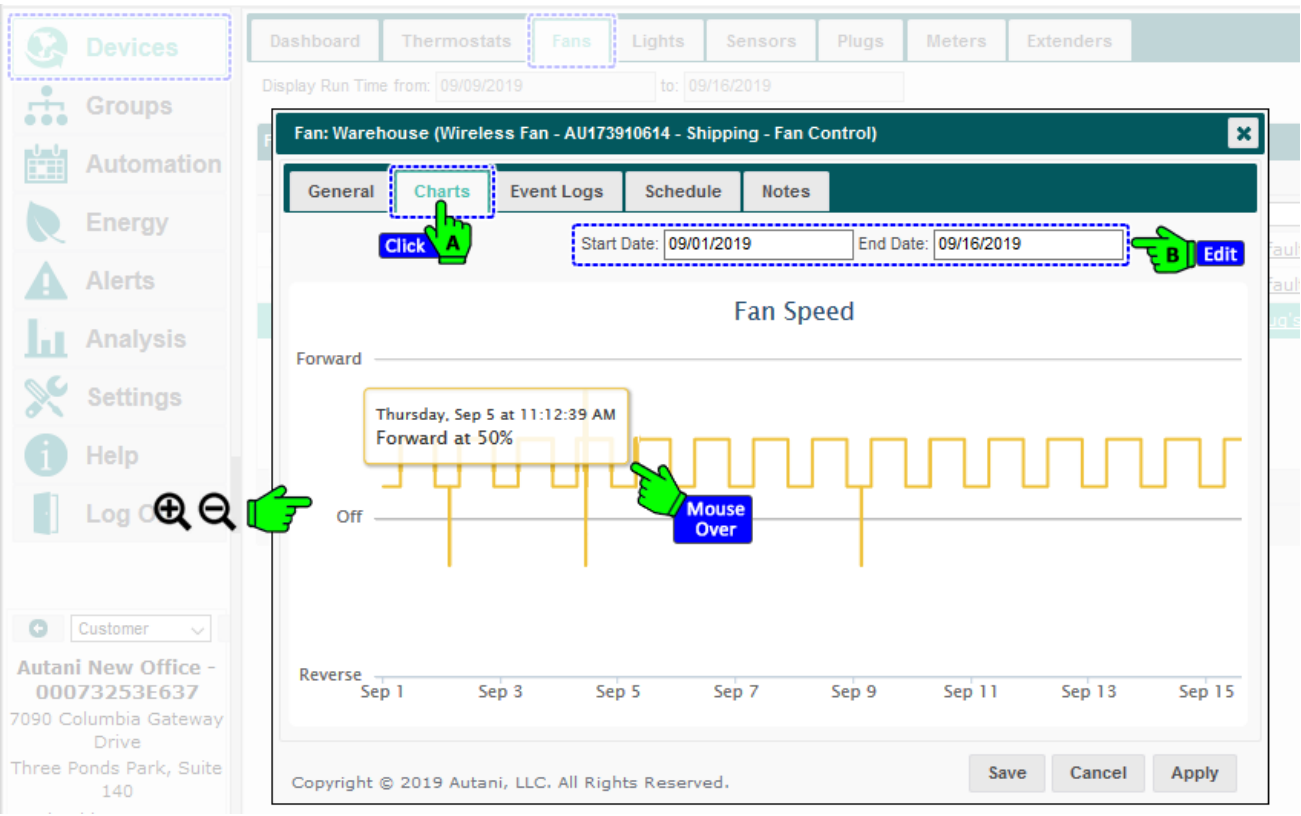
4.6. Viewing Fan Transition Data Charts

To view transition data for a specific fan:

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



4. Click the **Charts** tab. The default display is for the current date.
5. To select a date range for the chart, click the **Start Date** and **End Date** textboxes to access the calendar.



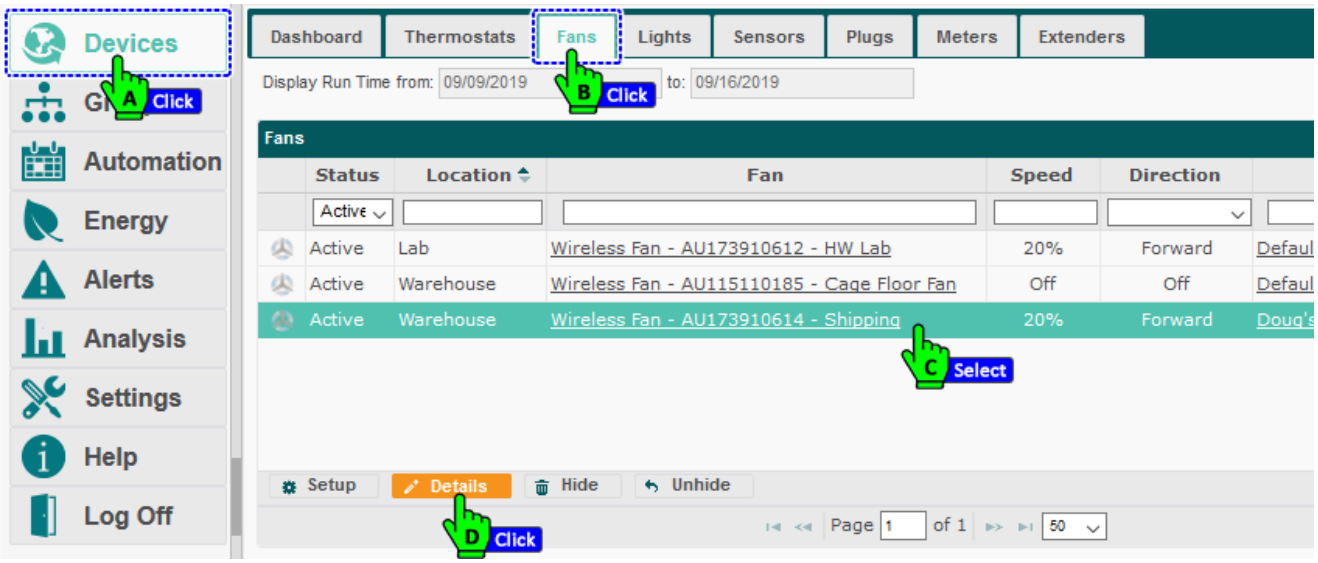
6. To view more exact information:
    i. Mouse over the displayed data
    ii. Zoom in on a defined area of the chart by clicking and dragging the mouse to create a rectangular box. To return the view to its original size, click **Reset Zoom** in the upper right-hand corner of the chart.

4.7. Viewing Fan Event Logs

Event logs are created to record all important events related to a fan. The tabular data view can be used to understand usage patterns, determine ways to fine tune the system, and why and when a problem occurred.

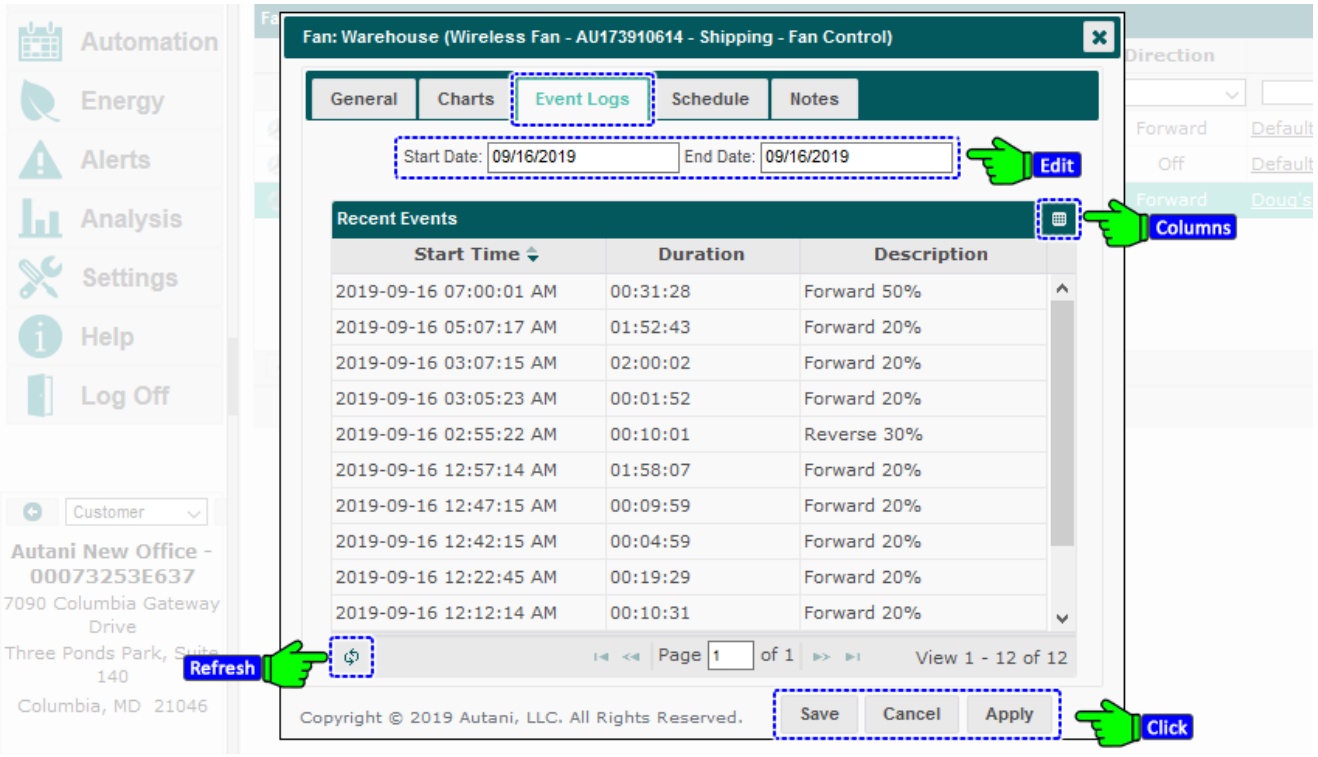
To view an event log:

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



3. Click the Event Logs tab. The default display is for the current date.
4. To select a date range, click in the **Start Date** and **End Date** textboxes to access the calendar.

   NOTE: Event logs include events that began before the date range if the event continued during the selected date range.



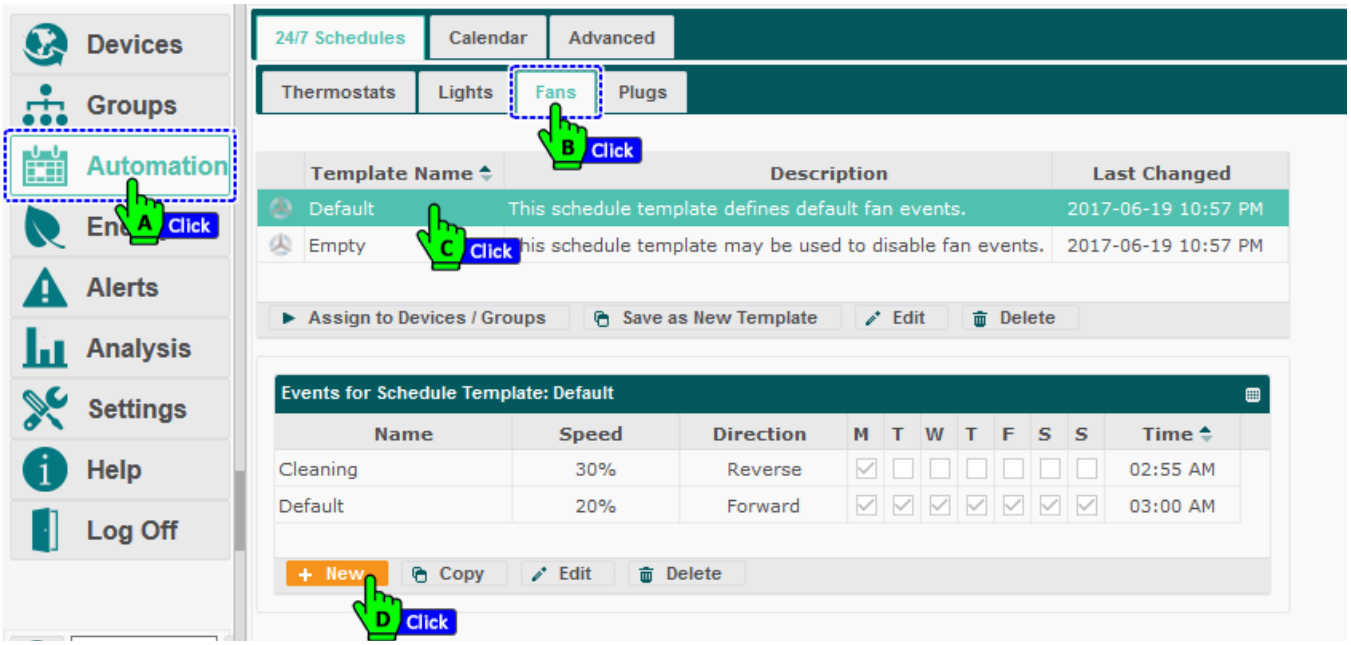
5. To display hidden columns, click the picker, select the checkbox(es) for the column(s) to be displayed, and Click **OK**.
6. After viewing the event logs, either:
   - Click **Apply** to remain on the Event Logs screen.
   - Click **Save** or **Cancel** to close the dialog box.

5. Creating and Assigning a Schedule

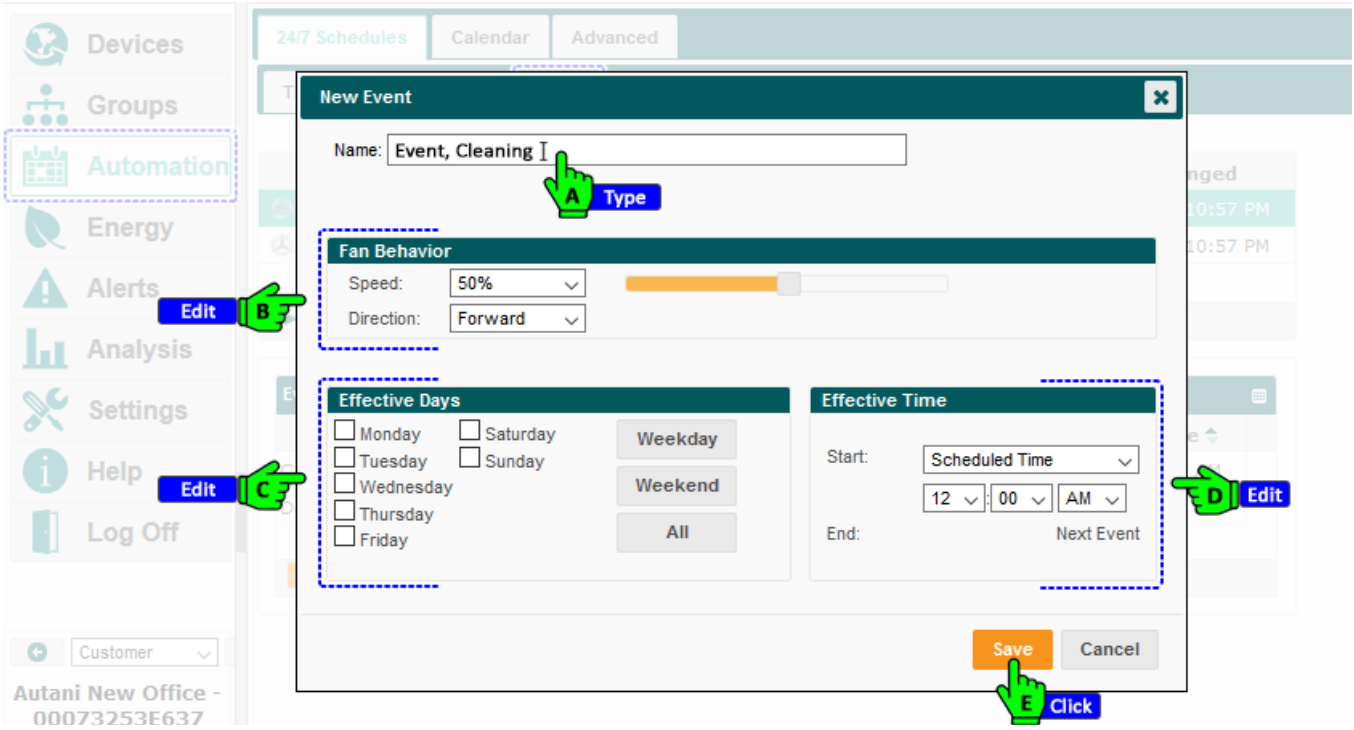
The application can be used to change fan settings based on scheduled events.

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

1. Create a schedule template by modifying a copy of the default template or another existing template.



2. Create or modify template events as described in the table below.



3. Assign a schedule template to one or more fans or a group of fans.

For detailed step-by-step instructions on creating groups, schedules, overrides, or curtailments and curtailment stages, refer to the EnergyCenter® User Guide module entitled 'Tasks Common to All Applications (Zigbee)'.

Table 9: Event Configuration Settings

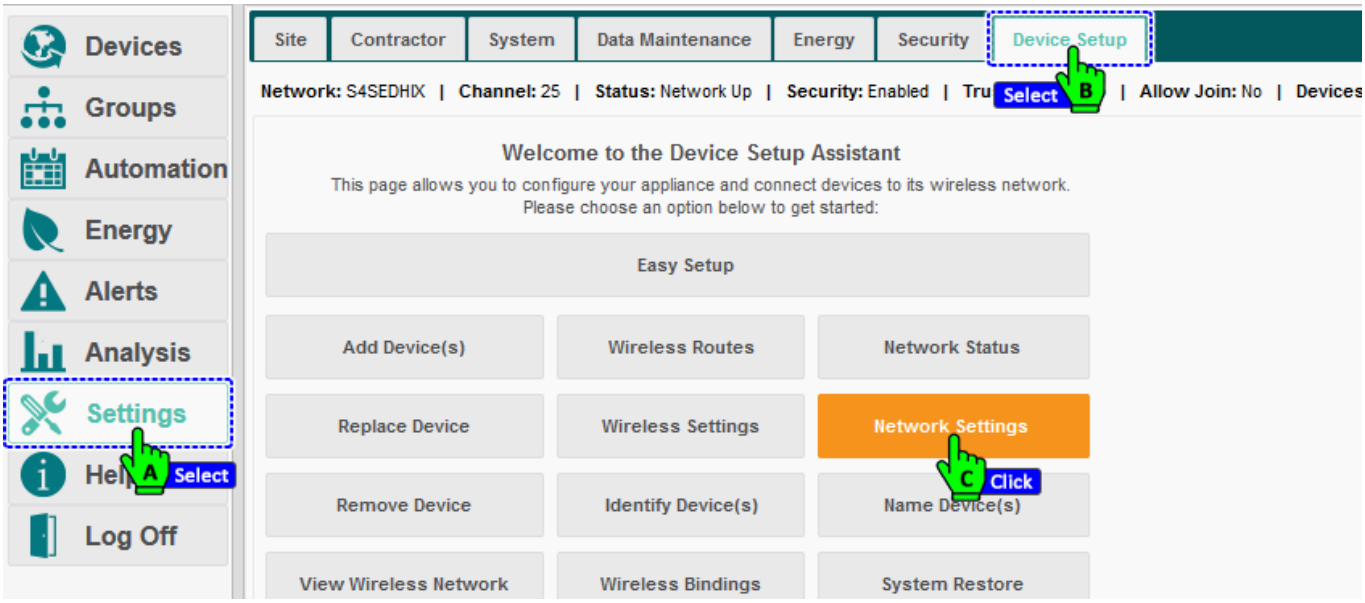
Setting	Used To	Options
Name	Enter a name for the event	▪ User-defined ▪ Alphanumeric characters
Speed	Change fan speed	▪ Zero to 100% ▪ In increments of 10%
Direction	Define direction of fan blade rotation	▪ Forward ▪ Reverse
Effective Days	Select the days of the week the event is to apply	▪ Days of the week ▪ Weekday ▪ Weekend ▪ All
Effective Time	Define when settings should take effect **NOTE**: Scheduled event settings remain in effect until another event begins.	▪ The hour and minute ▪ AM or PM

6. BACNet Interfacing for Fan

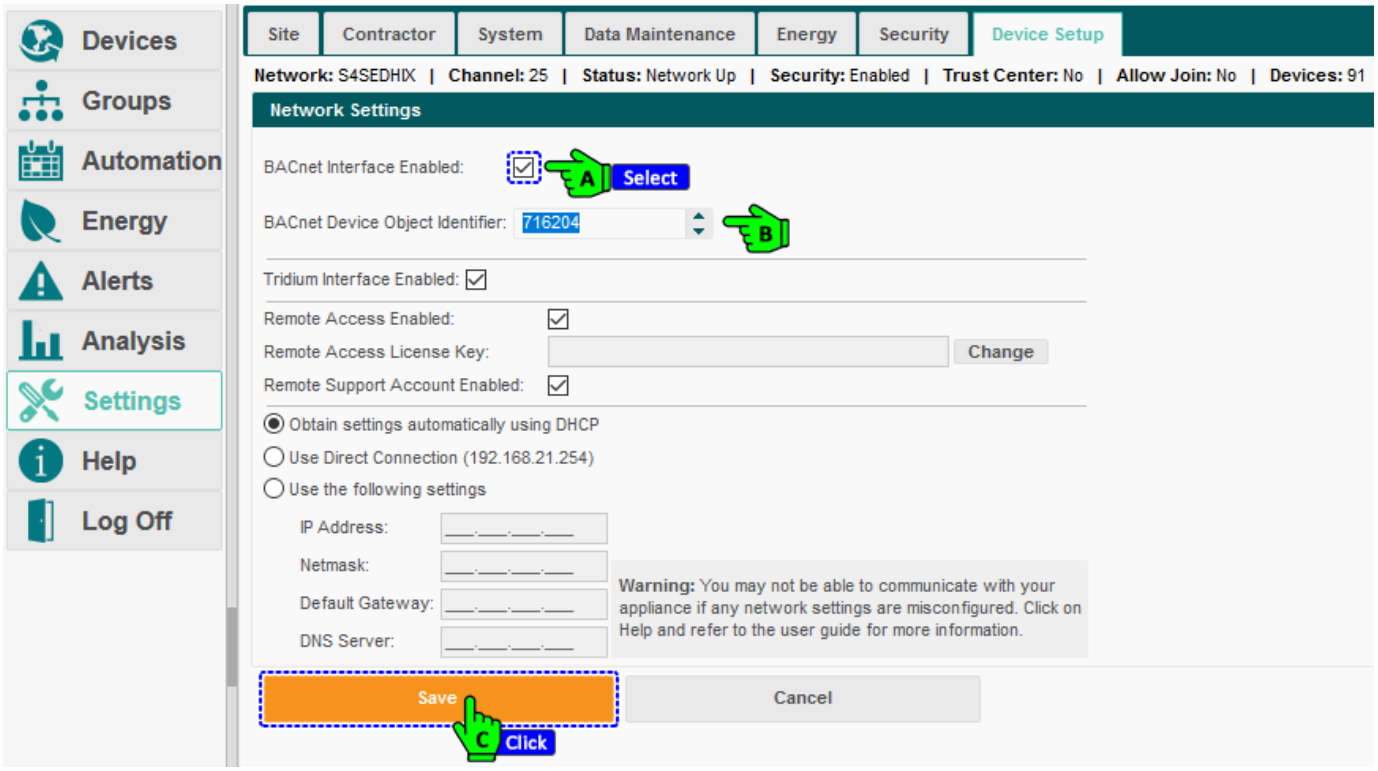
The Speed & Rotation attributes of a Fan in a system, can be controlled by another building automation system through the BACnet interfacing. For License and interfacing instructions refer to the *Autani BACnet Interface Configuration* document available inside Autani portal (www.autani.net, Help>Licensing section).

To configure the BACnet interfacing follow the instructions below;

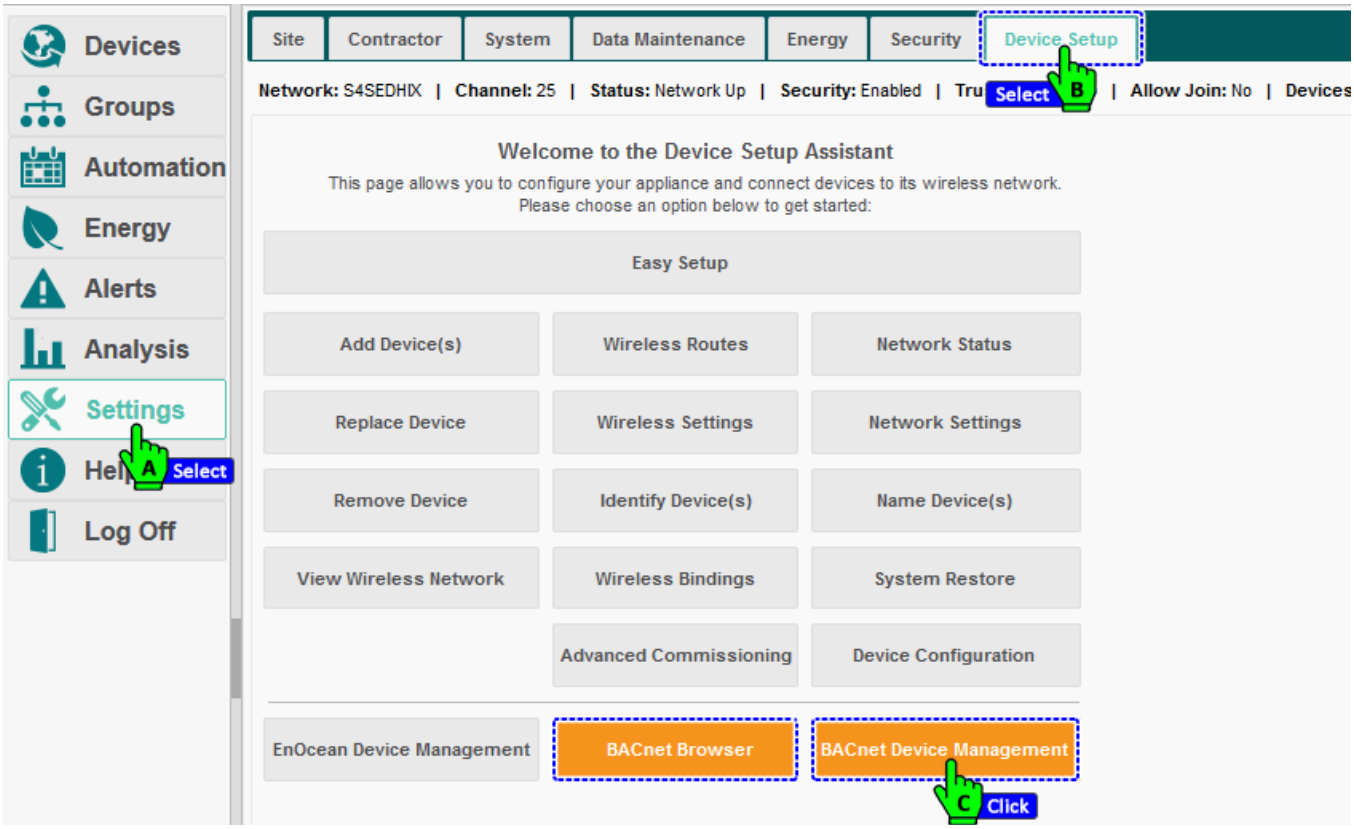
1. On the left navigation bar, click **Settings**.
2. Click the **Device Setup** tab.
3. Click the **Network Settings** button.



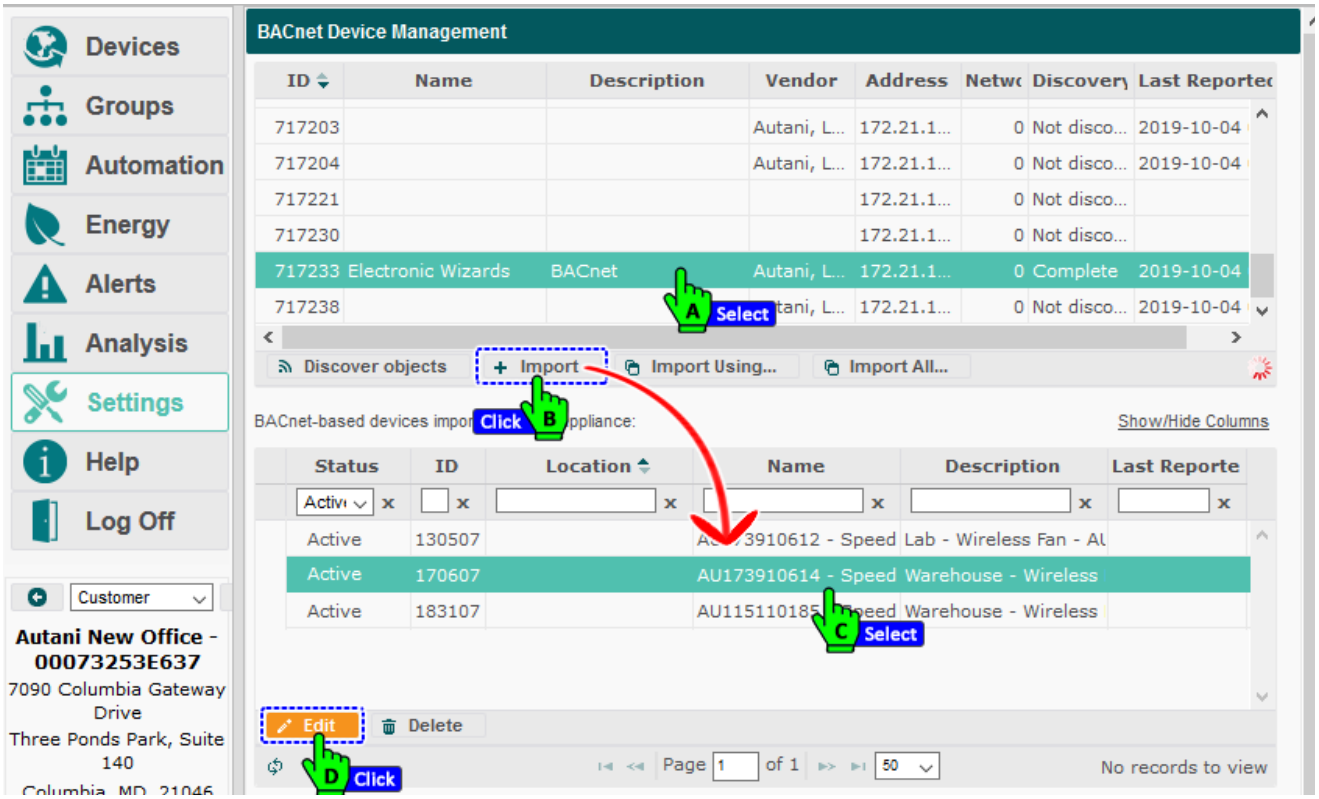
4. Ensure the checkbox is enabled for **BACnet Interface Enabled**, and the automatic ID is generated for **BACnet Device Object Identified**.
5. Click on **Save**.



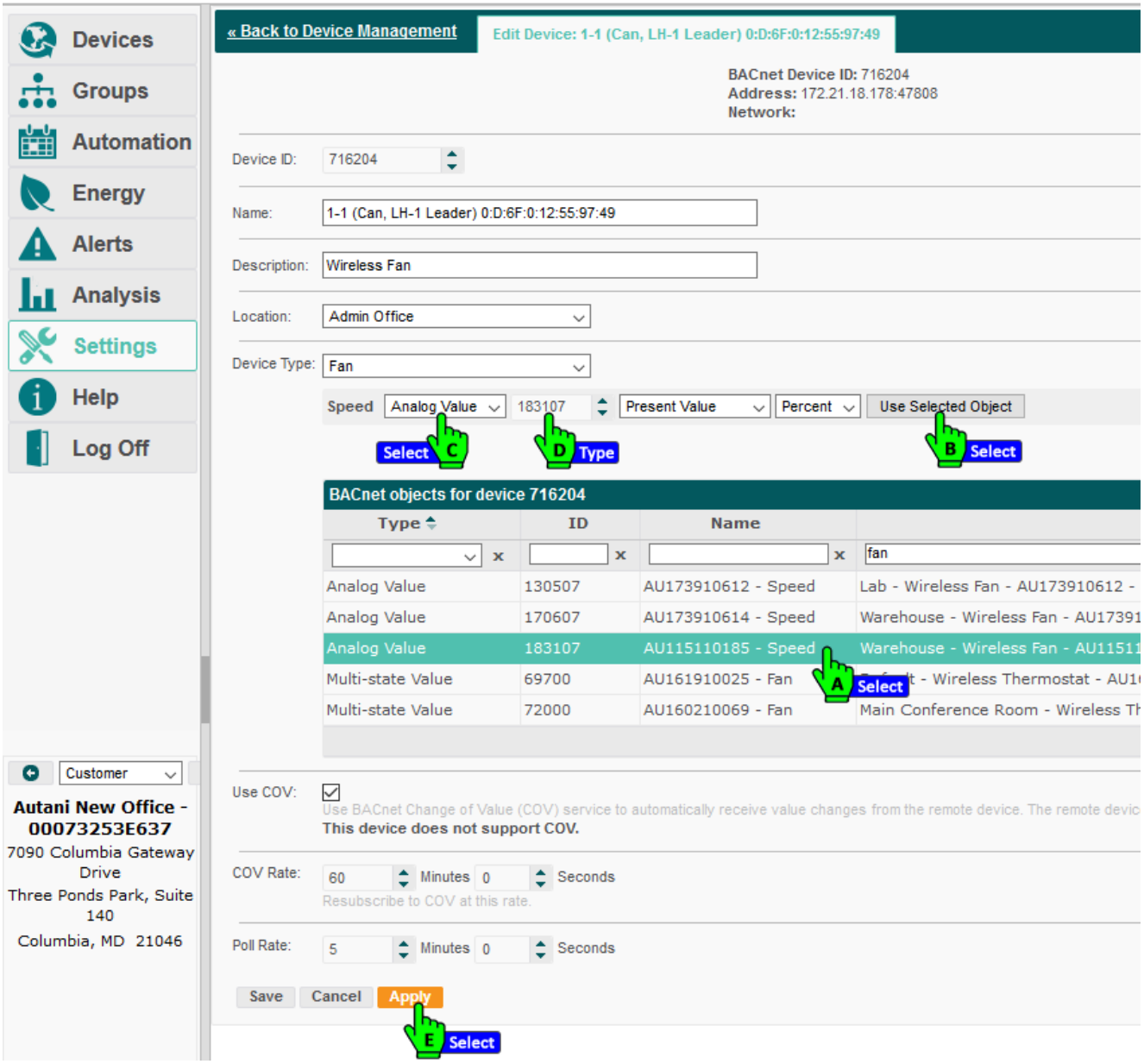
6. There are two options for BACnet;
   - **BACnet Device Management**: allows you to bring in the BACnet devices from other systems to be used within EnergyCenter®, vice versa the same process will be done by other systems to control your devices.
   - **BACnet Browser**: here you can see what data is displayed in other building management system.
7. Click on BACnet Device Management.



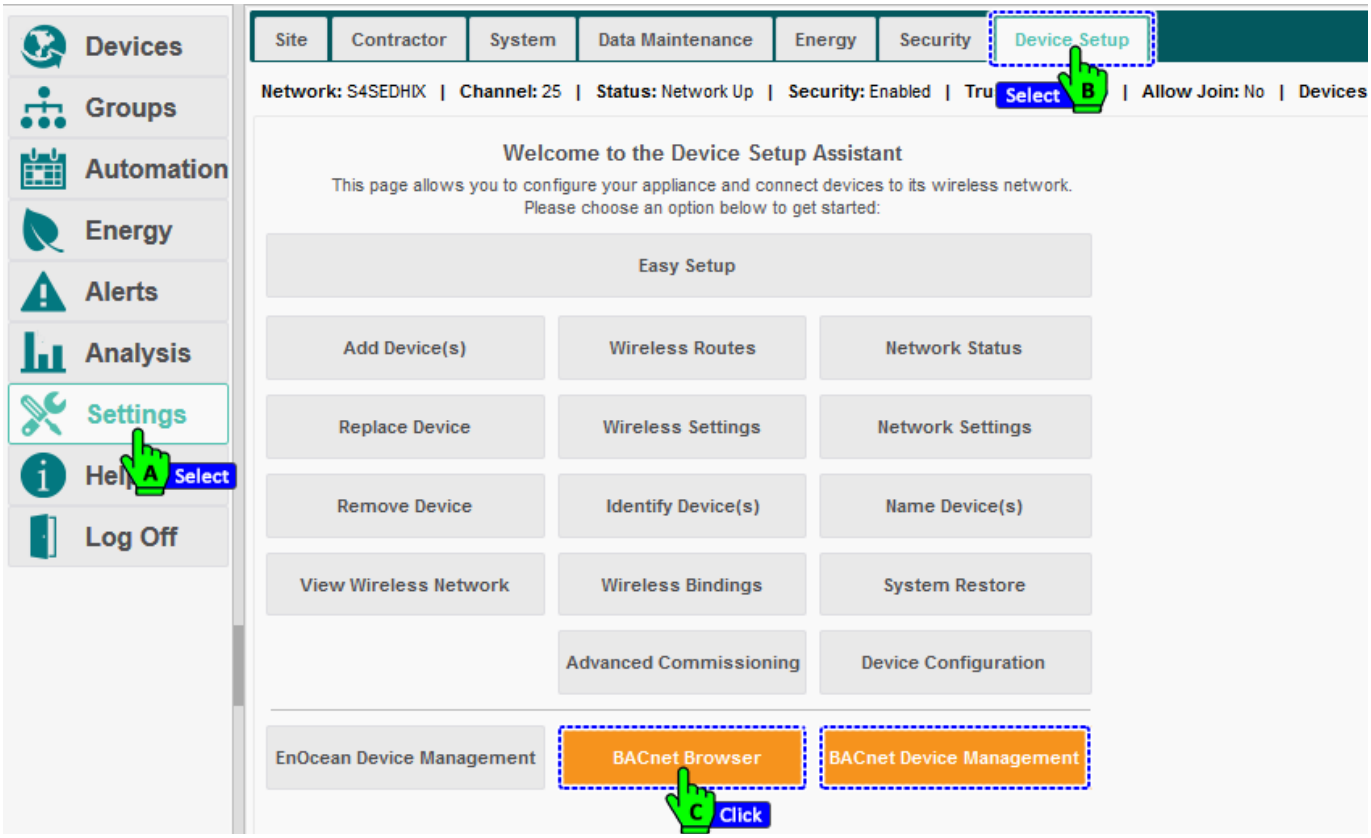
8. Select a BACnet from the list and click on import to import the devices from the selected BACnet. Click **edit** to make the changes.



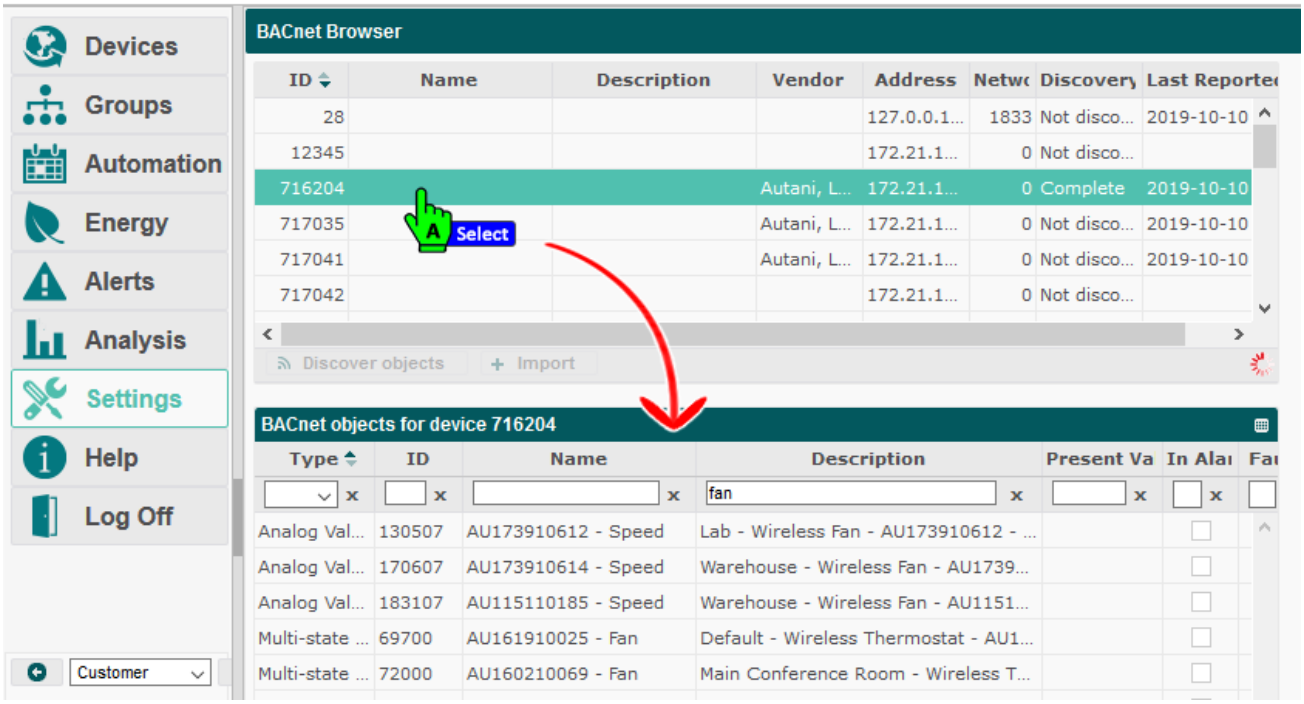
9. **NOTE:** Both the Fan Speed & Rotation is controlled by altering the positive or negative values of the fan speed, through an **analog** input from the BACnet.



10. To see how the BACnet device data is displayed for the other building management system, click on **Settings**
11. Click the **Device Setup** tab
12. Click the **BACnet Browser**



13. Select your **BACnet ID** row to see its devices listed on the lower section of the screen.



7. Troubleshooting

7.1. Devices are not Reporting Data

7.1.1. Device is in Error or Warning State

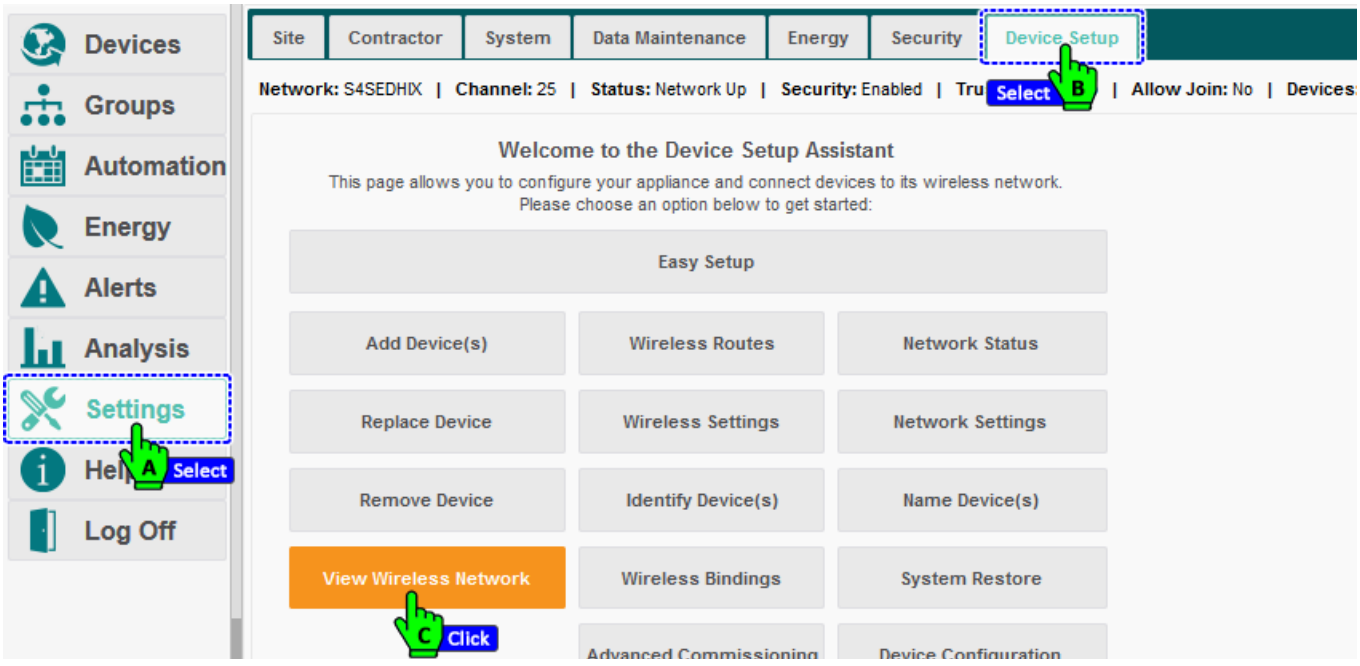
During initial setup, devices are in an error state until the mesh network is established. If the status does not change momentarily to Active, click **Alerts** on the left navigation bar to check the alert log.

Table 10: Error and Warning Troubleshooting

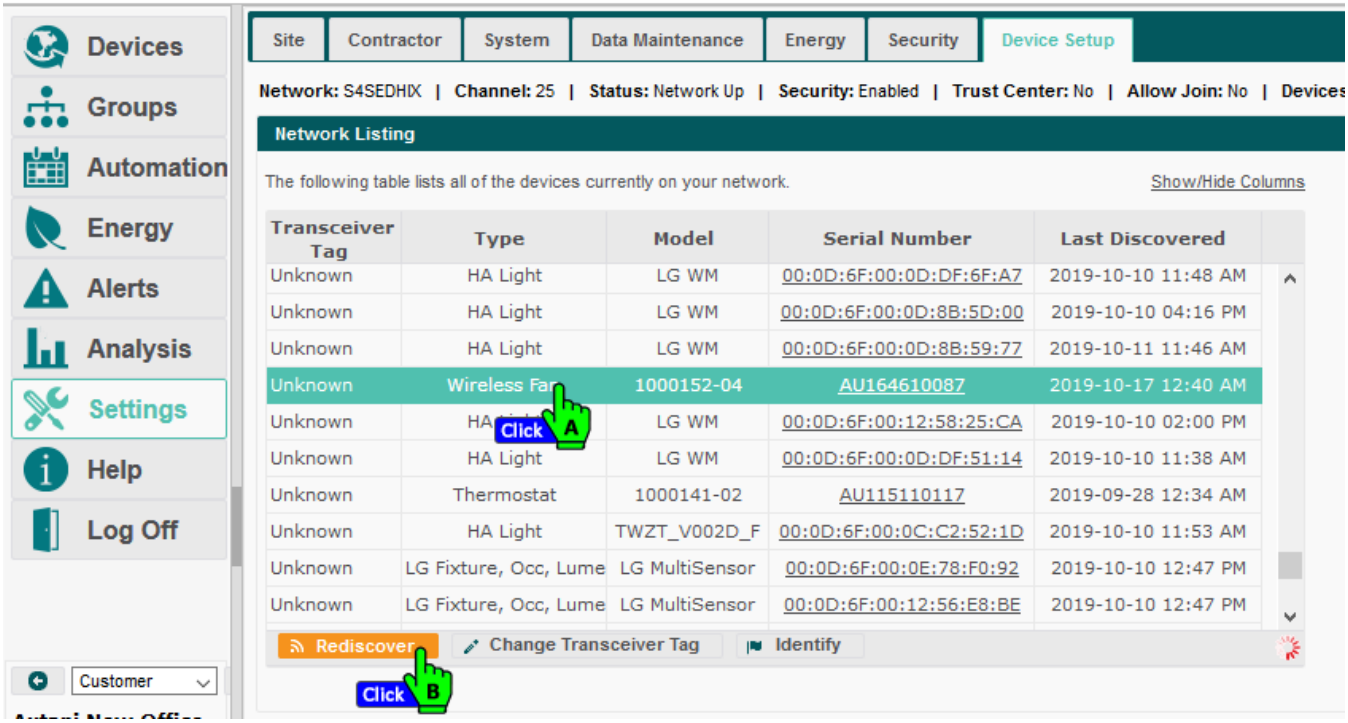
Issue	Cause	Potential Solution
Device Timeout Error	Excessive distance between devices or thick walls	Move fans closer together. Install an extender.
Error	Fan is not communicating with the Autani Manager over the autaniNet network	Check power status of Autani Manager. Check wiring of the transceiver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

7.1.2. Rediscover the Device

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



4. Click the row of the fan to be rediscovered. Click the **Rediscover** button.



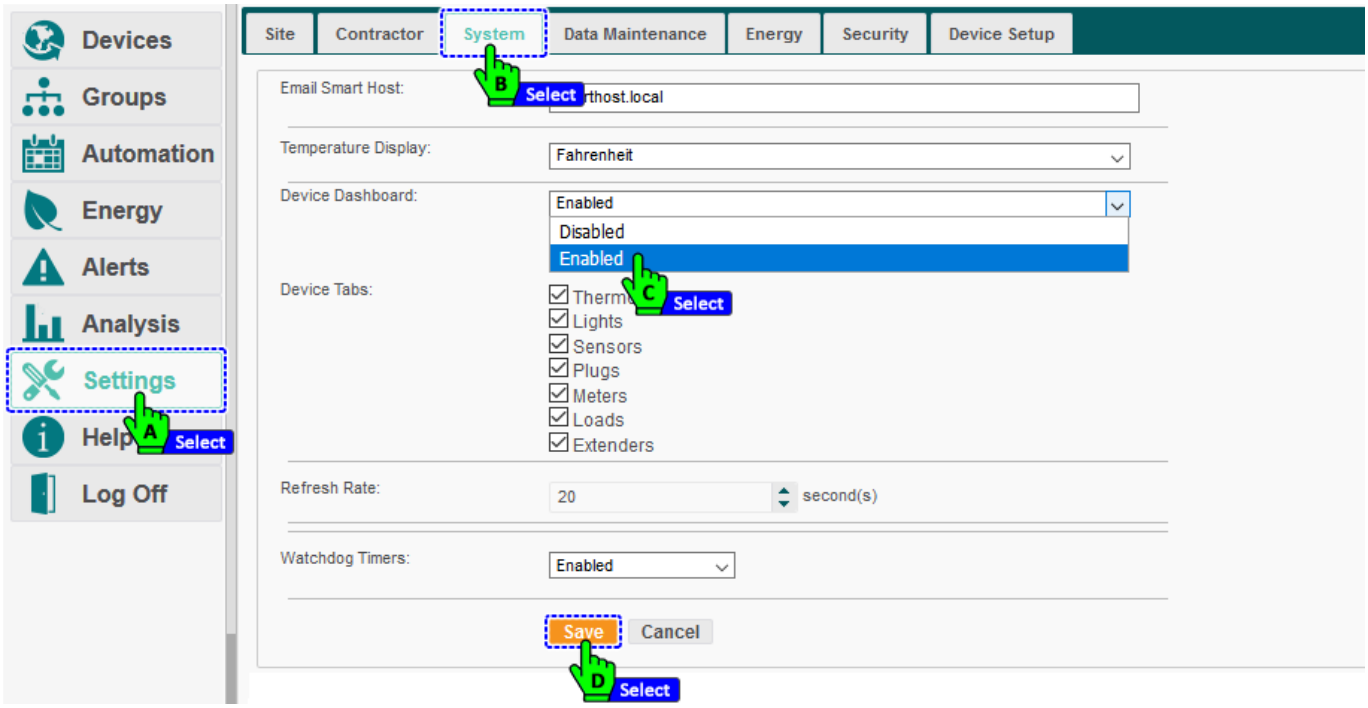
- The description in the Type column changes to **Discovering**.
- The time/date stamp in the Last Discovered column changes to **Starting discovery** in red.

- When the fan has been rediscovered, the fan reappears and a new date/time stamp is listed.

7.2. Dashboard Does Not Appear

To enable the dashboard:

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



7.3. 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 fan is in an error state indicating that it is not communicating with the Autani Manager over the autaniNet network.
- The event was superseded by a scheduled override or by a curtailment. For more information, refer to the EnergyCenter® User Guide module entitled 'Tasks Common to All Applications (Zigbee)'.
- The fan was added to a group after a Schedule Template was copied to each fan in a group.
- A Schedule Template may have been changed and not applied to the fan. Schedule template changes are not automatically copied to a device.

7.3.1. Event Log Contains Data Outside the Selected Date Range

EnergyCenter® is programmed to include all data collected during a specified date range. Consequently, Event logs include events that began before the selected date range when those events continued during the date range.

7.3.2. Error Message When Selecting a Date Range

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

7.4. Contacting Customer Support

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

- **Autani Support**

  Phone: 443.320.2233 x2

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

  Support/Commissioning Services: support@autani.com

- **Autani Sales**

  Phone: 443.320.2233 x1

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

  General Inquiries: information@autani.com

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

8. Glossary

Table 11: Glossary

Term	Description
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
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
Override	Used to schedule one or more Event Rules 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

9. Index

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