BUILDING CONNECT+

User's Guide

Your guide to navigating the Building Connect+ Remote Web Interface

10/14/2022

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2. INTRODUCTION

2.1. PURPOSE

This document details how to navigate and operate your system using the Building Connect+ Web interface.

2.2. DEFINITION OF TERMS

Term	Definition
Building Connect+	Cloud based web application that allows remote management of Mitsubishi Electric VRF equipment and associated 3rd party equipment.
Broker	Building Connect+ PC interface for communication between cloud and local devices.
Outdoor Unit (ODU)	Mitsubishi Electric VRF outside coil
Indoor Unit	Mitsubishi Electric VRF inside coil. Sometimes referred to as Cassette or Fan Coil.
3rd Party Equipment	Any device not manufactured by Mitsubishi Electric
Hardwired Device (Main IO)	Device controlled and monitored by individual digital (on/off) contacts. Wired directly to the BCPEdge534
Heat2O(QAHV)	Mitsubishi Electric Heat Pump Water Heater
EC8IO (Advanced IO)	Field Programable Input/Output module capable of monitoring analog, thermistor, and digital input signals.

2.3. PREREQUISITES

- Computer with internet access.
- An iOS or Android phone mobile device to access two factor authentication. You will be prompted to download and install the Google Authenticator App on your phone.

2.4. OVERVIEW

This document will guide the user in navigating the Building Connect+ interface including executing simple control functions, managing auto changeover (Heat Pump Systems only), creating and managing Alarms, creating and managing Schedules, creating and managing User accounts. As well as viewing Maintenance Tool data and building charts using historical data.

3. LOGGING INTO BUILDING CONNECT+

3.1. RETRIEVING YOUR USER CREDENTIALS

When a new user is added to Building Connect+, an email is sent to the user with their username and a single use password.

3.2. LOGGING INTO BUILDING CONNECT+

1.1.1. From an Internet connected computer open a web browser and navigate to https://b1.buildingconnectplus.com
1.1.2. When prompted, enter the username and password you were provided by email, click 'Login'
1.1.3. The first time you log in you will be prompted to change your password.
1.1.4. Set up two factor authentication

1. Download Google Authenticator for your platform

iOS: https://apps.apple.com/us/app/google-authenticator/id388497605

Android: https://play.google.com/store/apps/details?id=com.google.android.apps.authenticator2&hl=en_US

2. BCP will prompt you with a QR code to scan from the Google Authentication app. Scan the QR code to activate your unique and random 6-digit code to access the system
3. Each time you log in you will be prompted for your 6-digit code along with your user credentials

4. NAVIGATING BUILDING CONNECT+

A 'System Menu' icon is presented in the upper left corner of the page to provide easy access to all of the functions within Building Connect+

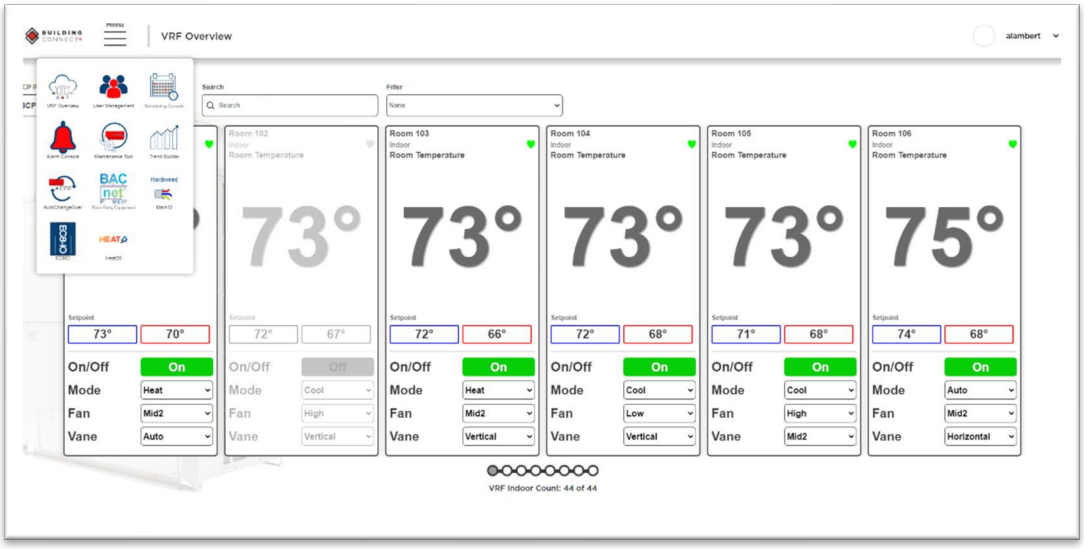


FIGURE 1

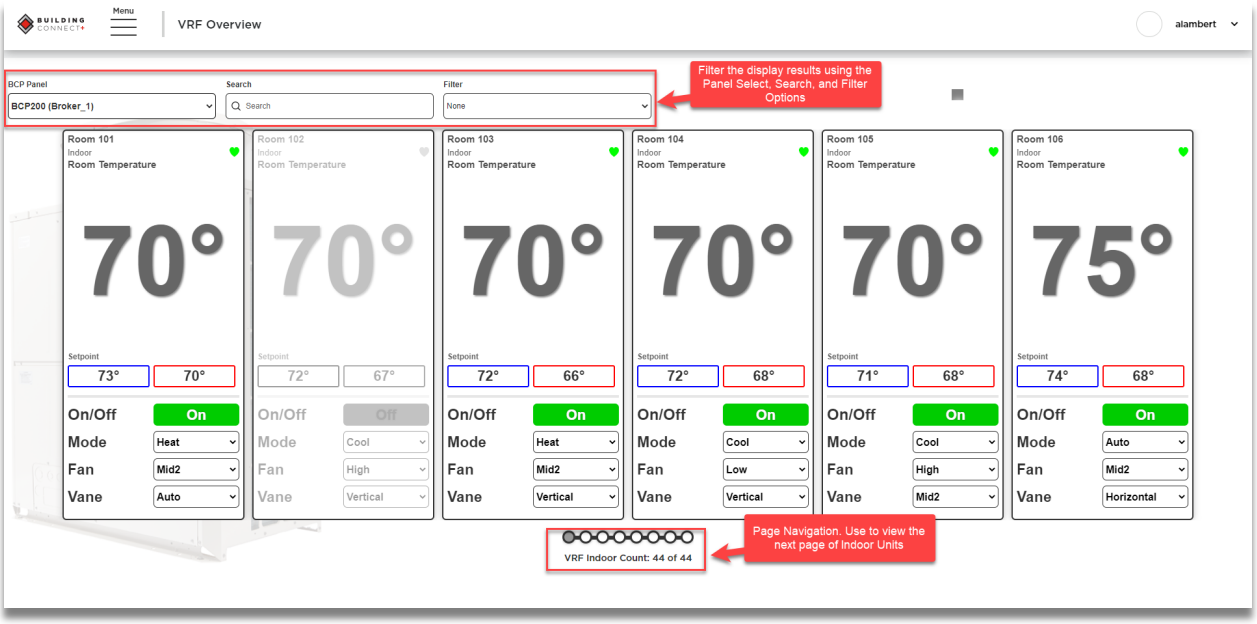
4.1. SYSTEM MENU OPTIONS

The list of available options will vary based the level of permissions granted by your account administrator.

- **VRF Overview** – View and control your VRF Indoor Units.
- **User Management** – Add new users, manage existing users, and configure system access.
- **Scheduling Console** – Create schedules to optimize unit operation. Manage existing schedules.
- **Alarm Console** – Add alarm thresholds to alert you when a device is operating out of your desired parameters. Create notification groups to notify targeted individuals by email when an alarm is generated. Manage the active and historical alarm database.
- **Trend Builder** – Build historical trends of point data so that you can visualize the system performance over time.
- **Maintenance Tool Viewer** – Access to diagnostic data set for your VRF system. Provides a VRF technician the advanced data used in diagnosing VRF system issues.
- **Auto Changeover** – Provides for the management of auto switching between Heating and Cooling in heat pump applications.
- **BACnet** – View and control of your BACnet connected devices as well as make incremental changes
- **Main IO** – View and control your Main IO device (BCP-50 only)
- **EC8IO** – View the status of you EC8IO points
- **Heat2O** – View and control you Heat2O System

5. VRF OVERVIEW

The VRF Overview page provides you with operation status and control of your Mitsubishi Electric indoor units, Lossnay units, and HEX units.



- The Filter toolbar allows you to filter the indoor units displayed, by BCP Broker, Search by group name, or Filter by operational status
- The number of indoor units displayed will automatically adjust based on your screen size. Use Page Navigation to advance thru the indoor units in view.

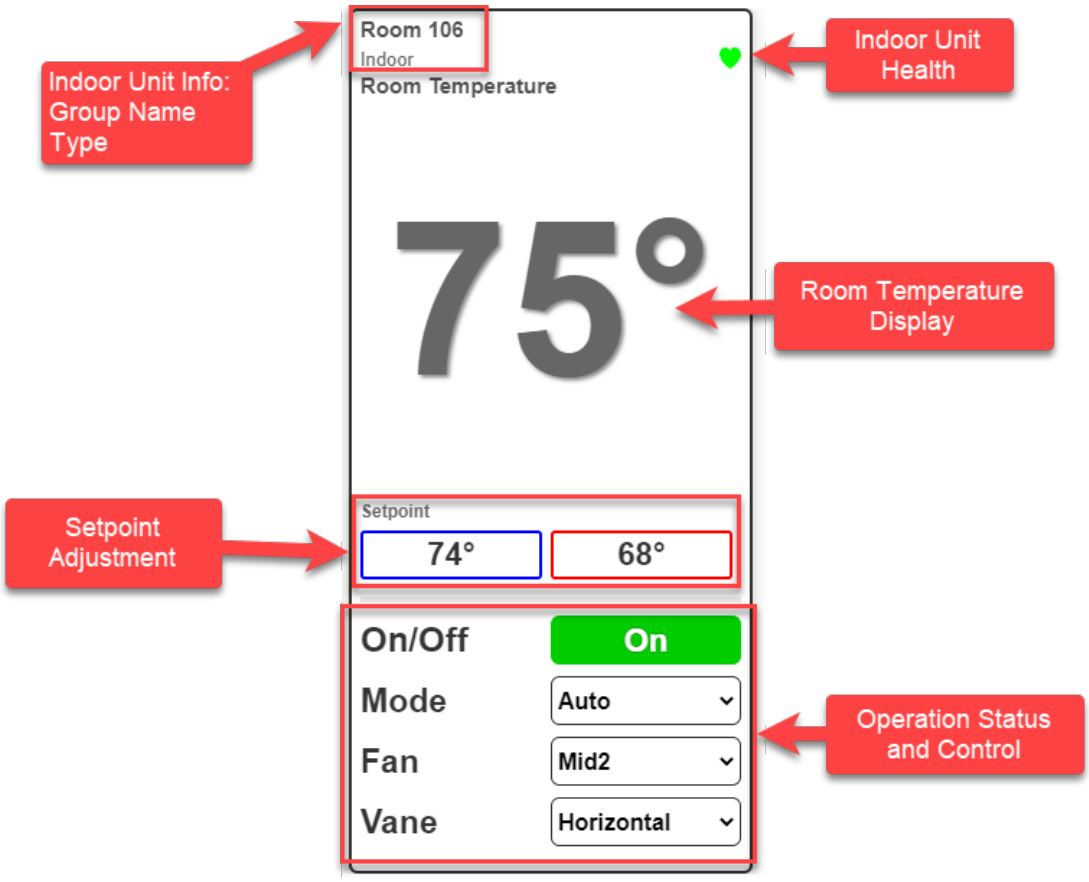


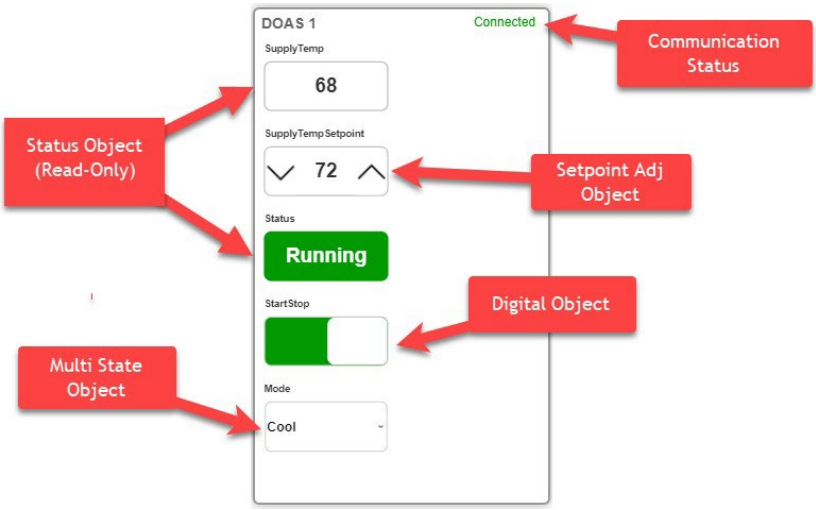
FIGURE 3

1. **Type** – Displays unit type. Indoor Unit, HEX, Lossnay
2. **Group Name** – Name given to the Group in the Navigation Tree
3. **On/Off** – On/Off command input. A click or a tap will execute a change of state
4. **Mode** – Mode command input selection
5. **Fan Speed** – Fan Speed command input selection
6. **Vane Direction** – Air Direction command input selection
7. **Room Temp** – Displays the current zone temperature reported by the group.
8. **Setpoint Adjustment** – Command input to adjust setpoint. A click or tap exposes up/down arrows to make incremental changes.
9. **Unit Health** – Green = Normal, Red = Error Code Active

6. BACNET EQUIPMENT SUMMARY

The BACnet page provides you with operational status and control of your BACnet connected device. The devices and points displayed will vary based on your systems configuration.



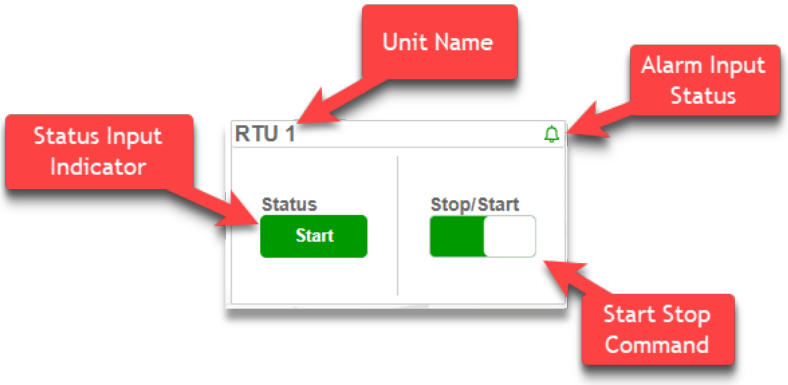


1. **Communication Status** – Indicates whether the BCP Broker is communicating with the device
2. **Status Object –** Text box that displays read only data points
3. **Digital Objects –** Toggle button provided to execute a digital command such as On/Off
4. **Setpoint Adj. Object –** Object to adjust a numerical setpoint.
5. **Multi State Object –** Menu to select a multi-state value such as Heat/Cool/Auto

7. MAIN IO SUMMARY

The Main IO page provides you with operational status and control of the hardwired IO devices connected to you BCP50 broker. The devices displayed will vary based on your systems configuration.

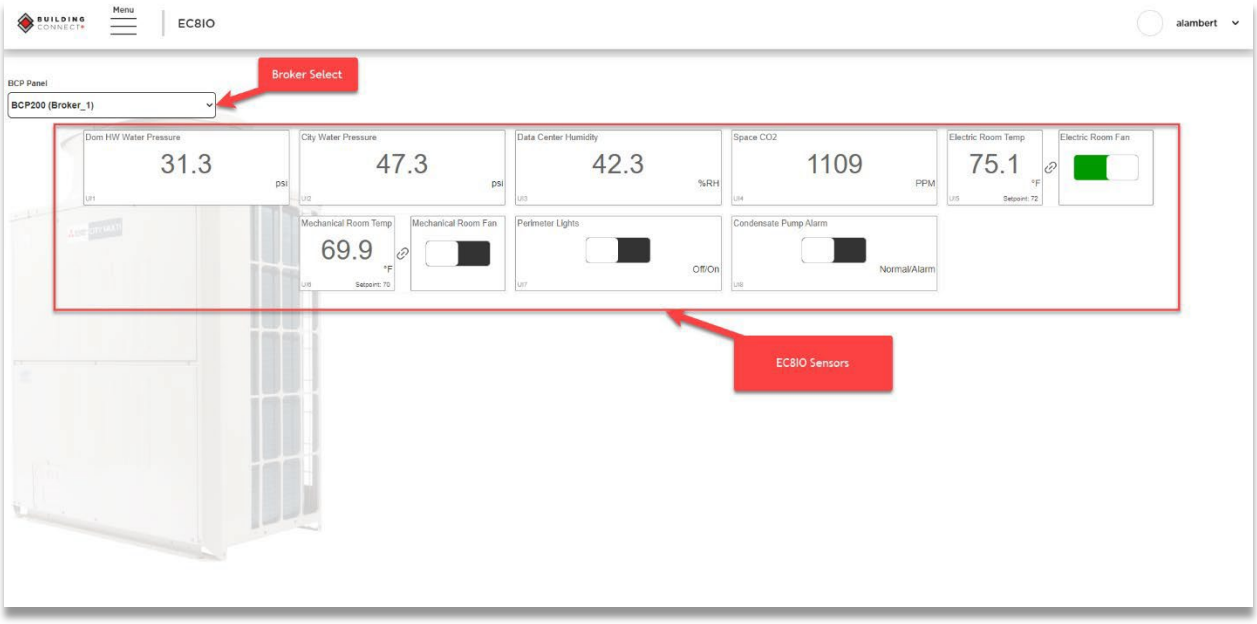


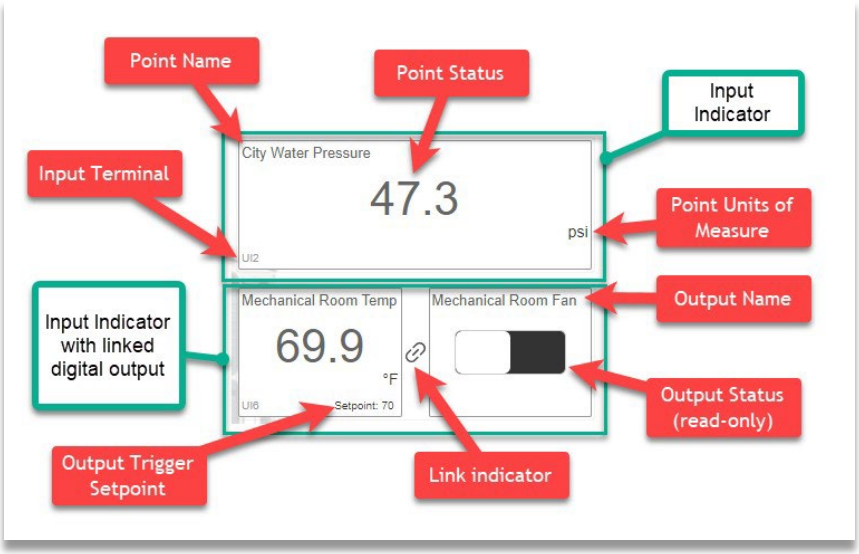


1. **Status Input –** Text box indicating the status of the hardwired Status input
2. **Alarm Input Status –** Text box indicating the status of the hardwired Alarm input
3. **Start/Stop Command –** Toggle button provided to execute a start/stop command

8. EC8IO (ADVANCED IO) SUMMARY

The EC8IO IO page provides you with operational status of the hardwired IO sensors connected to your EC8IO modules. The points displayed will vary based on your systems configuration.





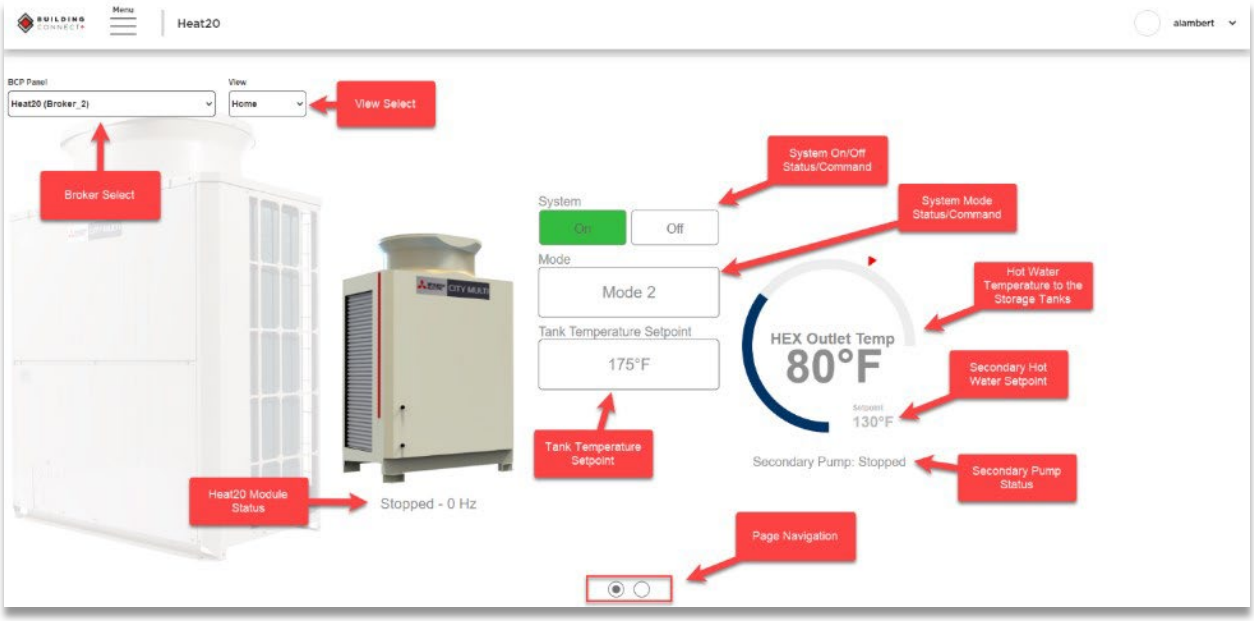
1. **Point Name –** Name given to the connected sensor
2. **Input Terminal –** Physical EC8IO terminal that the sensor is connected to.
3. **Point Status –** Displays the status of the input point
4. **Point Unit of Measure** – Displays the units of measure assigned to the point
5. **Output Trigger Setpoint** – Value at which the linked output will turn on.
6. **Link Indicator** – Indicates that the input is linked to a digital output

7. **Output Name** – Displays the name of the linked output
8. **Output Status –** Displays the status of the linked output. This is a read-only variable

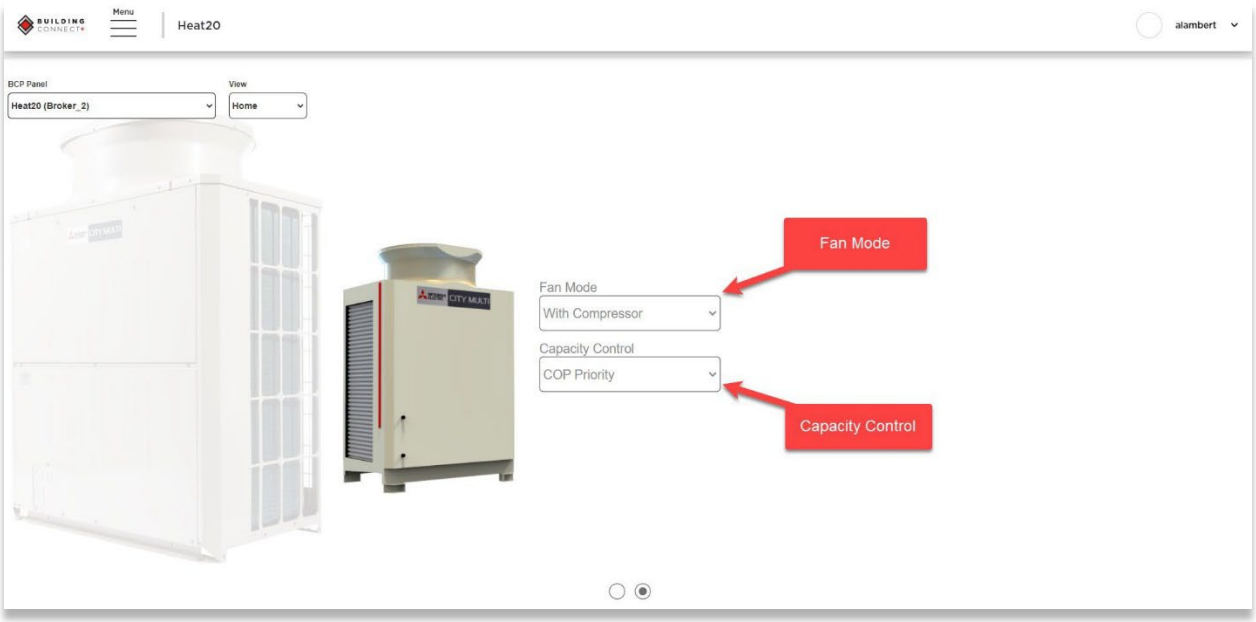
9. HEAT2O (QAHV) SUMMARY

The Heat2O page provides you with operational status of your Heat2O connected BCP Brokers

9.1. HOME

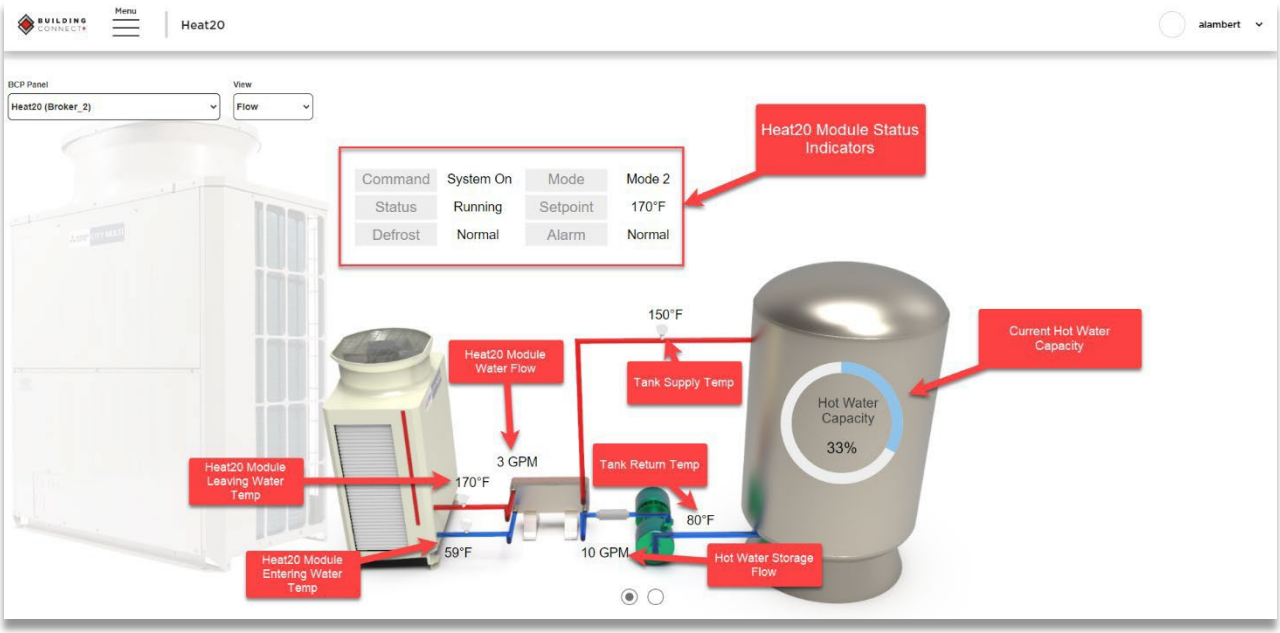


1. **System On/Off –** Heat2O On/Off command
2. **Mode –** Displays the current mode. Click to change modes.
3. **Tank Temperature Setpoint –** Displays the target temperature for the hot water storage tanks. Click to adjust.
4. **Heat2O Module Status** – Displays the running status of the module
5. **HEX Outlet Temperature** – Displays the current temperature of the water going to the hot water storage tanks.
6. **Secondary Hot Water Setpoint** – Displays the target temperature of the water going to the hot water storage tanks. Click to adjust.
7. **Secondary Pump Status** – Displays the status of the Hot water storage tank recirculation pump.
8. **Broker Select** – Selector for you to choose which BCP Broker is in view
9. **View Select** – List that allows you to select between the Home, Flow, and Dashboard Heat2O pages
10. **Page Navigation** – Toggles the page to display additional data.

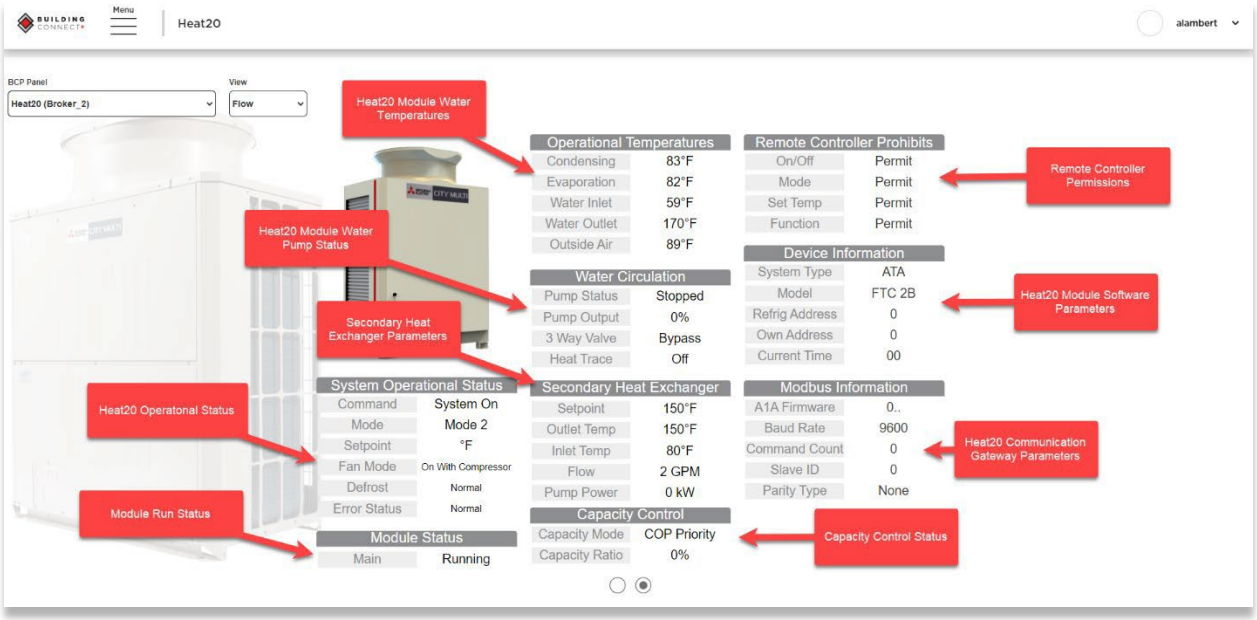


11. **Fan Mode –** Setting to allow the Heat20 condenser fan to only run when the compressor is on or to run continuously. In snowy climates is recommended that the fan run continuously to keep snow from accumulating on the Heat20 module.
12. **Capacity Control –** Setting to allow you to toggle the Heat20 module from COP Priority to Capacity Priority. COP Priority limits the module out to 40kW to maximize energy efficiency. Capacity Priority extends the module output to 60kW to provide hot water to the system as fast as possible.

9.2. FLOW

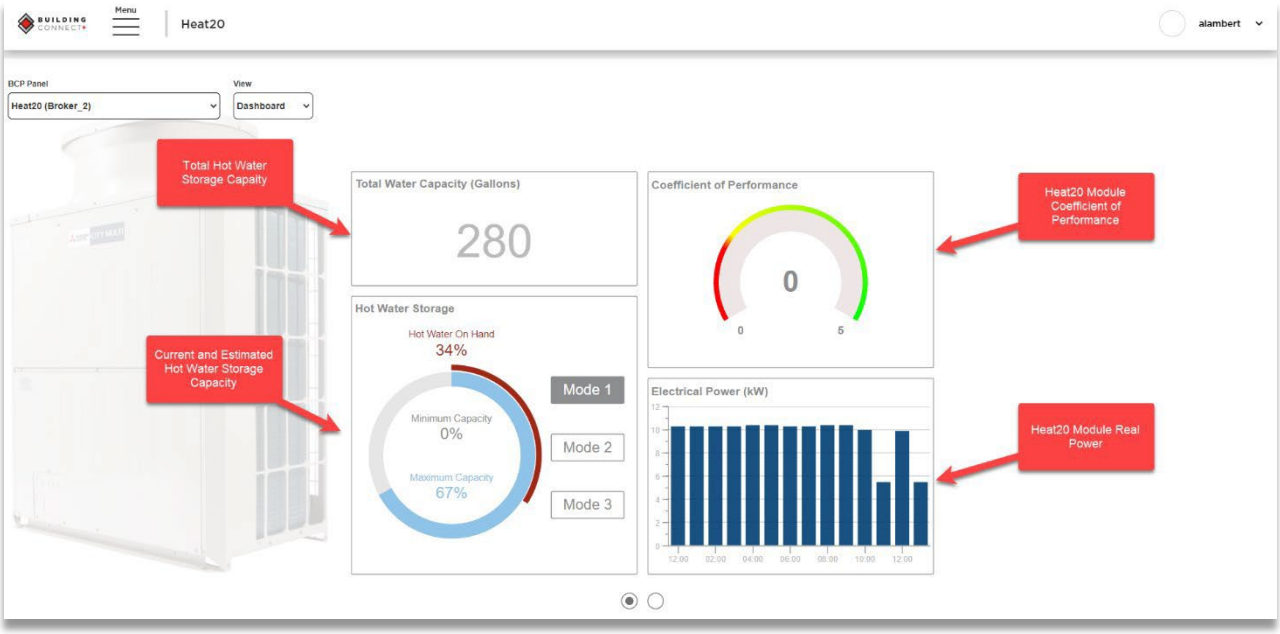


1. **Heat20 Module Status Indicators –** Displays the Operation status of the Heat20 Module
2. **Heat20 Module Entering and Leaving Temp –** Displays the temperature of the water entering and leaving the Heat20 module
3. **Heat20 Module Water Flow –** Displays the water flow thru the Heat20 module in GPM
4. **Tank Supply and Return Temp** – Displays the temperature of the water to and from the hot water storage tanks
5. **Hot water Storage Flow** – Displays the water flow thru the hot water storage tanks in GPM.
6. **Hot Water Capacity** – Displays the real time hot water capacity in your storage tanks. **Note:** *The accuracy of this reading will vary based on the position of the tank temperature sensors.*

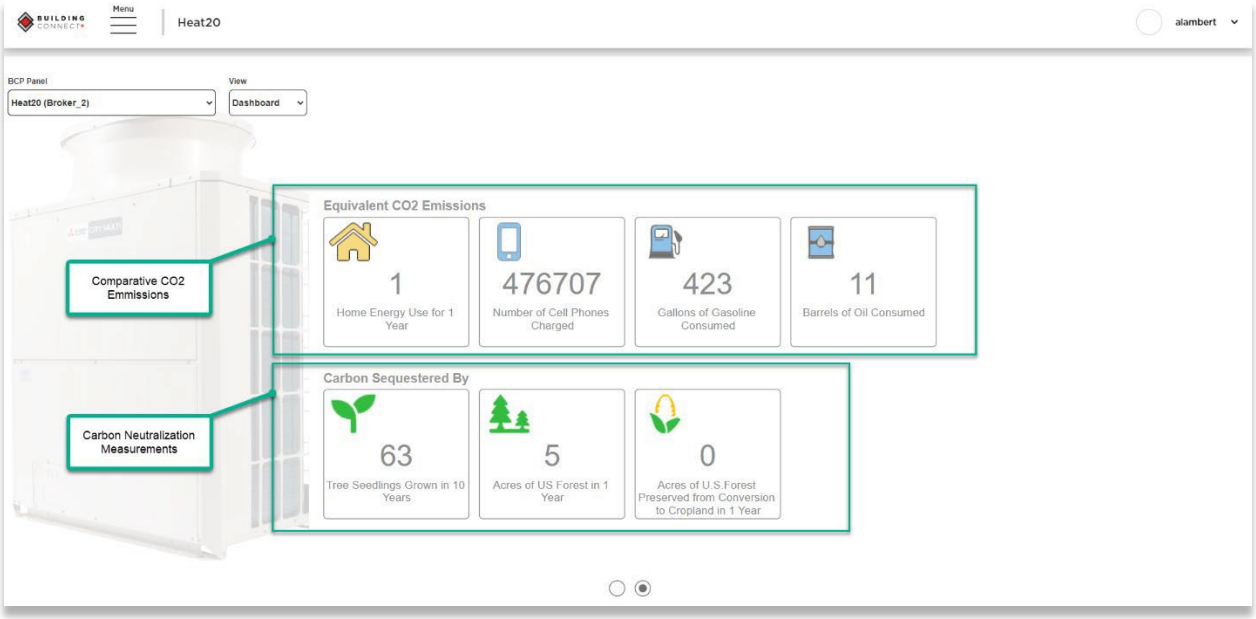


7. **Heat2O Operation Status –** Status parameters pertaining to the Heat2O module
8. **Module Run Status –** Run status of the master and all slave modules in the system
9. **Heat2O Module Temperatures -** Operational temperatures of the Heat2O module
10. **Heat2O Water Pump Status** – Operational status of the primary water circulation circuit in the Heat2O module
11. **Secondary Heat Exchanger** – Parameters pertaining to the operation of the hot water storage tank recirculation circuit.
12. **Capacity Control Status** – Status of the Energy Saving Mode. Default is COP Priority.
13. **Heat2O Communication Gateway** – Parameters pertaining to the Modbus gateway device used to communicate with the Heat2O module.
14. **Device Information** – Parameters pertaining to the software configuration of the Heat2O module
15. **Remote Control Permission** – Displays the status of the PAR-W31MAA remote controller permissions.

9.3. DASHBOARD



1. **Total Hot Water Storage Capacity –** Displays the total volume of all storage tanks in the system
2. **Current and Estimated Hot Water Storage Capacity –** Displays the capacity of hot water currently on hand and minimum and maximum estimates based on the operational mode.
3. **Heat2O Module Coefficient of Performance –** Displays modules COP value.
4. **Heat20 Module Real Power** – Displays the Heat2O module input electrical power by hour for the current day



5. **Equivalent CO2 Emissions –** Comparative CO2 emissions analysis
6. **Carbon Sequestration –** Measures that can be taken to offset the carbon footprint of the Heat2O

10. USER MANAGEMENT

User Management allows you to build your system architecture so that you can easily manage your user's access to the system. It is broken down into 2 tabs, System Layout and Users.

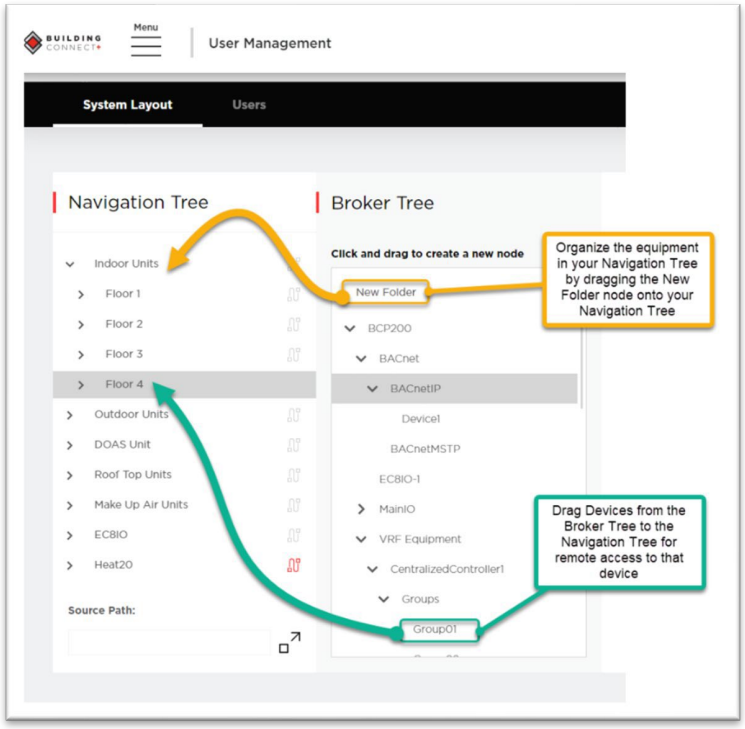
System Layout – Provided for you to customize your data into a personalized parent/child node structure. From here you can organize equipment in a manner that allows you to quickly grant access to your users. You can also provide friendly names to the sometimes-ambiguous device or control point names.

Note: *Creating a well-structured Navigation Tree will make it easy to manage equipment across all the Building Connect+ functions.*

Users – Provided for you to create and manage additional user accounts. Each user can be assigned a role which limits access to the interface. Additionally, specific equipment can be selected to remain out of view.

10.1. SYSTEM LAYOUT

The System Layout page is broken up into two groups, the Navigation Tree, and the Broker Tree. The Broker Tree represents each broker (BCP panel) on your account, from which equipment can be moved to the Navigation Tree to allow visibility from the BCP cloud interface. Each broker in the tree is identified by the name assigned to it during installation. The default names are: BCP50, BCP200, and Heat2O.



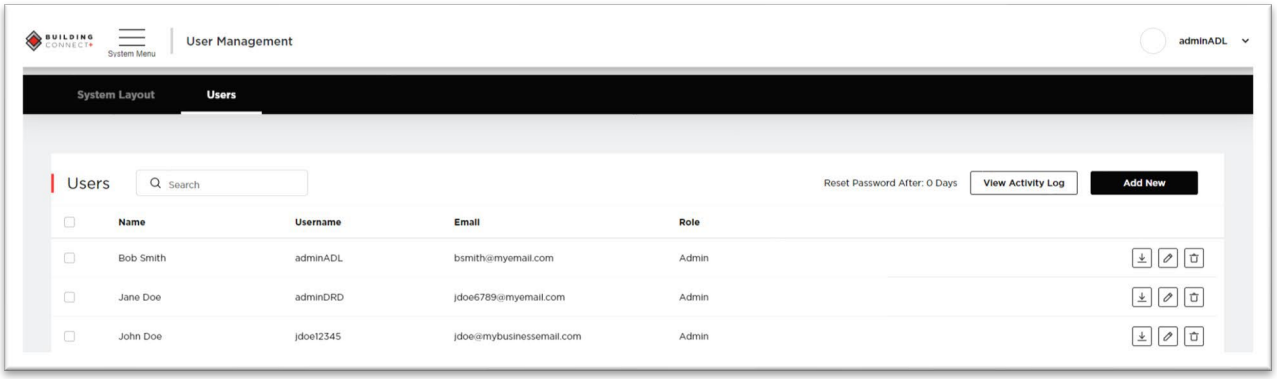
BUILDING THE NAVIGATION TREE

10.1.1. Adding Equipment

1. Create a parent node by dragging a 'New Folder' node onto the Navigation Tree. Right click on the newly added Folder node and select 'Rename'. Give it a name that reflects how you'd like to categorize the equipment. You can add as many folders as needed to organize your equipment
2. From the Broker Tree, identify the BCP Broker you want to add from and drag and drop equipment from that Broker to the Navigation Tree.

10.2. USERS

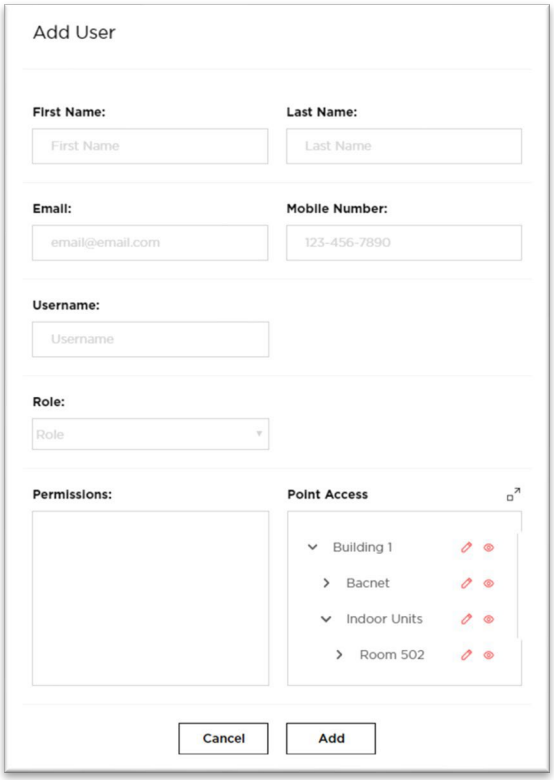
The Users tab allows you add new user to your system and manage existing ones. You can also track the activity of each user to see who and what changes have been made to the equipment in your system.



NEW USER

10.2.1. Adding a New User

1. From the Users page click 'Add New', you'll be presented with an 'Add New' form. See Figure 7
2. Enter the user's information. A single use password will be sent to the email address provided. The user will be forced to change it upon first login.
3. Enter a Username. The name must be unique. If the username you entered exists in the system, the box outline will turn red and you will not be able to save the user.
4. Select a Role. Roles restrict access to certain parts of the system as well as restrict the ability to make changes to equipment. Refer to Table 1 for the access granted to each Role.
5. Point Access is provided for you to extend or restrict the default Point Access provided by the assigned Role. The eye icon indicates the device is visible to the user. The pencil icon indicates whether a device can be controlled. Click the icon to remove the respective access privilege.


Add User
First Name:
First Name
Last Name:
Last Name
Email:
email@email.com
Mobile Number:
123-456-7890
Username:
Username
Role:
Role
Permissions:
Point Access
Building 1
Bacnet
Indoor Units
Room 502
Cancel
Add

User Roles

Component	Sub-Component	Admin Access	Manager Access	Operator Access	User Access
Subscription Management	**Edit/View Payment Detail**	**X**			
	View/Pay Invoice	**X**			
User Management	Users	**X**	**X**		
	System Layout	**X**			
Alarming	Alarm Console	**X**	**X**	**X**	**X**
	Alarm Management	**X**	**X**		
Scheduling	Schedule Management	**X**	**X**		
	Create Schedules	**X**	**X**		
Trend Builder	Trend Viewer	**X**	**X**	**X**	**X**
System Monitoring	Equipment Dashboards	**X**	**X**	**X**	**X** (Read-Only)
	Maintenance Tool	**X**	**X**	**X**	
	Auto Changeover	**X**	**X**	**X**	

EDITING AN EXISTING USER

10.2.2. Editing a User

1. From the Users page identify the user you would like to edit and click the edit  icon
2. When the dialog opens make changes to the user as required.
3. To reset a user's password, click the 'Force Password Reset' button. An email will be sent to the user with a new single use password.

VIEW ACTIVITY LOG

10.2.3. Viewing a User's Activity Log

1. From the Users page identify the user whose activity you'd like to view and click the checkbox by their name.
2. Click 'View Activity Log' at the top left of the User's page.
3. A dialog will display a record table with the user's activity. It may take several seconds for the table to load.
4. The activities that are captured include, when the user connects and disconnects to/from BCP, as well as when changes are invoked on BCP devices.

DELETING A USER

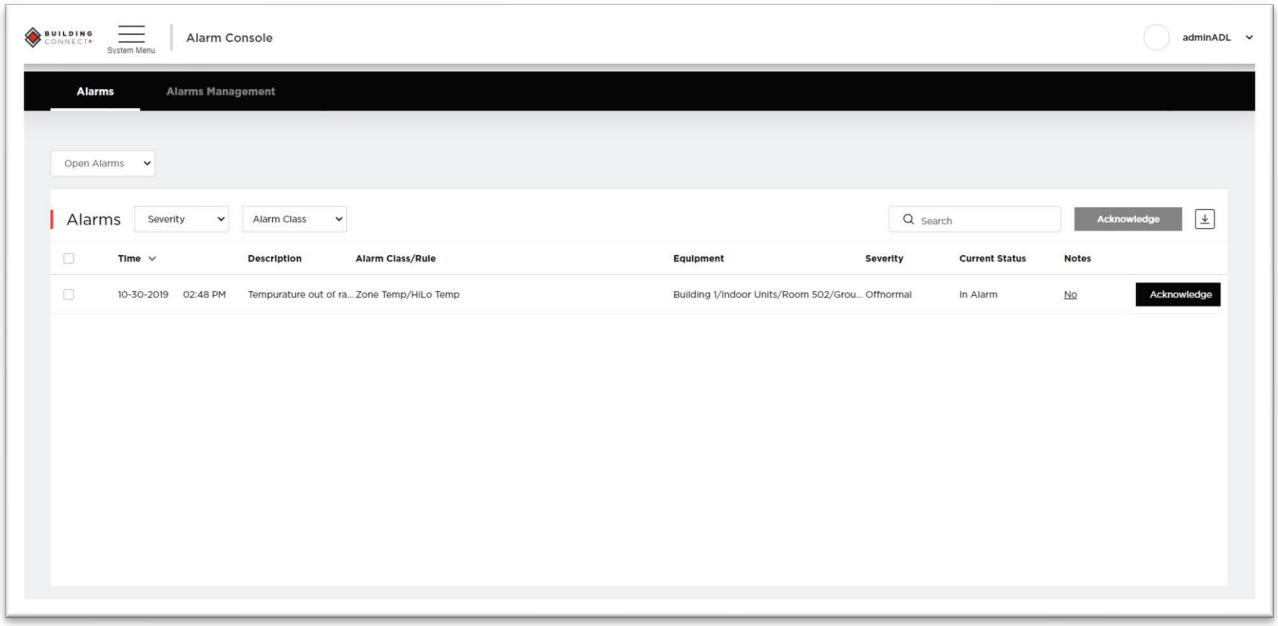
10.2.4. Delete a User

1. From the User's page identify the user whom you wish to delete and click the checkbox by their name
2. To the left of the User's row click the delete  icon. When prompted, confirm that you want to delete the selected user.

11. ALARM CONSOLE

The Alarm Console allows you to create alarm rules that notify you or others when an abnormal condition exists. You can also view and manage your active and historical alarm database. It is broken into two tabs, Alarms and Alarm Management.

Alarms – Provided for you to view and manage active and historical alarm database
Alarms Management – Provided for you to add an alarm rule to a point and create an email notification group with whom should be notified when the alarm condition exists.



11.1. ALARMS

The Alarms page has two views, Open (Active) Alarms, and Historical Alarms. Open Alarms provides you a view into all the currently active alarms within your system. Historical Alarms provides a view into alarms that have returned to normal and have been acknowledged. A download button is provided for you to download the alarm database to your computer in csv format. The alarm table displays the following alarm attributes:

Time – The time stamp of when the alarm became active
Description – A brief description of the alarm provided when that alarm rule was created
Alarm Class/Rule – Alarm Rules are categorized within an Alarm Class. This column identifies the Alarm Class and subordinate rule association
Equipment – Point path for the alarmed point as defined in the Navigation tree
Severity – The level of severity the alarm was given when created. The range of values are Alert, Off Normal, and Fault.

Note: Severity types 'Off Normal' and 'Fault' require user acknowledgment before the alarm can be cleared after returning to normal. 'Alert' will clear from the console automatically when the alarm condition returns to normal.

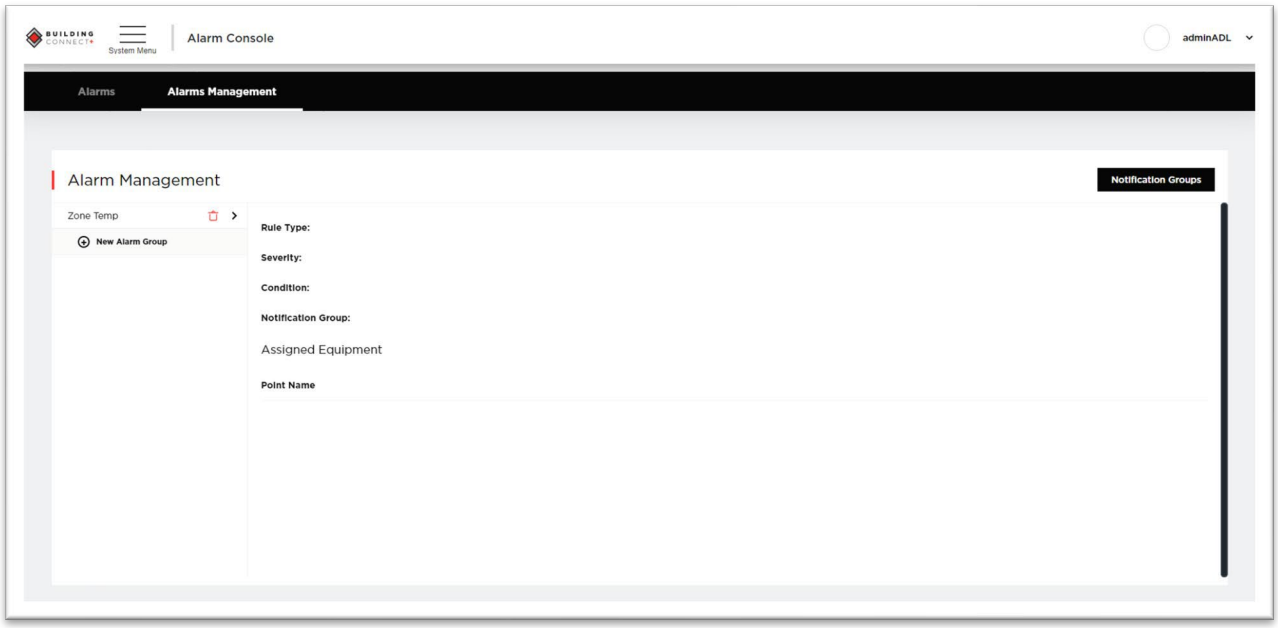
Current Status – Displays whether the alarm is currently in alarm or has returned to normal

Notes – Field provided for you to add notes to an alarm record. Indicates Yes/No depending on whether a note has been added or not.

Acknowledgement – Button provided for the acknowledgement of an alarm record.

11.2. ALARM MANAGEMENT

Alarm Management allows you to create new alarm points, manage existing alarm point, and assign notification groups to alarms.

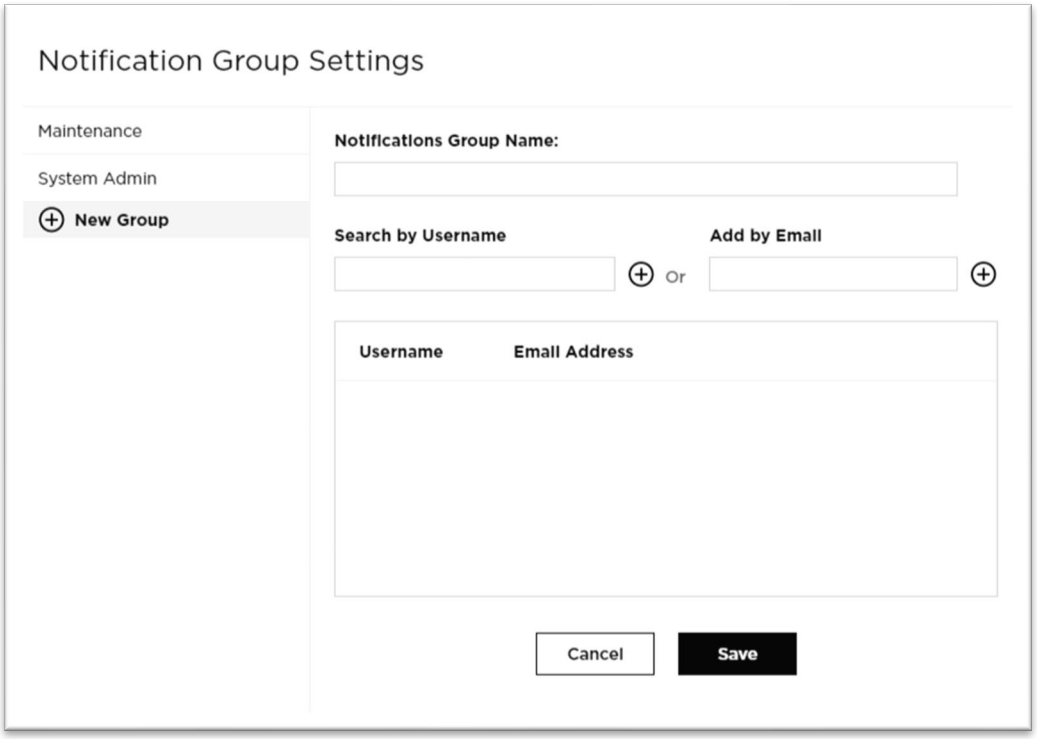


NOTIFICATION GROUPS

Notification Groups are a list of persons that will be notified by email in the event of an alarm condition. The recipient does not have to hold an account within the system.

11.2.1. Creating a Notification Group

1. From the Alarms Management Page, Click 'Notification Group'
2. The Notification Group Settings dialog will be presented. See Figure 7
3. On the left side of the dialog click 'New Group'
4. Enter a name for the group. Tip: Give the group a name that reflects the position(s) of the recipients in it, i.e., Facilities, Maintenance, On Call Team, etc.
5. Add recipients. You can search by Username if they have an active user account or just enter an email if they're not an account holder. Click the Add ⊕ icon after your selection has been made. Repeat to add additional recipients.
6. Click 'Save'



ALARM GROUPS AND RULES

Alarms Groups are a way to categorize your individual alarm rule. Alarm Rules reside within Alarm Groups and define the parameters at which an alarm will be generated. There are three types of points you can assign to an alarm rule; Numeric, String (includes multi-state values), and Boolean.

Numeric – A point whose output is a numeric value i.e., 70°F, 55%
Boolean – A point whose output is a one of two possible states i.e., true/false
Value – A point whose output is a multi-state or string value i.e. On/Off/Auto, High/Med/Low

There are three Alarm Rule types that coincide with these point types. Numeric Range, Value, Boolean.

Numeric Range – Applies Hi and Low limits to a numeric point. An alarm will be generated when it surpasses either threshold.
Boolean – Generates an alarm when the point is in the defined state.
Value – Generates an alarm when the point outputs the defined value

ADD AN ALARM GROUP

11.2.2. Adding an Alarm Group

1. From the Alarm Management page click 'New Alarm Group'
2. Name the Alarm Group. Tip: Give the group a name that reflects the points you're going to set an alarm for i.e., Temperature Alarms, ERV Alarms, etc.
3. Click 'Save'

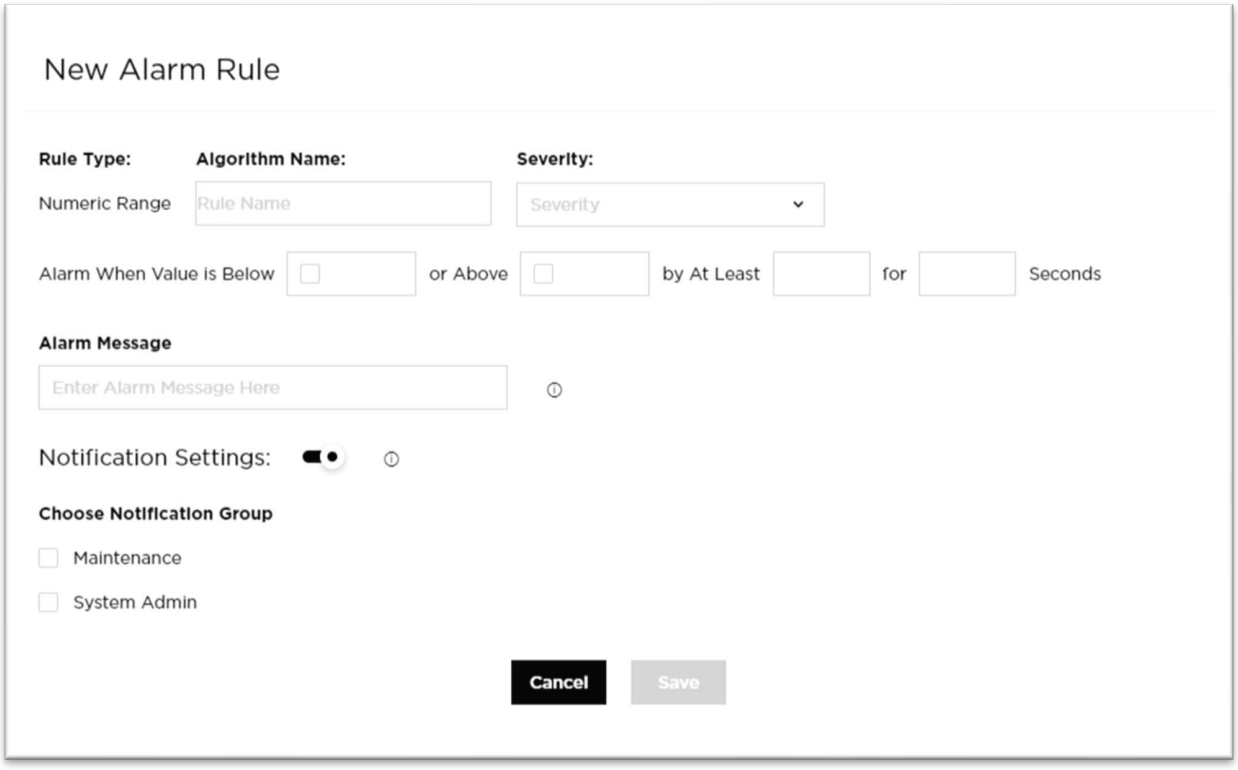
CREATE AN ALARM RULE

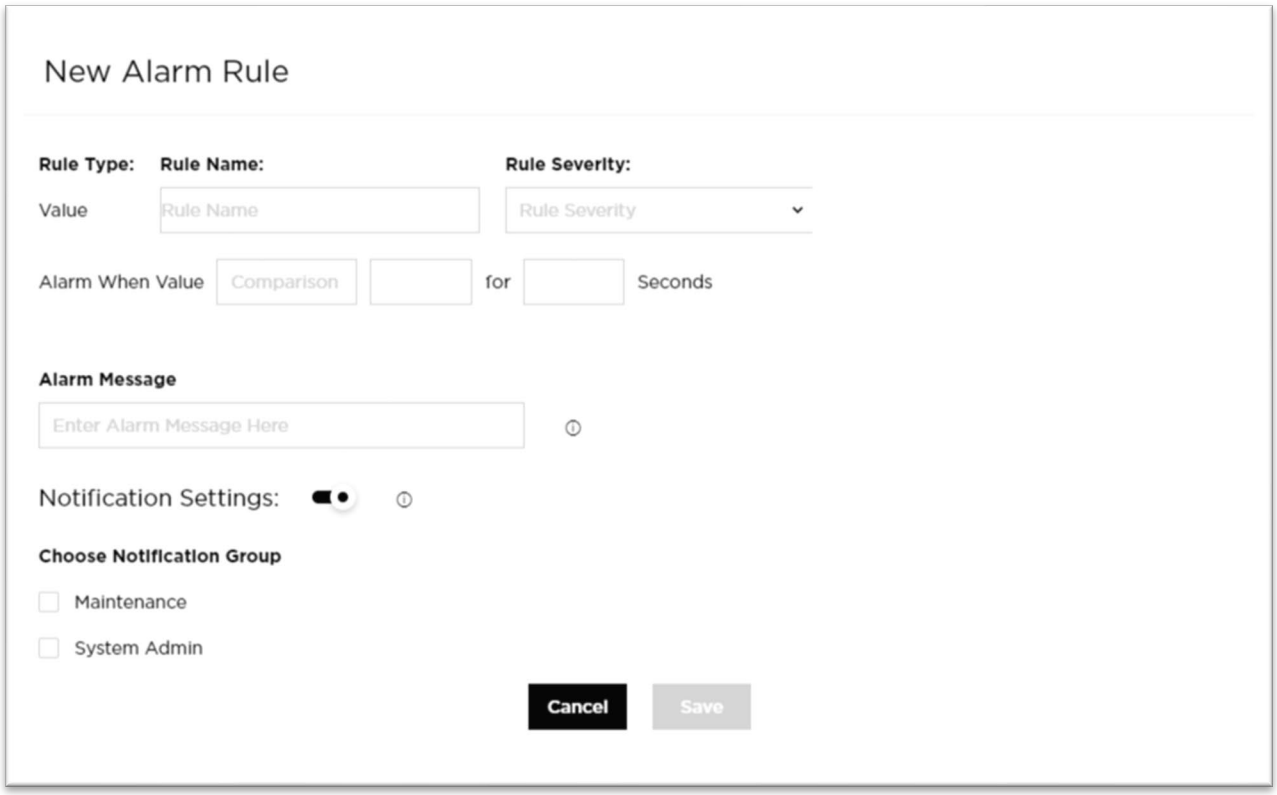
11.2.3. Creating an Alarm Rule

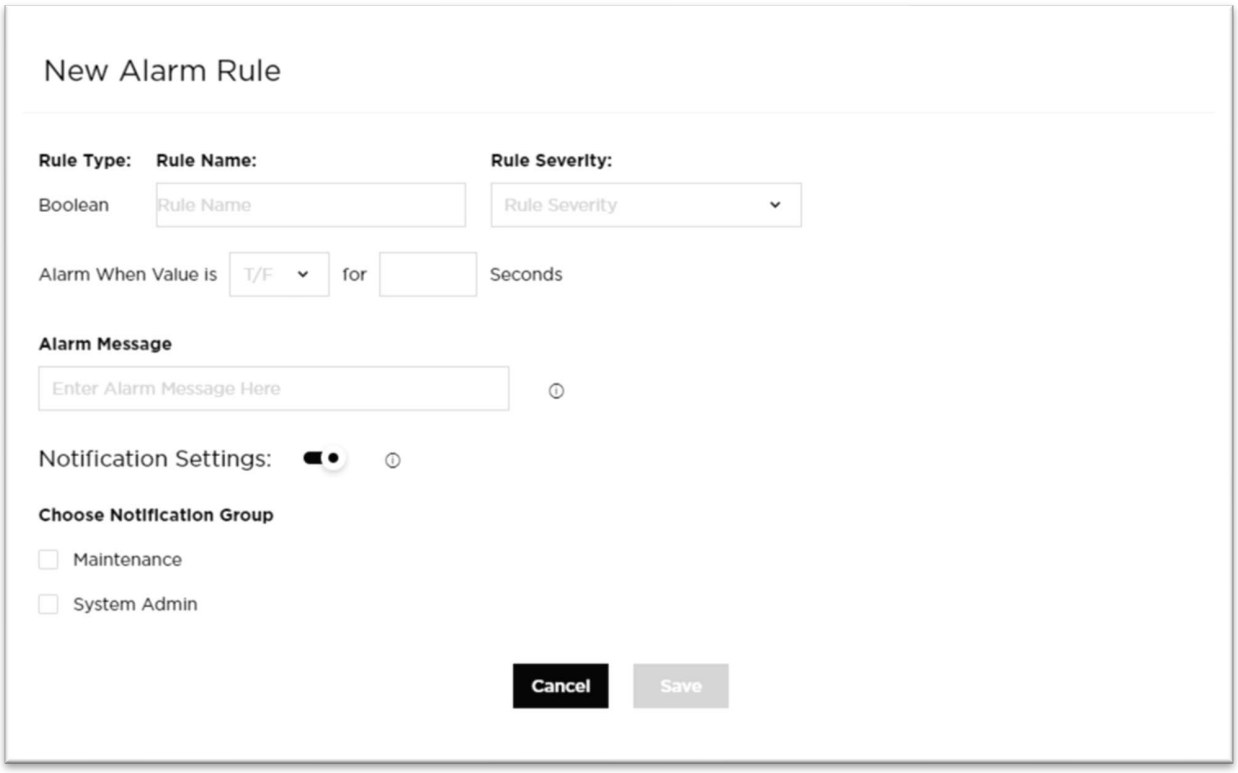
1. From the Alarm Management page, expand the Alarm Group you would like your Alarm Rule listed under and click 'New Alarm Rule'
2. Select the Alarm type from the list presented, Numeric Range, Value, Boolean. You will be presented with one of 3 forms.

- **Numeric Range** (Figure 11)
  a) Under Algorithm Name, give the rule a name.
  b) Assign the severity you'd like to give to the alarm: Alert, Off Normal, Fault
  c) Set the Low and Hi thresholds you want the point to alarm at.
  d) Give the buffer above or below the threshold. This value is subtracted from the Low threshold and added to the High threshold.
  e) Add a delay. This allows you to give the point some time before an alarm is generated. Adding a delay helps prevent points from alarming based on a short dip beyond the threshold.
  f) Add an Alarm Message. Add some text that you would like displayed on the Alarm page when an alarm is generated. Tip: To add the value of the point when the alarm was generated just enter <value> i.e., 'Temperature Alarm Current Temp: <value>'
  g) Choose a notification group to notify by email when an alarm is generated. If no Notification Group is required, turn off 'Notification Settings'
  h) Click 'Save'
- **Value** (Figure 12)
  a) Under Algorithm Name, give the rule a name
  b) Assign the severity you'd like to give to the alarm: Alert, Off Normal, Fault
  c) Enter the point output value at which you'd like an alarm to be generated
  d) Add a delay. This allows you to give the point some time before an alarm is generated. Adding a delay helps prevent points from alarming based on a short dip beyond the threshold
  e) Add an Alarm Message. Add some text that you would like displayed on the Alarm page when an alarm is generated. Tip: To add the value of the point when the alarm was generated just enter <value> i.e., 'Temperature Alarm Current Temp: <value>'
  f) Choose a notification group to notify by email when an alarm is generated. If no Notification Group is required, turn off 'Notification Settings'
  g) Click 'Save'

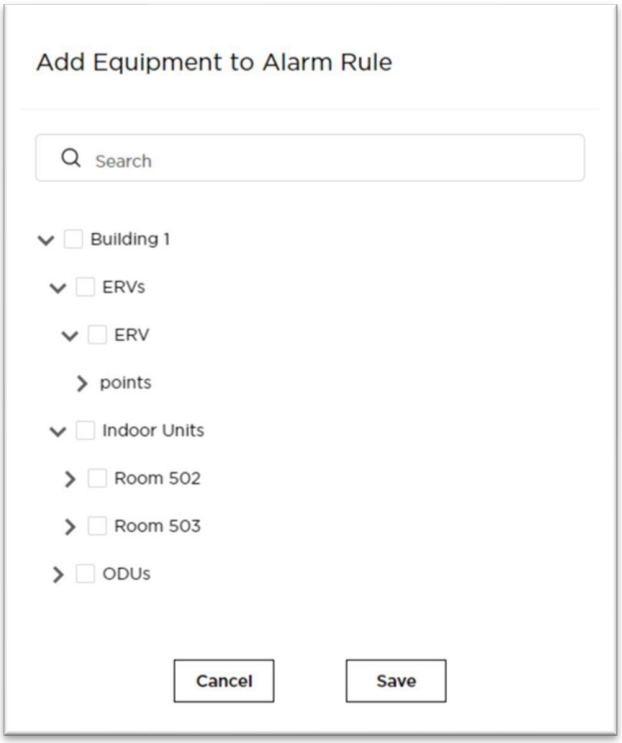
- **Boolean** (Figure 13)
  - h) Under Algorithm Name, give the rule a name
  - i) Assign the severity you'd like to give to the alarm: Alert, Off Normal, Fault
  - j) Enter the state for which you would like the alarm generated. The available states are true/false. Note: A true state typically identifies the positive i.e. On, Open, Alarm, while a false state typically identifies the negative i.e., Off, Closed, Normal.
  - k) Add a delay. This allows you to give the point some time before an alarm is generated. Adding a delay helps prevent points from alarming based on a short dip beyond the threshold
  - l) Add an Alarm Message. Add some text that you would like displayed on the Alarm page when an alarm is generated. Tip: To add the value of the point when the alarm was generated just enter <value> i.e., 'Temperature Alarm Current Temp: <value>'
  - m) Choose a notification group to notify by email when an alarm is generated. If no Notification Group is required, turn off 'Notification Settings'
  - n) Click 'Save'




New Alarm Rule
Rule Type:
Rule Name:
Rule Severity:
Value
Rule Name
Rule Severity
Alarm When Value
Comparison
for
Seconds
Alarm Message
Enter Alarm Message Here
Notification Settings:
Choose Notification Group
Maintenance
System Admin
Cancel
Save


New Alarm Rule
Rule Type:
Rule Name:
Rule Severity:
Boolean
Rule Name
Rule Severity
Alarm When Value is
T/F
for
Seconds
Alarm Message
Enter Alarm Message Here
Notification Settings:
Choose Notification Group
Maintenance
System Admin
Cancel
Save

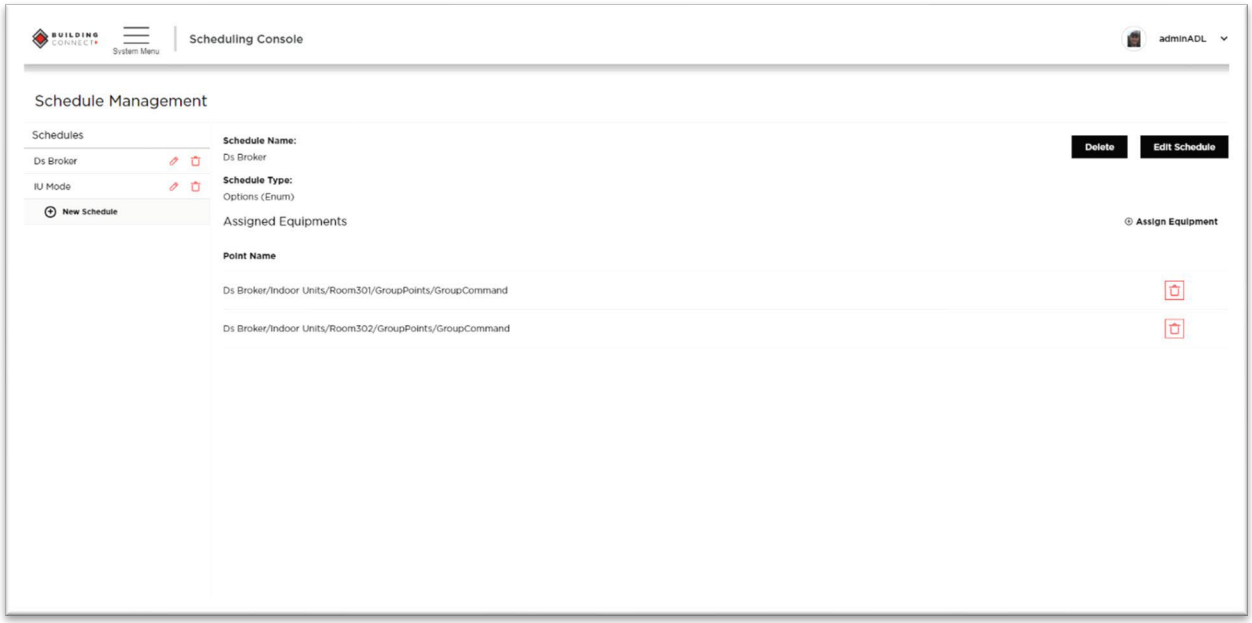
3. From the Alarm Management page select the newly created Alarm Rule and click 'Add Equipment'. You'll be presented with an 'Add Equipment to Alarm Rule' dialog. This is the navigation tree representing the equipment in the system.
4. Expand the tree to locate the point(s) you'd like to add to this alarm rule. Select all the points to apply.
5. Click 'Save'
6. Back on the Alarm Management page a list of the point(s) you selected should be presented in the Point Name list
7. Click the "Enable Alert Rule" slider to the right to enable and to the left to disable. When disabled, no alarms will be generated by this rule.
8. To edit an existing rule, select 'Edit Rule' and make changes as required. Click 'Save' when all changes are made.
9. To delete a rule. Select the rule from the Alarm Group and click 'Delete' on the left of the Alarm Management page.
10. To delete a point from a rule, click the delete next to the point.



12. SCHEDULER

The BCP Scheduler allows you to optimize your building's energy use by specifying your equipment's run time based on your individual occupancy requirements.

12.1. SCHEDULE CONSOLE



SCHEDULE MANAGEMENT

SCHEDULES LIST

All schedules that have been created are listed here. From here you can create a new schedule or edit an existing schedule's configuration.

12.1.1. Creating a New Schedule

1. Click 'New Schedule'
2. Select a Schedule Type
   - **Numeric** – For scheduling a point with a numeric value such as a setpoint.
   - **String** – For scheduling a point with a simple text value. ***Reserved for future use.***
   - **Options List** – For scheduling a point with multiple states of operation
   - **Boolean** – For scheduling a point with two states of operation such as on/off, open/closed.
3. In the 'Name' field, enter a name that will help you identify your schedule such as '1st Floor VRF Mode'. ***Note: You're not allowed to edit the name field after the schedule has been created.***

Fill out the configuration details according to your schedule type.

NUMERIC

1. In the 'Units' field, enter the units of the point you are targeting. For instance, if you intend to setback the indoor unit's target setpoint, the unit would be F. This field is optional and can be changed after it's been saved.

2. The 'Configuration' selection is provided to auto populate the Min and Max fields with the factory preset limits for the indoor unit. You can narrow the range of these values, but you may not exceed them.

Note: The indoor units have varying methods of setpoint control. Reference the Indoor Unit component on the System Overview screen to determine the appropriate setpoint value to target.

- *When only one setpoint value is displayed use 'Setpoint'. This indicates the unit uses single setpoint. The indoor unit will work to maintain temperature at this value.*
- *When two setpoints are displayed, use 'Cooling Setpoint' or 'Heating Setpoint'. This is dual setpoint operation. When in auto mode, the indoor unit will work to maintain temperature between these two values. While in Heat or Cool mode it will simply target either the heating or cooling setpoint respectively.*
- *When three setpoints are displayed use 'Cooling Setpoint' or 'Heating Setpoint' or 'Auto Setpoint'. In this case the target setpoint will simply change based on mode.*

3. If no preset configurations exist, for instance if your target equipment is 3rd party you can simply manually enter the limits you want to apply to the schedule.

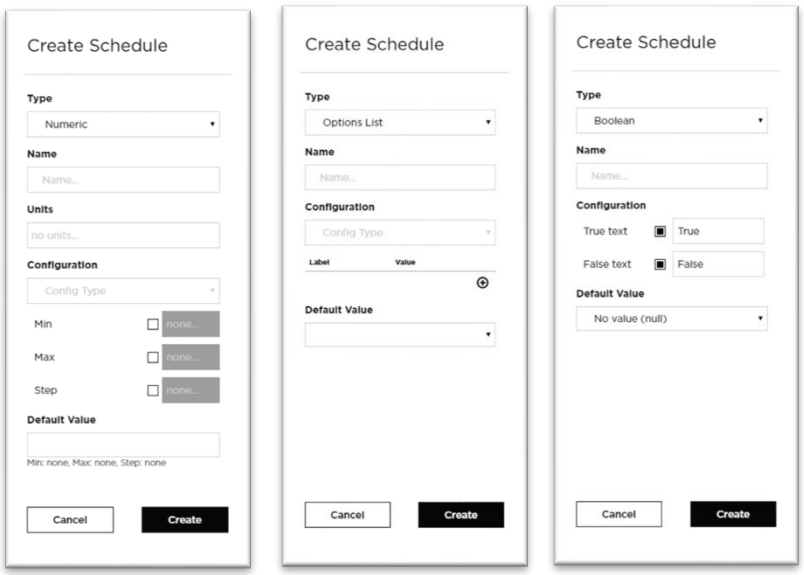
4. In the 'Default Value' field enter that value you would like the schedule to fall back to. For example, if your target occupied setpoint from 8:00AM to 5:00PM is 70°F and outside of that you want to setback the temperature to 75°F, entering a value of 75 here will allow you to simply set an occupied setpoint which will automatically fall back to an unoccupied setpoint when now scheduled.

OPTIONS LIST

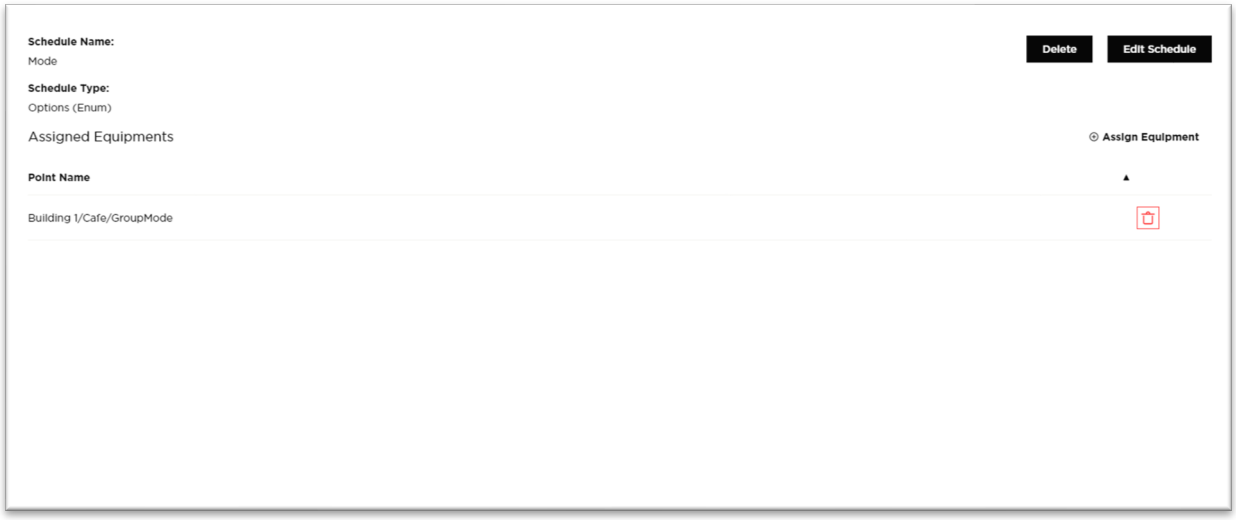
1. The Configuration field is prepopulated with the standard commands for Mitsubishi Electric VRF indoor units. Select the indoor unit command you are targeting from the list displayed and the command will appear in the list below. You can delete commands from the list to narrow the users control ability. For 3rd party commands you will need to reference its integration manual to determine the multi-state commands available then manually enter them.
2. In the 'Default Value' field, select a value from the list that you would like the schedule to fall back to when not in operation. For example, if during occupied hours you want the system to be in Auto mode and during unoccupied times you want the system to go into Setback mode (provided your system supports setback mode), then select 'Setback' as the Default Value.

BOOLEAN

1. In the 'Configuration' field, enter the text that represents the 'true' or positive state of the point and the 'false' or negative state of the point. For example, if you are commanding a Boolean point from an ERV that turns the unit on or off. In most cases the 'true' state of that point will represent an 'On' command and a 'false' state will represent an 'Off' command. In the True Text' field you would enter 'On' and the false state field enter 'Off'.
2. In the 'Default Value' field, select a state from the list that you would like the schedule to fall back to when not in operation. For example, if during occupied hours you want the system to be On and during unoccupied times you want the system to go Off, then select 'Off' as the Default Value.



This feature displays the properties of the schedule that is selected in the Schedule List. From here you assign the equipment you want to relate to your schedule. The Edit Schedule button allows you to create weekly schedule events and exceptions.

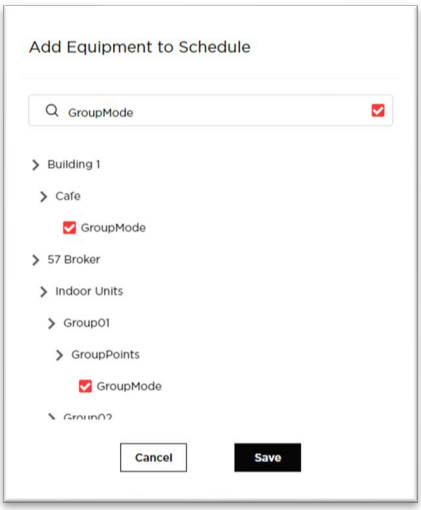


12.1.2. Assign Equipment

1. From the Schedule List select the schedule you want to add equipment to.
2. In the Schedule Properties pane click 'Assign Equipment'. You'll be presented with a list of the equipment assigned to you.
3. Expand the navigation tree until you locate the point(s) you want to add.

Tip: If you know the point name, use the search bar at the top to expose those points directly. To add all the points that were found, click the 'Add All' box to the right of the search bar.

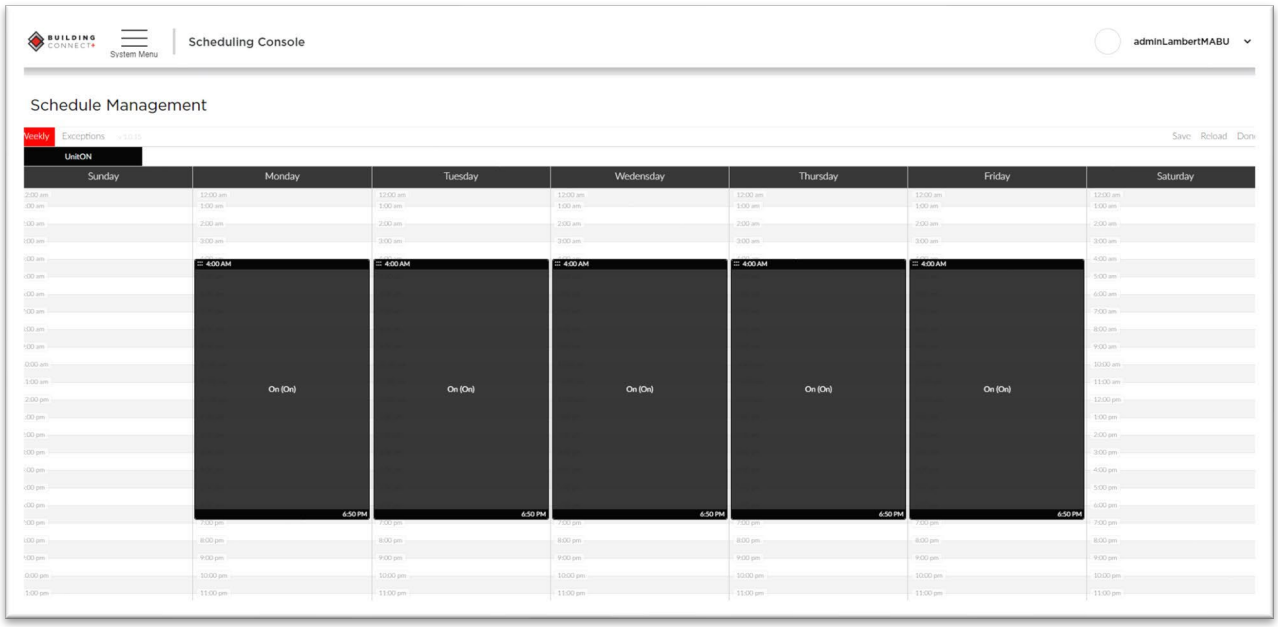
4. After all points have been selected, click 'Save'. Each device will be listed under Point Name in Schedule Properties.



12.1.3. Edit Schedule

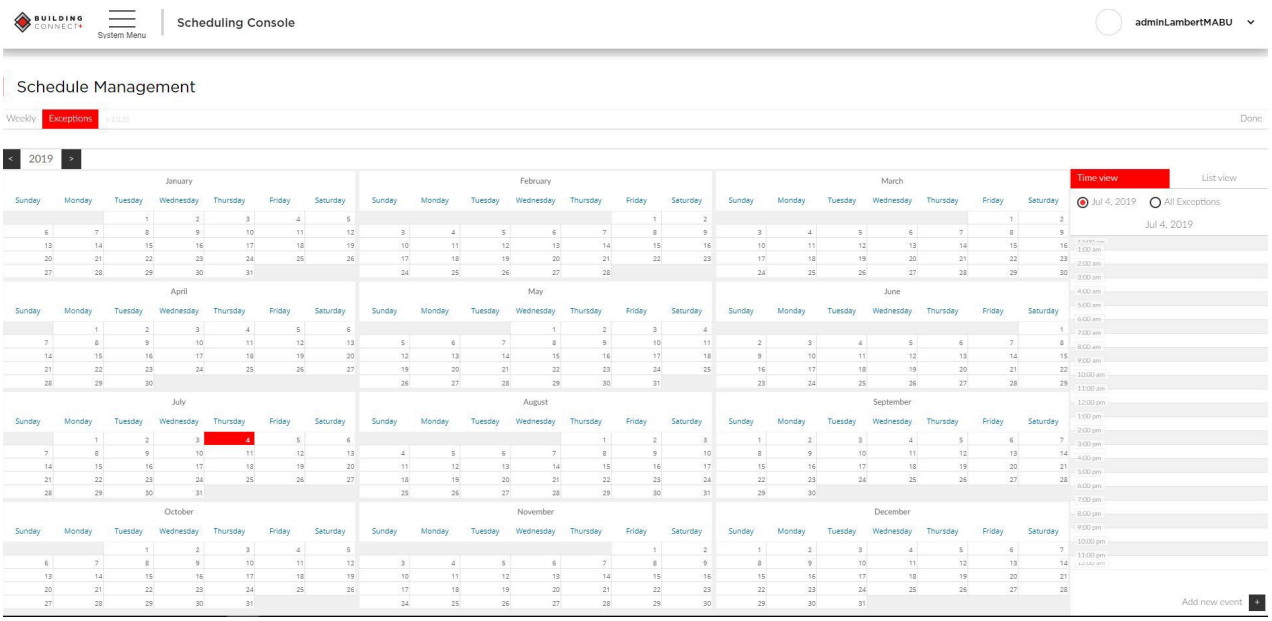
Add a New Event

1. From the Schedule List, select the schedule you want to edit.
2. From the Schedule Properties pane, select 'Edit Schedule', the Weekly Scheduler will open.
3. Identify the day and time you want your event to start. Click and drag from the event start time to the event end time.
4. On the event block, click 'Create'
5. In the upper left corner of the newly created event, select the "Edit" icon and click 'Edit'
6. Here you can fine tune the event start and stop time as well as set a value for the event.
7. Repeat to add an event to multiple days.



Add a Schedule Exception

1. From the Schedule List, select the schedule you want to add an exception to.
2. From the Schedule Properties pane, select 'Edit Schedule', the Weekly Scheduler will open.
3. In the upper left corner select 'Exceptions'
4. In the bottom left, click 'Add new event'. You will be presented with the Exception Properties form
5. Enter the details of your exception. To apply this exception to multiple days, in the 'Event Occurrence' field select 'Date Range' and specify the start and end day. When finished click 'Add'
6. Programmed exceptions are marked on the calendar.
7. To edit an existing exception select it from the calendar. In the editing pane on the right, select the time view tab, click the edit icon and edit as needed.
8. To see all exceptions, in the editing pane, select the List View tab and check 'All Exceptions'. In the list presented, hover over the exception you would like to edit and select edit. Or if you wish to delete the exception select 'Delete'



13. TREND BUILDER

Trend Builder provides you the ability visualize historical data captured by BCP. Points added to the navigation tree begin recording automatically. Each time a value's output changes, BCP records that change.

Note: Since BCP records only on a change of value, if no changes occurred within in the window of time you've selected to view, no data will be displayed on your chart. You will have to expand the window of time to view when that last change occurred.

13.1.1. Viewing historical data

1. In the System Menu, select 'Trend Builder'
2. From the Points List, expand that navigation tree to identify the point you would like to view. *Tip: if you know the point name, you can enter it in the Search bar and the list will be filtered down to those points.*
3. As you select data from the points list, a chart will be created in the chart viewing area.

   Note: Charts are created based on the point's units. For example, all temperature values selected from the tree with a unit °F will be displayed on a single chart. If you then select the Group Command point(s), another chart will be added, and its date will be displayed there. The list of charts will sort in alphabetical order based on the name of the first value listed on the chart.

4. Hover over the point name above the chart to expose the piece of equipment it belongs to.
5. To export the data displayed on the chart to csv, select the export ⭳ icon in the upper right corner of the chart.


BUILDING CONNECT+
System Menu
Trend Builder
adminLambertMABU
Point List
Search
ActCoolStpt
ActHeatStpt
AirDirection
AirDirectionAvaiabl
AutoSetpoint
AlarmCode
ZoneDeviation
ZoneTemperature
wsAnnotation
Setpoint
Optimization
HeatingSetpoint
GroupMode
GroupCommand
FanSpeed
EffectiveSetpointTy
This Month
GroupCommand
On
Off
Dec 1
Dec 8
Dec 15
Dec 22
Dec 29

14. MAINTENANCE TOOL VIEWER

The Maintenance Tool Viewer page provides a skilled Mitsubishi VRF technician with access to an in depth VRF data set. This data set combined with the power of the Trend Builder gives your VRF technician the advanced tools he needs to diagnose and troubleshoot issues with your VRF system often without the need to travel to the site.



14.1. SYSTEM SELECTOR

OUTDOOR UNIT (ODU)

Displays the maintenance tool data set for each module within the selected system including branch controllers

14.1.1. From the Maintenance Tool page, select the ODU system that you would like to present on the screen from the drop-down menu provided.

14.1.2. The data from each module of the ODU system as well as attached Branch Controllers (R2 Systems Only) will be displayed in the top pane. For your convenience a help dialog ⓘ is provided to help explain what each value represents.

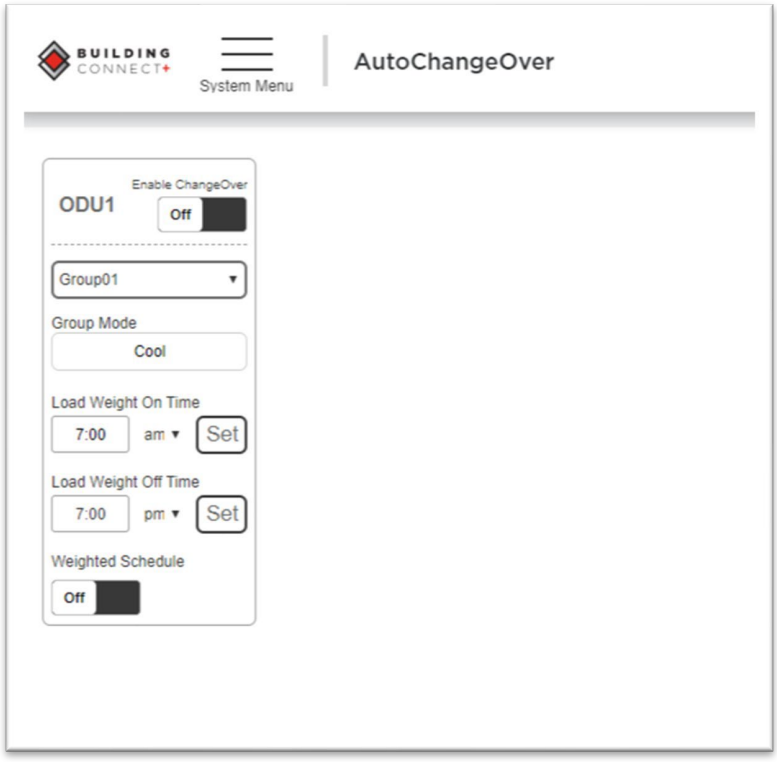
Displays all the Indoor Units in the selected Outdoor Unit's refrigerant circuit. A control center is provided for the VRF technician to make incremental changes to a selected unit.

14.1.3. Write commands to an Indoor Unit

1. From the drop-down list provided, select the Indoor unit you'd like to affect change upon. The Indoor Unit name is as it was defined in the Navigation Tree during initial setup.
2. The commands provided are On/Off, Mode, and Setpoint Adjust, the current space temp (inlet temp) is also provided for your convenience.

15. AUTO CHANGEOVER

Auto Changeover is a feature provided for you to automatically transition a Heat Pump series refrigerant system between Cooling and Heating modes. Changeover functions based on the real time heating load in the space. Building Connect+ regularly scans each indoor unit and calculates its demand based on the difference between space temperature and setpoint. After a scan of all the indoor units, Building Connect+ will determine if there is a greater need for Cooling or Heating and place all the units in the circuit to the appropriate mode. The Auto Changeover feature also allows you to personalize the experience by assigning spaces priority in determining mode changes. By adding 'weight', the resulting difference in Space Temp to Setpoint offset is doubled for the indoor unit you select and will provide a greater influence in the calculation.



15.1. AUTO CHANGEOVER INTERFACE

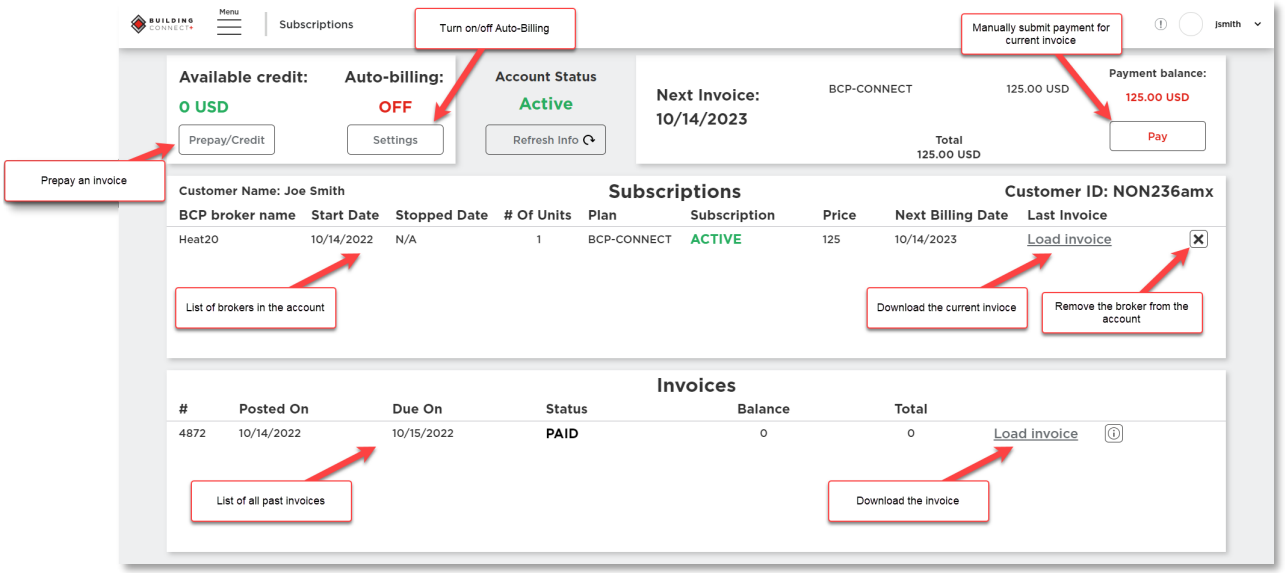
15.1.1. Auto Changeover Operation

1. From the Auto Changeover page, identify the ODU system you would like to configure to use Auto Changeover.
2. To enable the feature, set 'Enable Changeover' to 'On'
   - To add weight to a particular indoor unit Group
     a) Select the Group you'd like to add weight to from the drop-down list.
     b) Set the time range you would like add weight to be active for.
     c) Set the 'Weighted Schedule' toggle to 'On'.

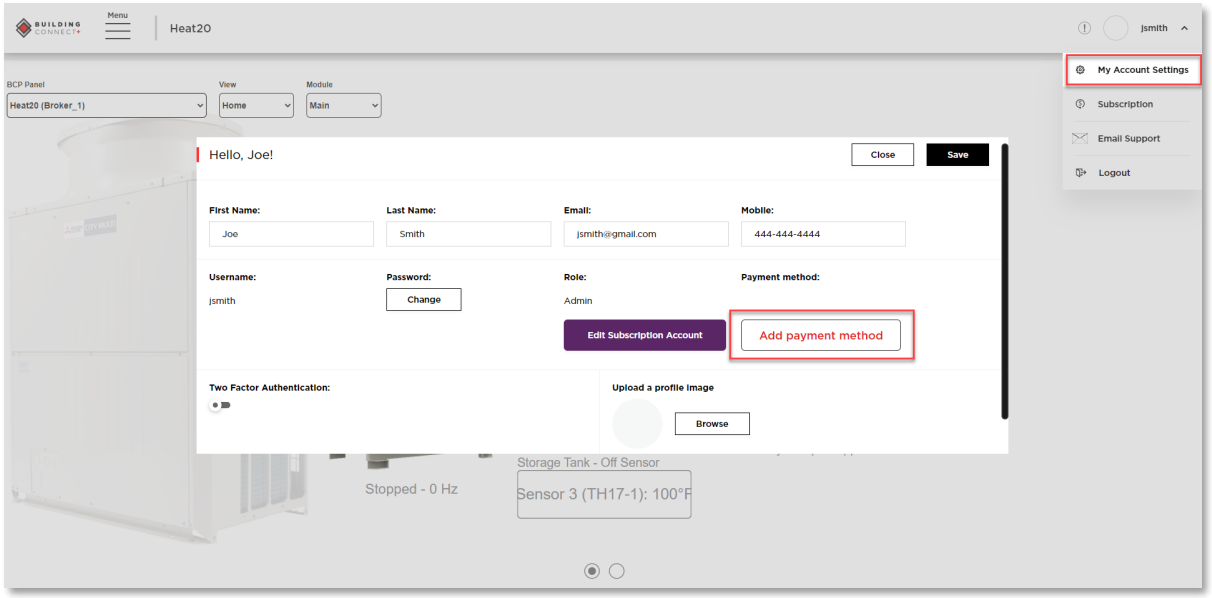
16. SUBSCRIPTION MANAGEMENT

Building Connect Plus is a Software as a Service product. As such, access to the system requires an active subscription. Building Connect Plus comes with 1 free year of service beginning on the date the first broker was connected. The subscription period is 1 year. Upon completion of the trail period, you will be prompted to submit a payment method and renew the subscription. Your subscription details can be managed from the Subscription page of the Building Connect Plus site.

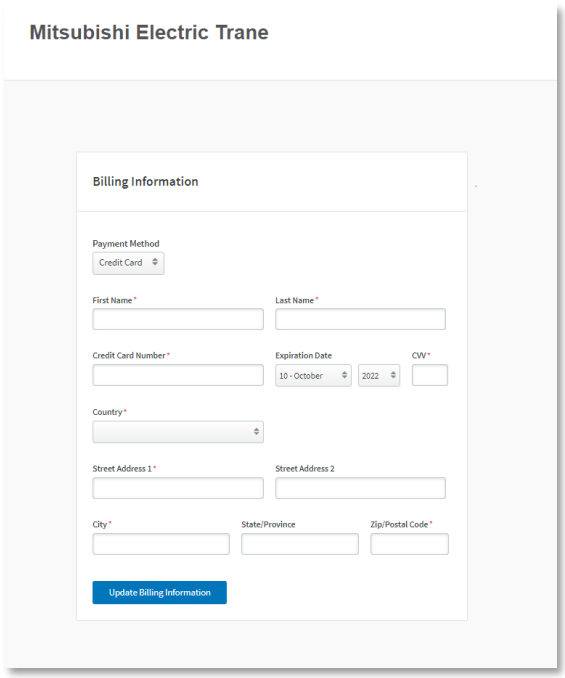




Submit a Payment Method

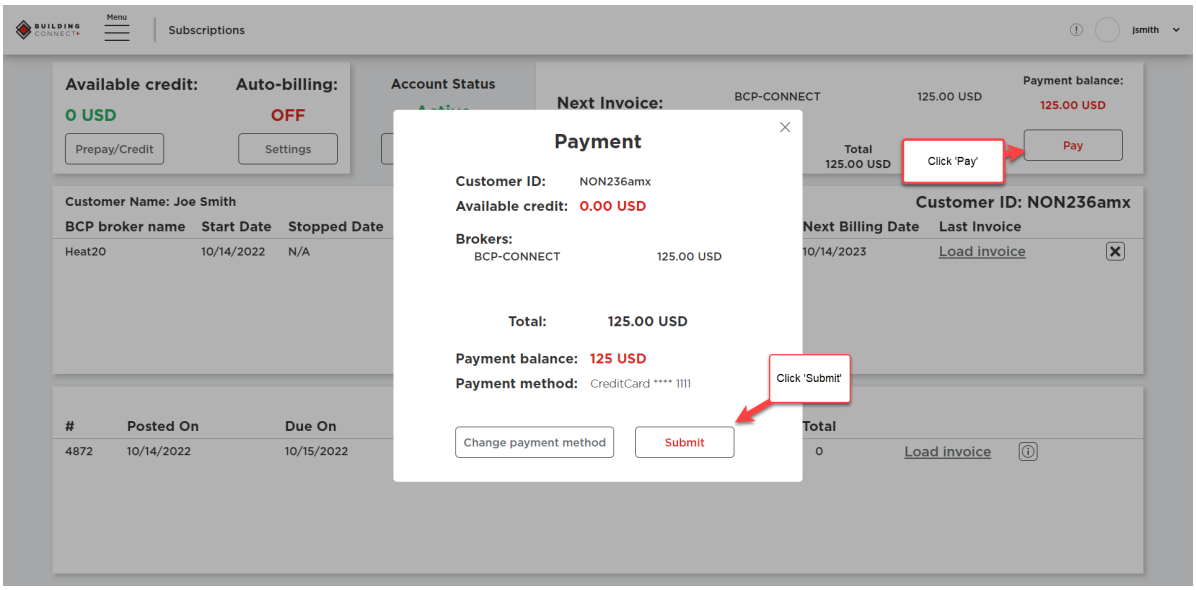


16.1 'Click on My Account Settings'. In the dialog click 'Add Payment Method'.



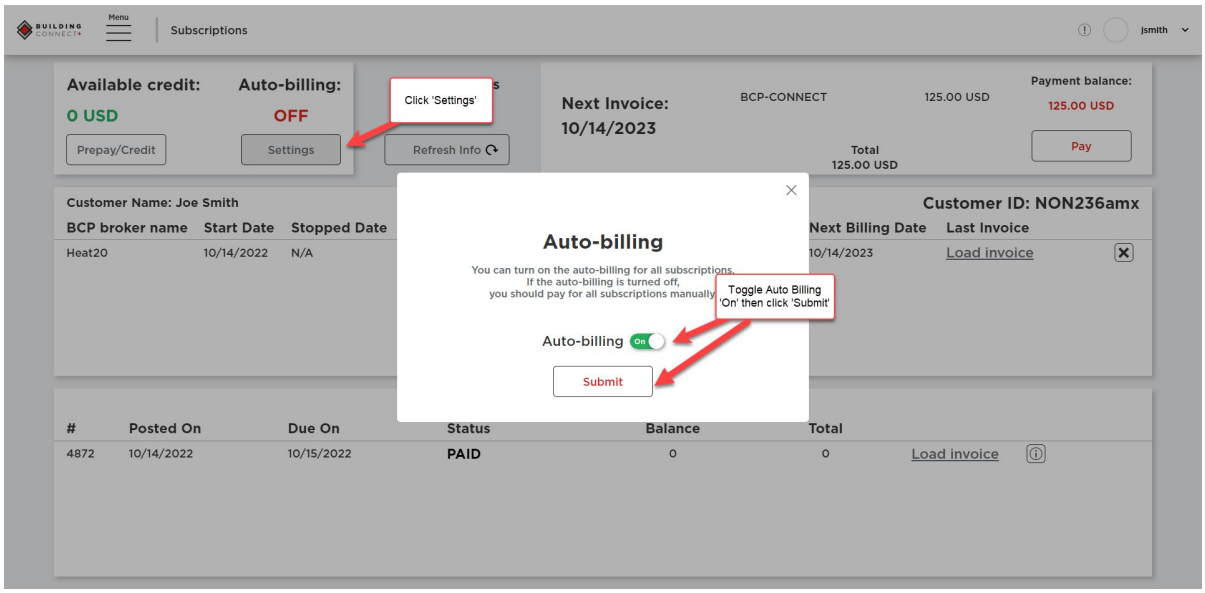
16.2 You will be redirected to a secure page. Enter your payment details here. You will receive and email confirming your billing information has been accepted.

Manually Pay an Invoice



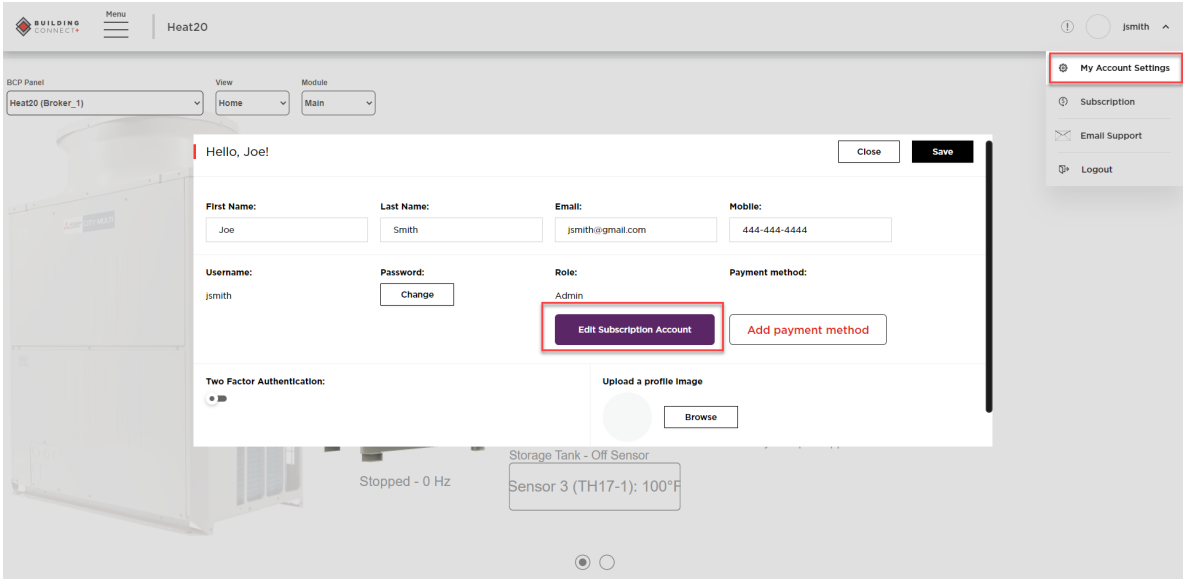
16.3 On the Subscription Management page, click 'Pay'
16.4 Review that invoice details on the payment dialog and click 'Submit'

Turn on Auto Billing

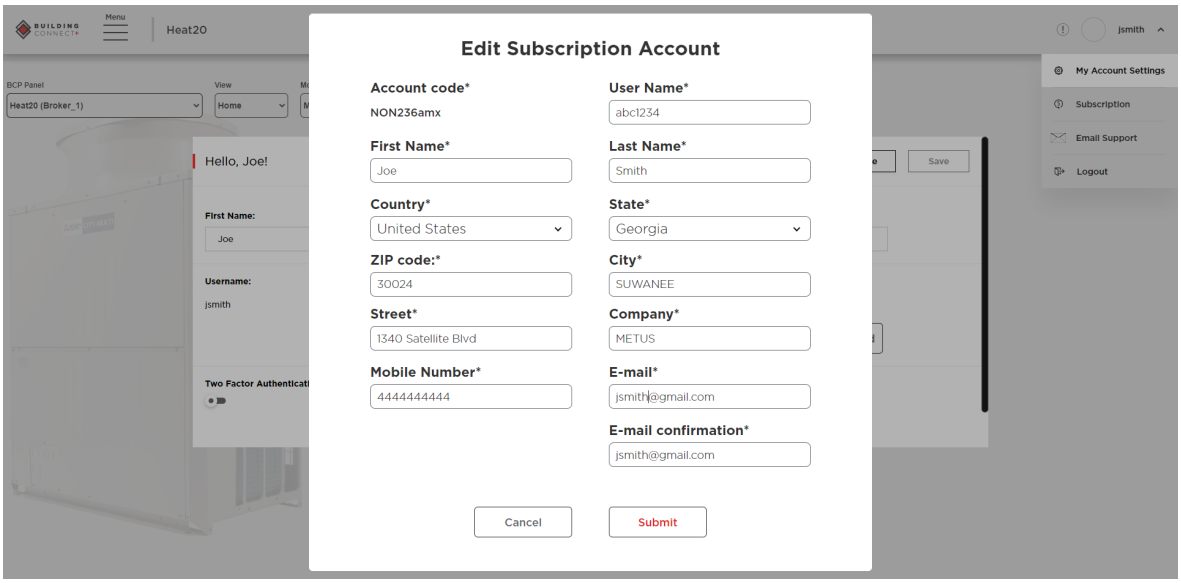


16.5 On the Subscription Management Page, under Auto-Billing, Click 'Settings'
16.6 On the dialog box toggle auto Billing to 'On' and click submit
16.7 Now, your subscription will automatically renew each year and payment will be made using your chosen payment method.

Edit Account Details



16.8 'Click on My Account Settings'. In the dialog click 'Edit Subscription Account'.



16.9 Enter your updated information here. You will receive an email confirming your account information has been changed.