# BASview3

2025

CONTEMPORARY CONTROLS®

# BASview3 Introduction

- The BASview3 is a small building controller that can provide alarming, trending, scheduling, graphics, and programming for a small facility or portion of a larger facility.
- It can support up to 2000 nodes.
- It has support for BACnet and Modbus.
- It has one Ethernet port and four USB ports.


- All configuration of the BASview is performed using a standard web browser (Chrome recommended).

# BASview3 Hardware

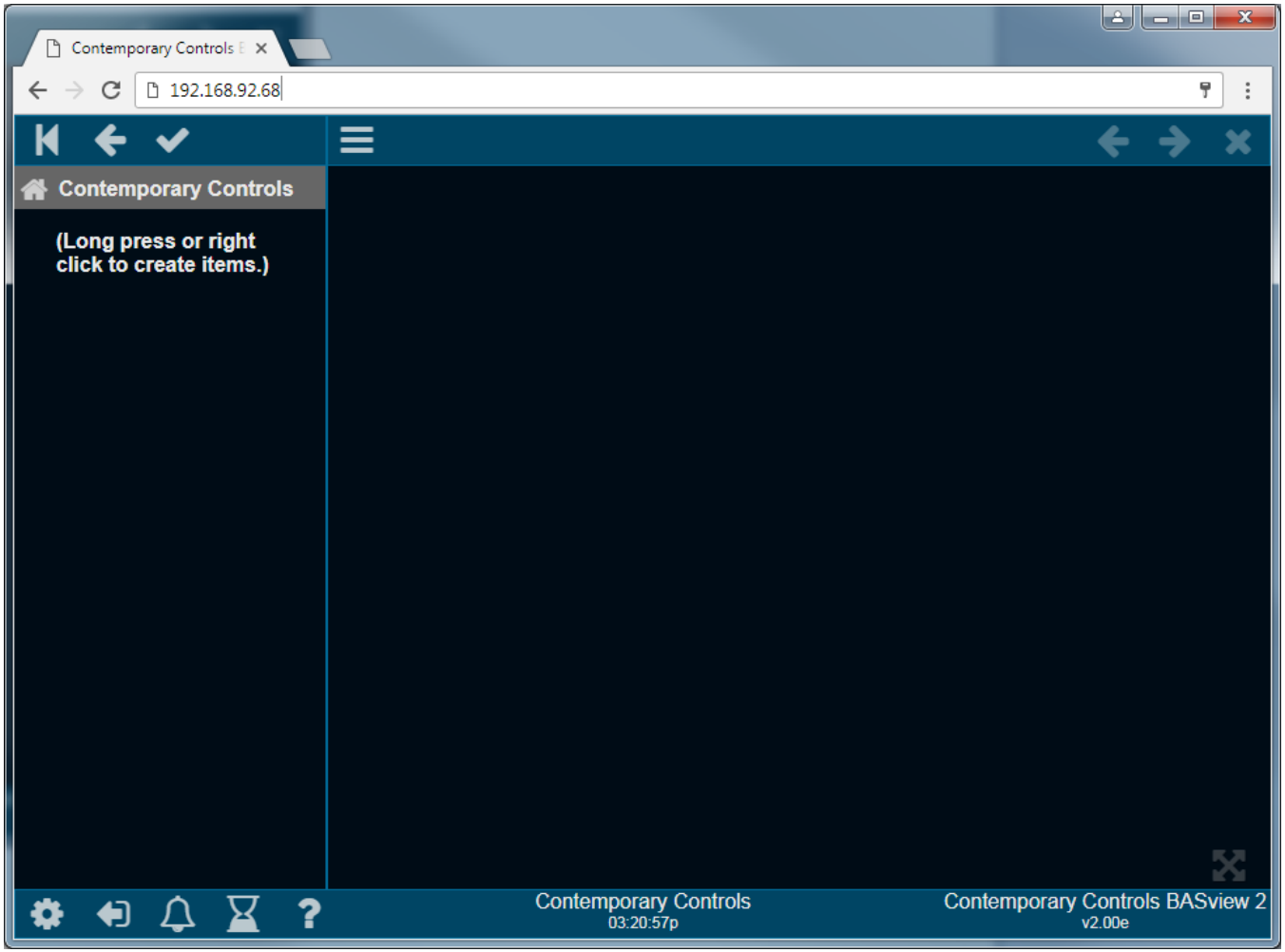
| BASview3 |
| --- |
| 1.2GHz (quad core) CPU |
| 1GB RAM |
| 8GB Flash |
| DIN Rail or Panel Mount |
| All HTML5 (no Flash) |
| All screens mobile responsive |
| Animated Graphics and Dashboard |

# Login

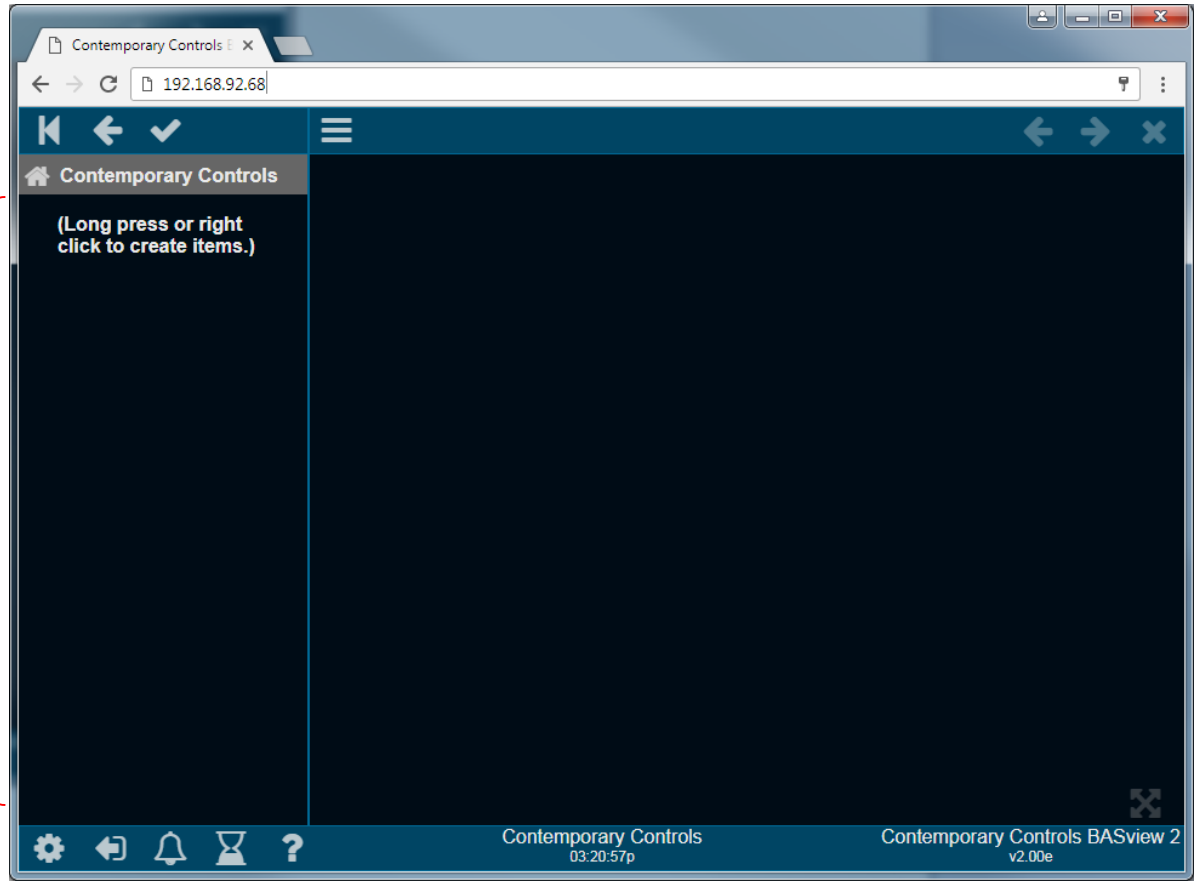
- The default IP address is 192.168.92.68.
- You will be prompted to login.
- The default login is
  - Username: admin
  - Password: pass
- You can select from one of three themes by pressing the paintbrush icon on the login screen.

# BASview3 Webpage

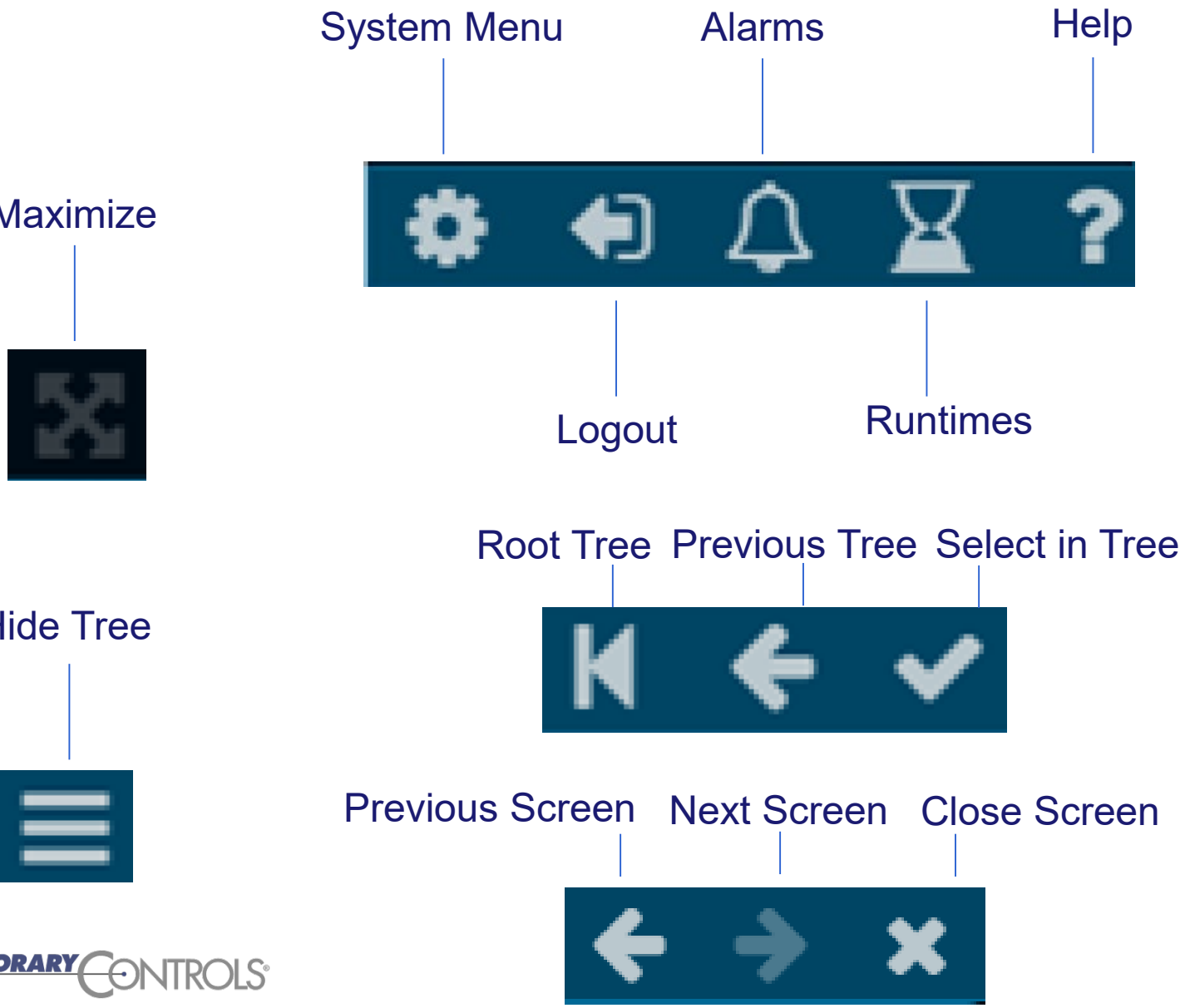
- After logging in you will see the BASview3 webpage.



# BASview3 Screen

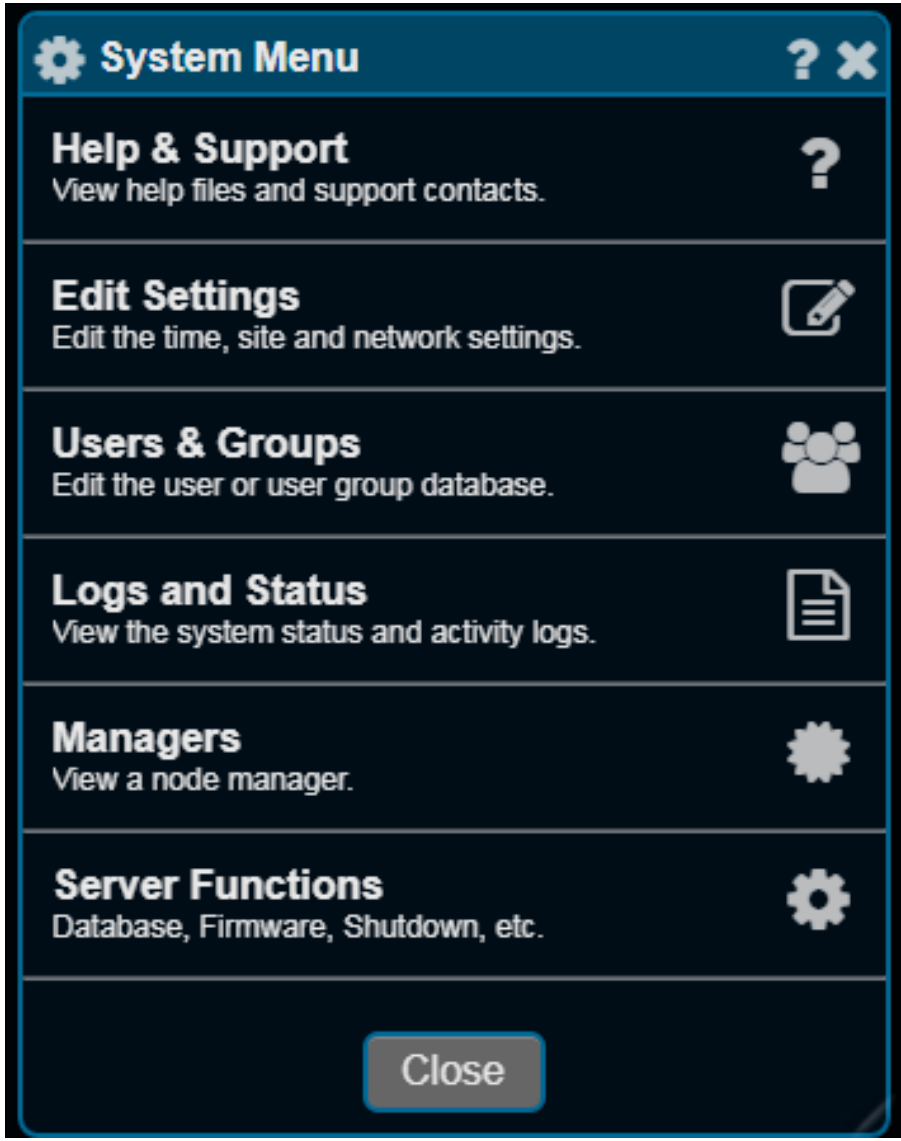


# BASview3 Toolbar and other main screen icons



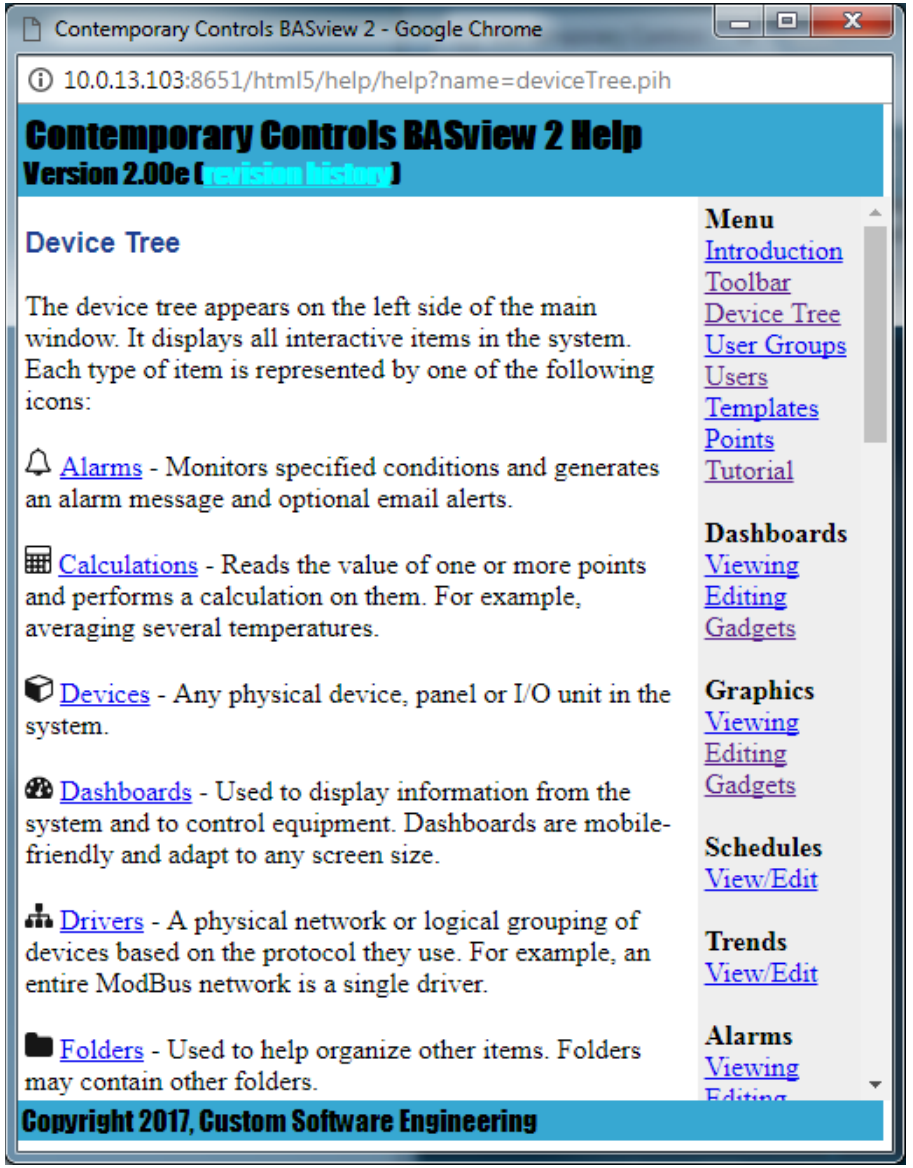
# BASview3 System Menu

- System menu provides help, settings editing, user and group editing, viewing log and status, node managers, and server functions.
- In BASview3, menus make sure you scroll up/down to see all available options. You can do this with the mouse roller ball or by selecting and dragging in the menu.



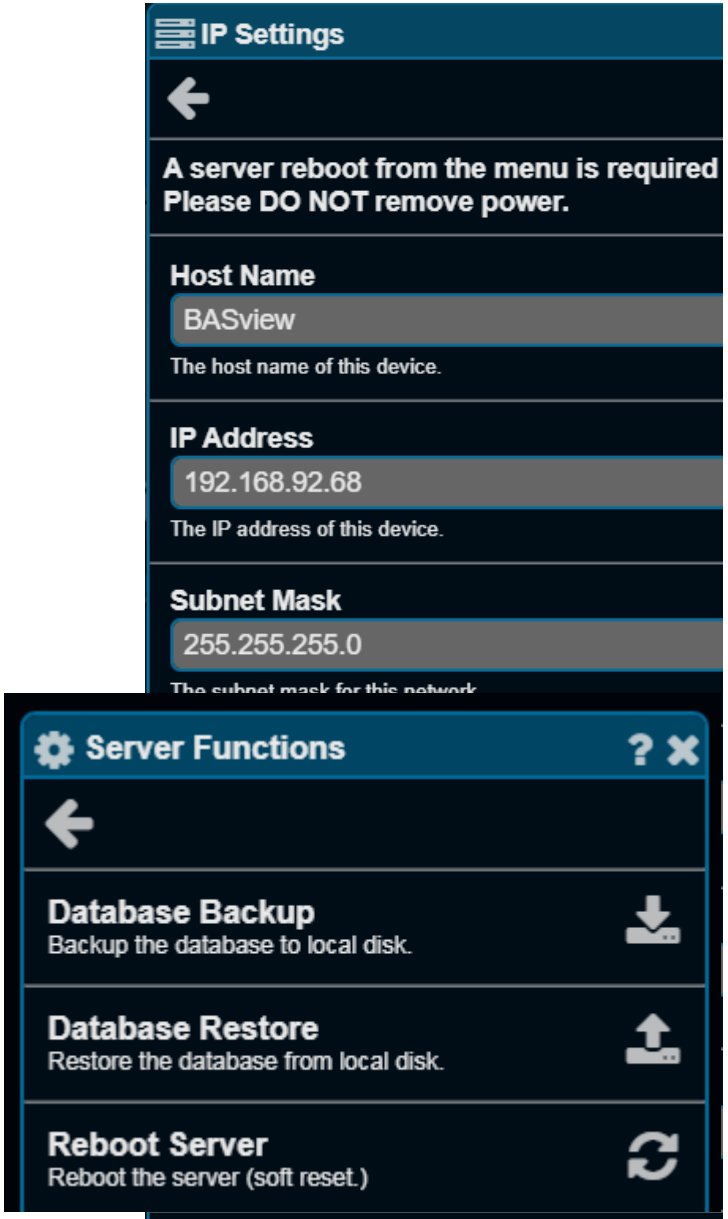
# BASview3 Help

- The BASview3 has a very good online help system. Press **?** on the toolbar and on all screens to access the help system.



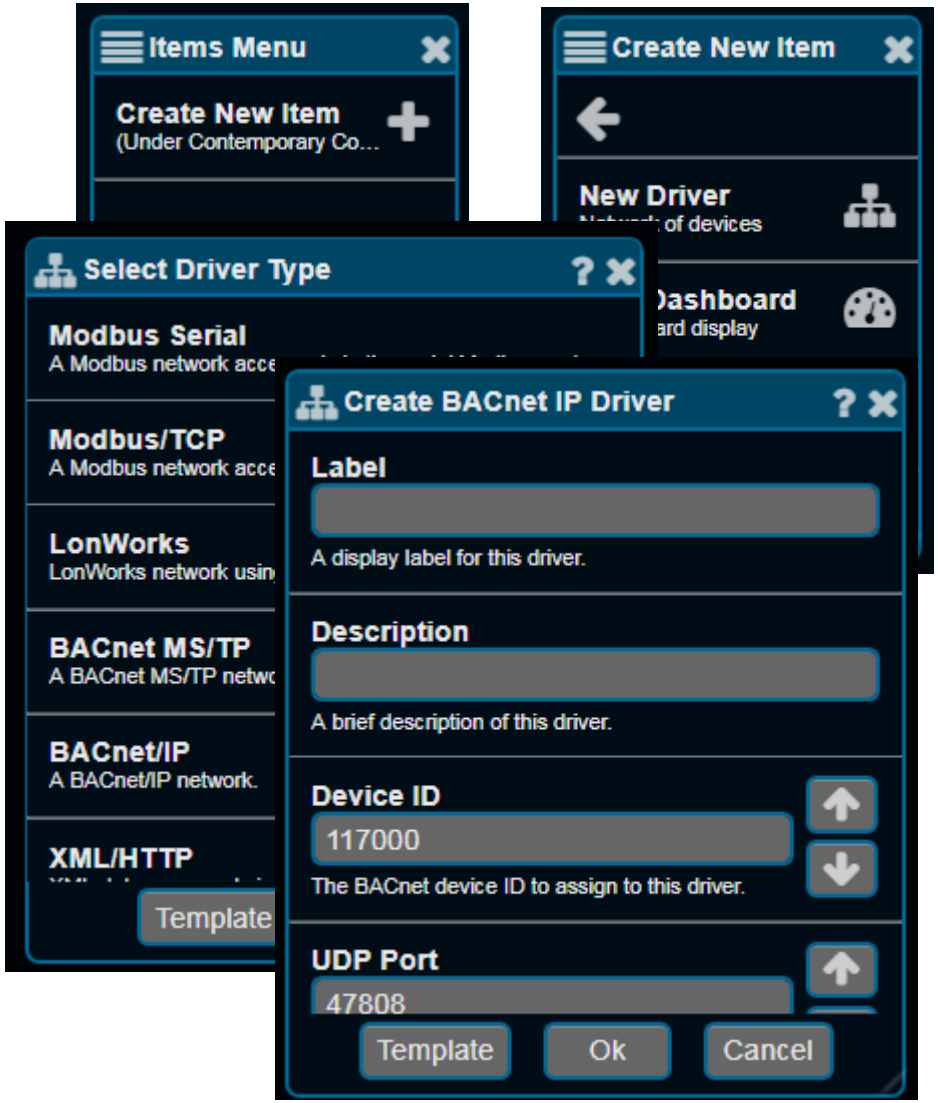
# BASview3 IP address setting

- Select System Menu, Edit Settings, Network Settings.
- Enter your IP address settings (scroll up/down to see all options) and reboot.
- For BACnet systems it is important to set the Broadcast setting to the broadcast address in your subnet.
- To reboot, go to System Menu -> Server Functions -> Reboot Server.



# BASview3 Driver

- You need to load a driver to communicate with devices.
- Right-click in the device tree and select **Create New Item**. Then select **New Driver**.
- In the pop-up menu, select the appropriate driver and configure the driver.

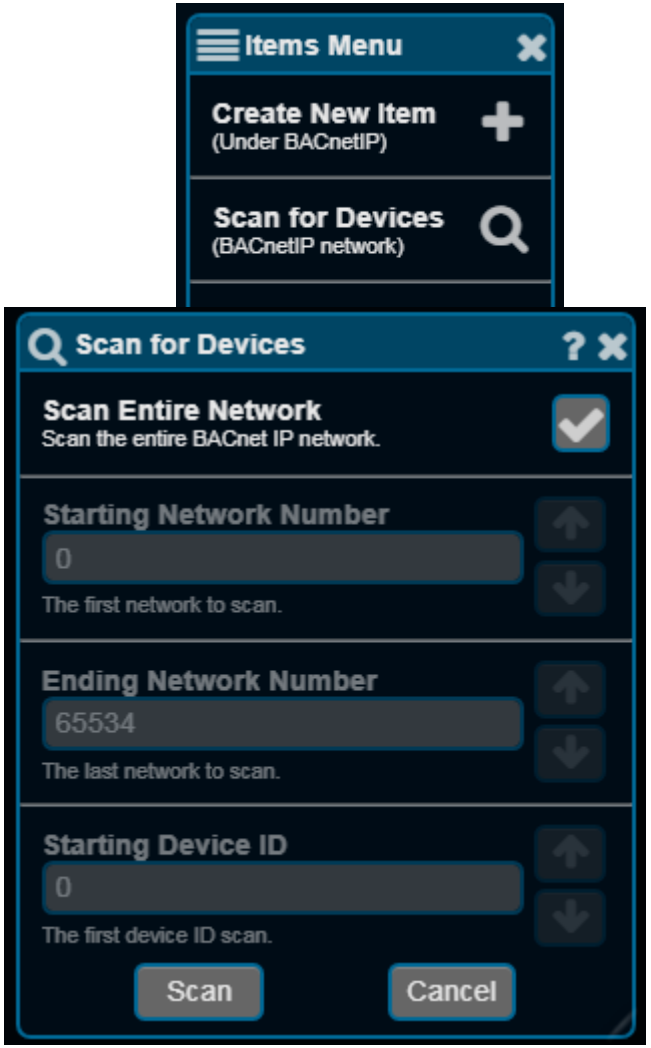


# BASview3 BACnet Driver Configuration

- Enter in your driver configuration.
- For BACnet use a system-wide unique Device ID.
- 47808 is the standard BACnet UDP port number.
- Enter a label for the driver and press **Finish**.

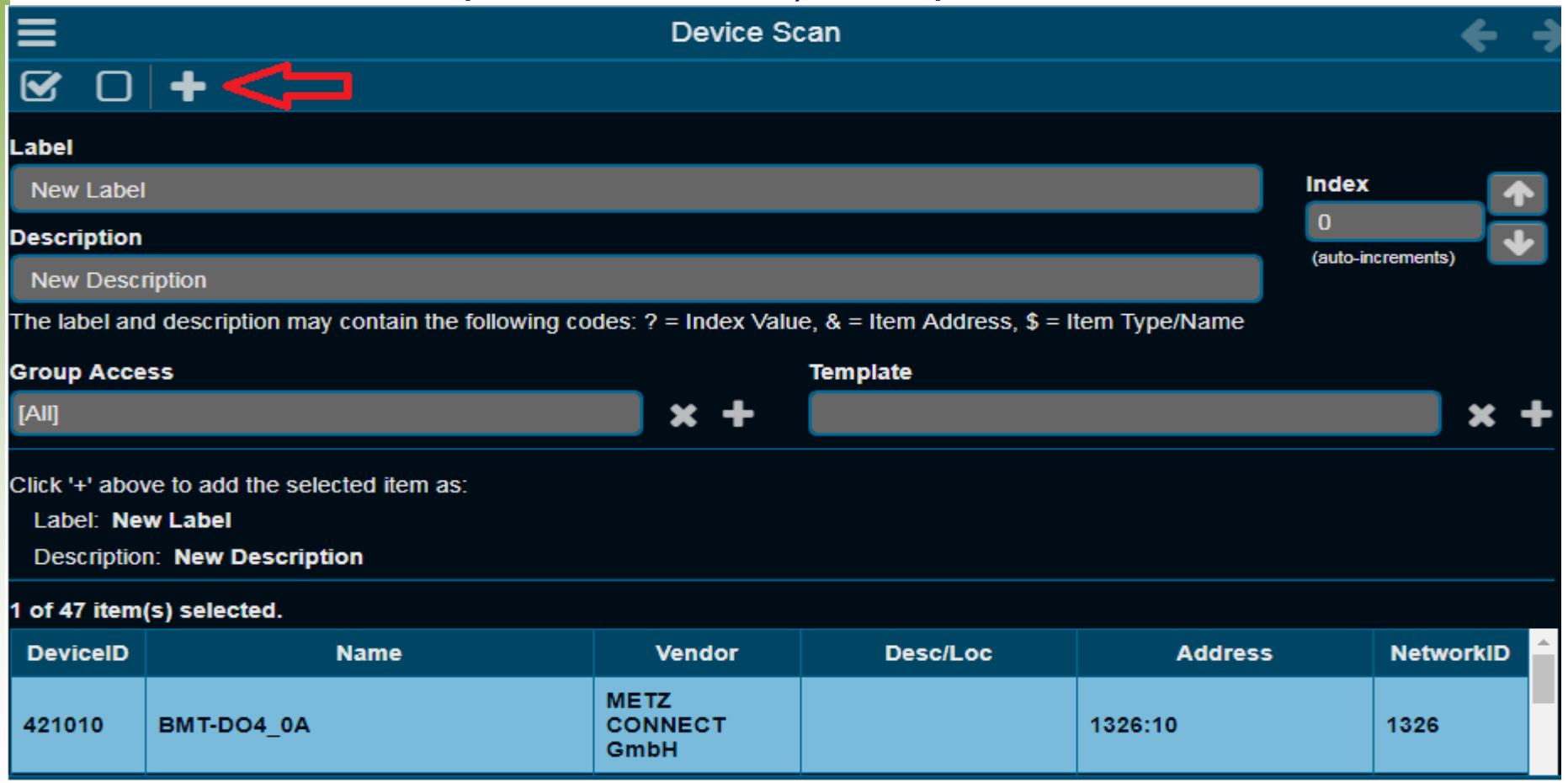
# BASview3 Discover Devices

- Left-click the driver and right-click the device tree and select **Scan for Devices**.
- You can manually enter a BACnet device (Create New Item -> New Device) or Scan for devices.
- Press the **Scan** button to discover BACnet devices.
- Press **Scan** on the next window.



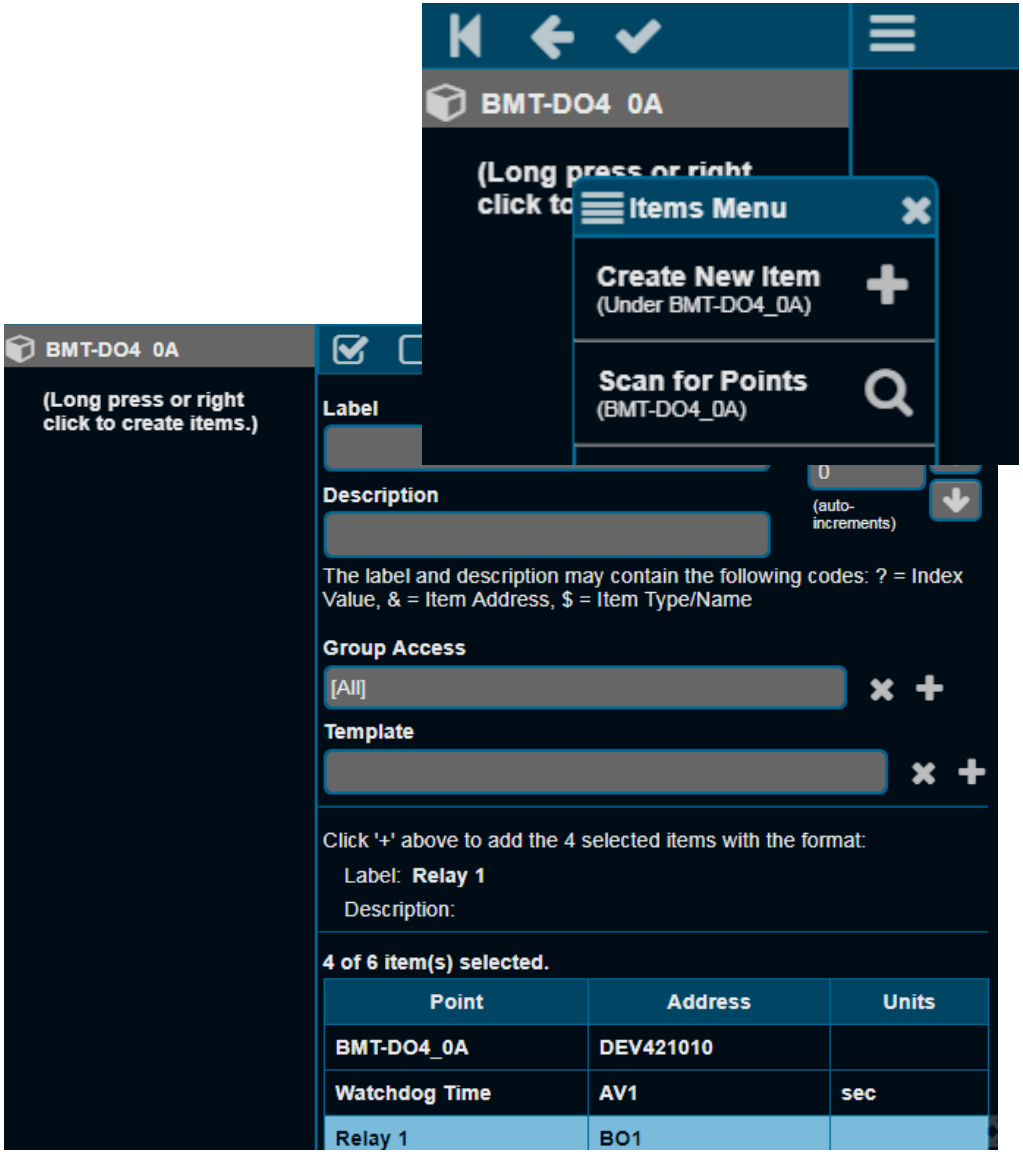
# BASview3 BACnet Device Scan

- Discovered devices will be shown in “listbox.” Select one at a time to change the name (label) and press **+**. Or. select multiple (or select all with top left checkbox), and press **+** if names are ok.



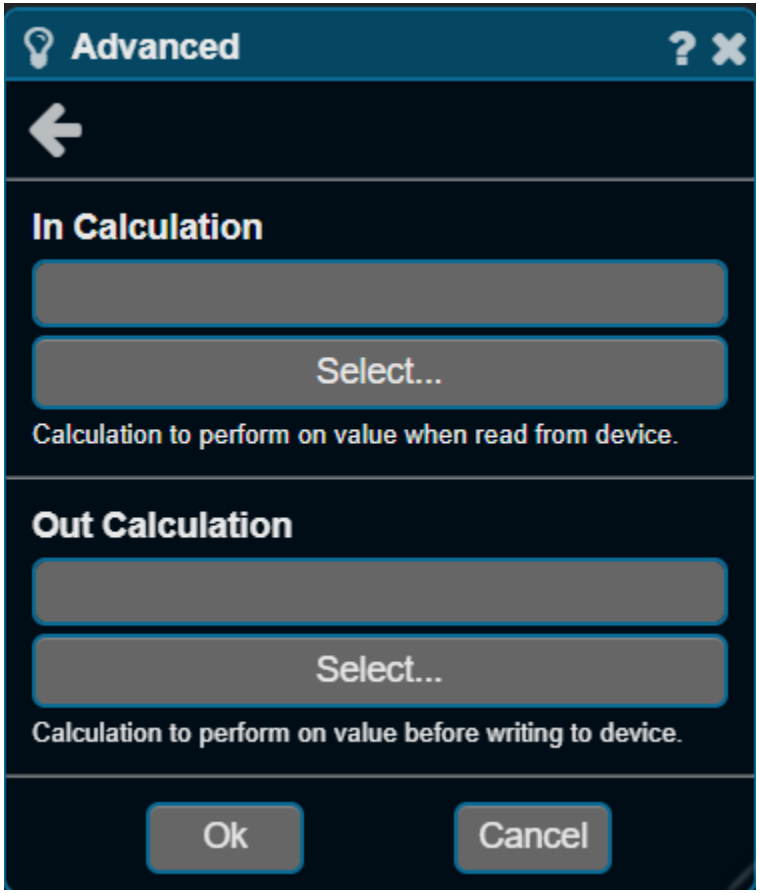
# BASview3 Add BACnet Points

- Left-click one device and right-click in the device tree and select **Scan for Points**.
- Select one or multiple desired points.
- Rename them in the label or leave at default and press **+** to add to BASview3.
- They will disappear from list as they are added. It only shows the unused points.



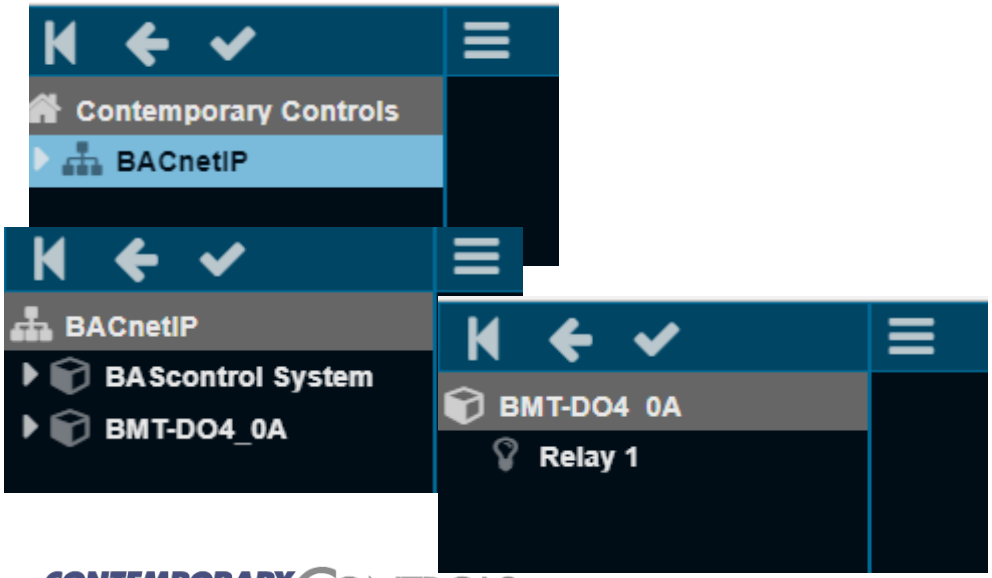
# BASview3 Point Conversion

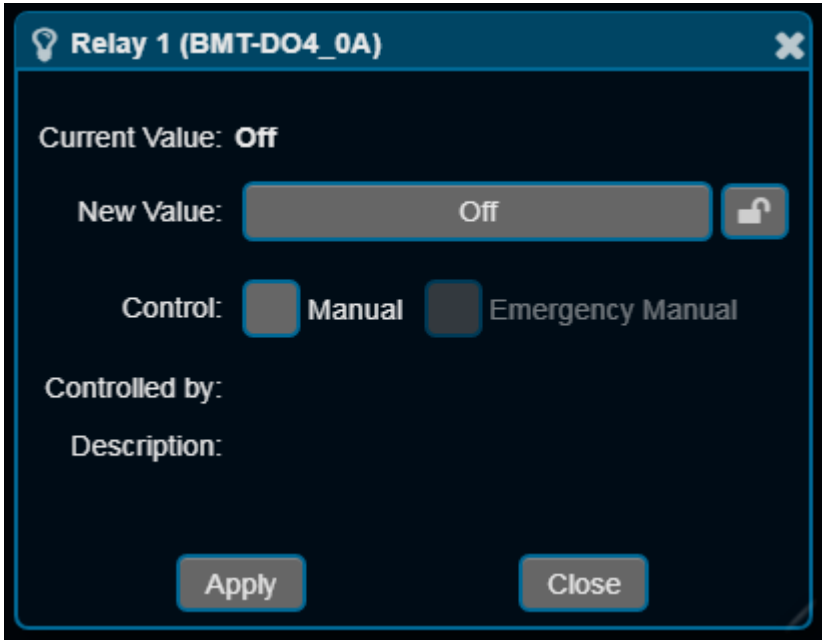
- Points can be converted from Celsius to Fahrenheit (or vice versa) or can have their values multiplied/divided by factors of 10.
- Edit the point and select the advanced option.
- Select the **In Calculation** (for points the BASview3 is reading) or **Out Calculation** (for points the BASview3 is controlling).



# BASview3 Manually Writing/Reading Points

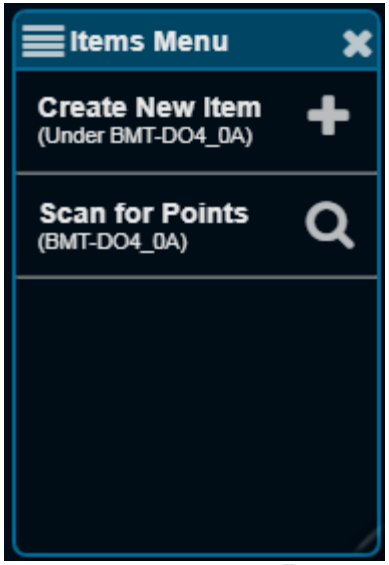
- Left-click a point in the Device Tree.
- Then, modify its value, if writeable, from the point window and press the **Apply** button.
- This can also be used to view the status of a point.
- The lock symbol can be used to view/modify the BACnet priorities for the point.

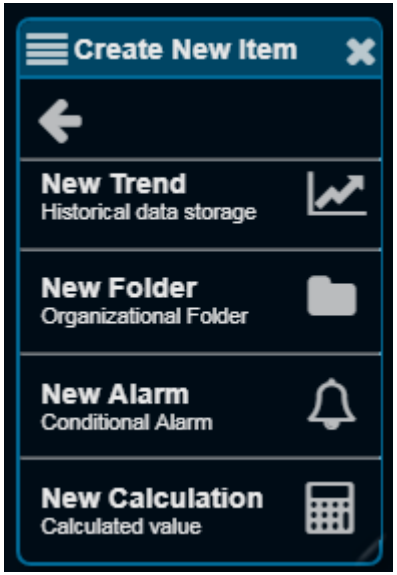


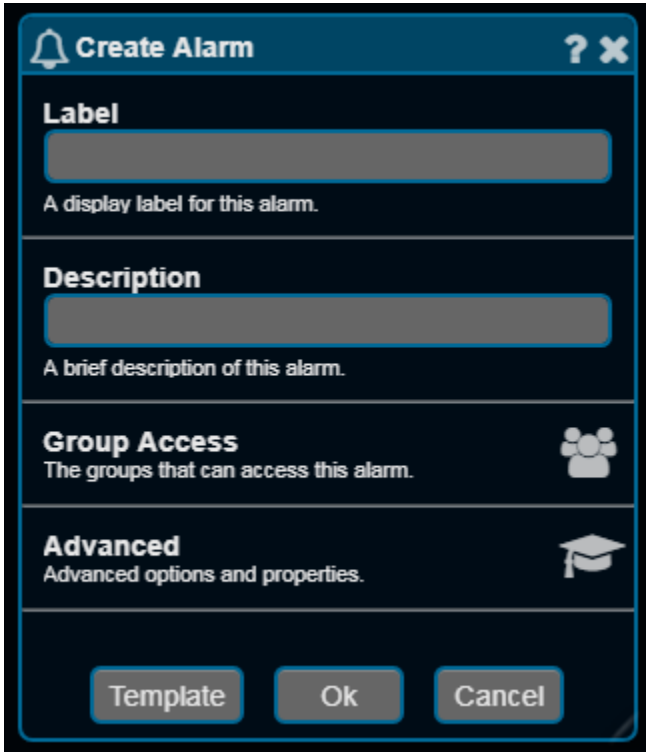



# BASview3 Alarms

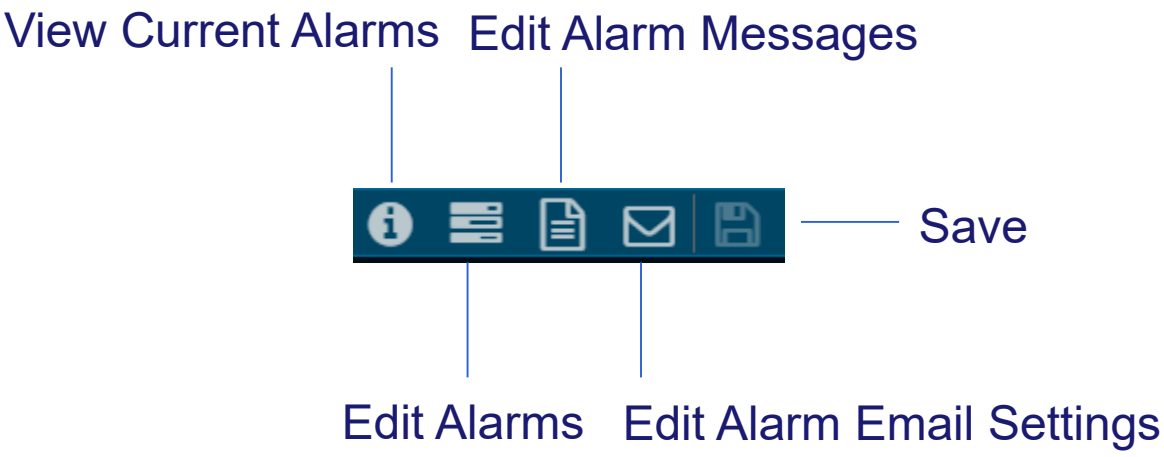
- In the Device Tree you can place Alarms at different levels.
- You can place your alarms below the driver. Right-click on driver and select **Create New Item**. Then, select **New Alarm**.
- You can place your alarms below the device. Right-click on the device and select **Create New Item**. Then, select **New Alarm**.



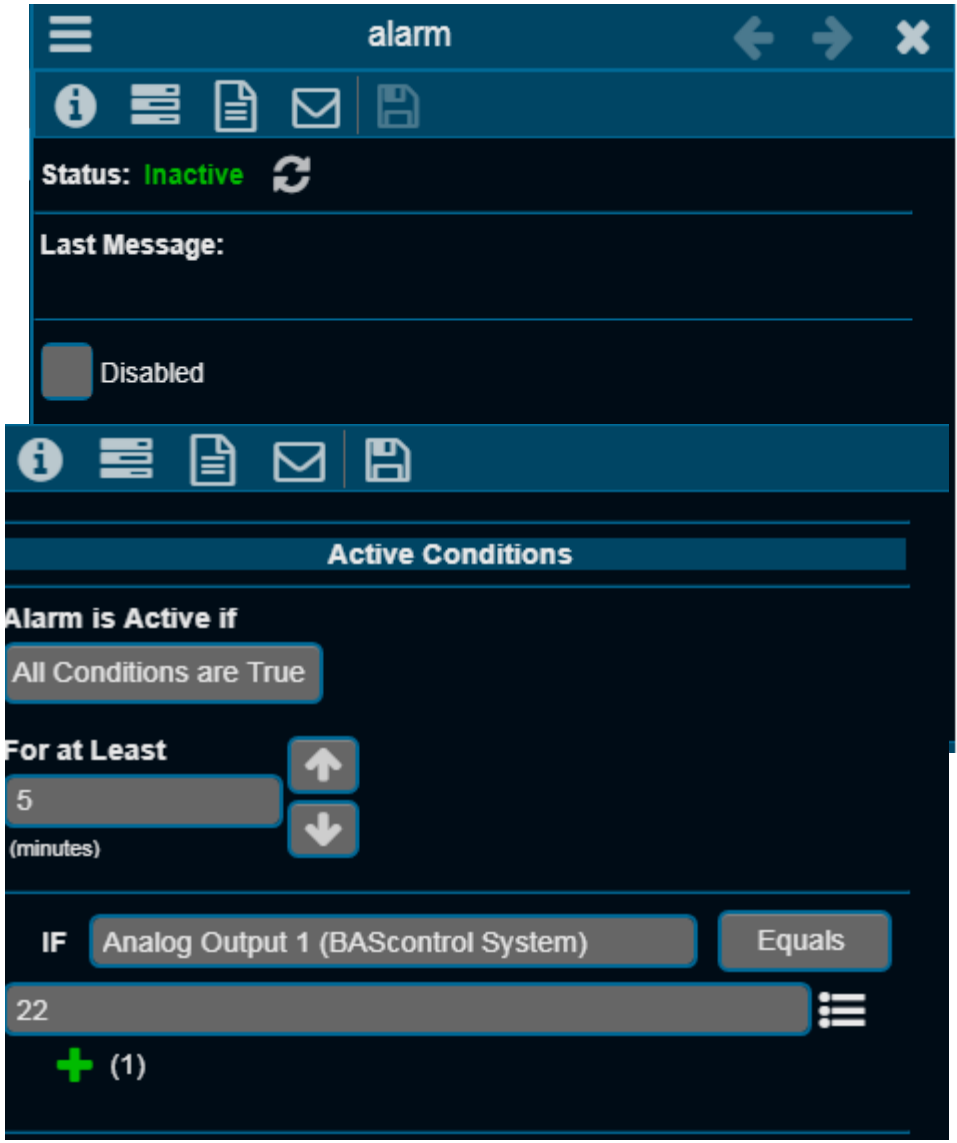



# BASview3 Alarm Menu



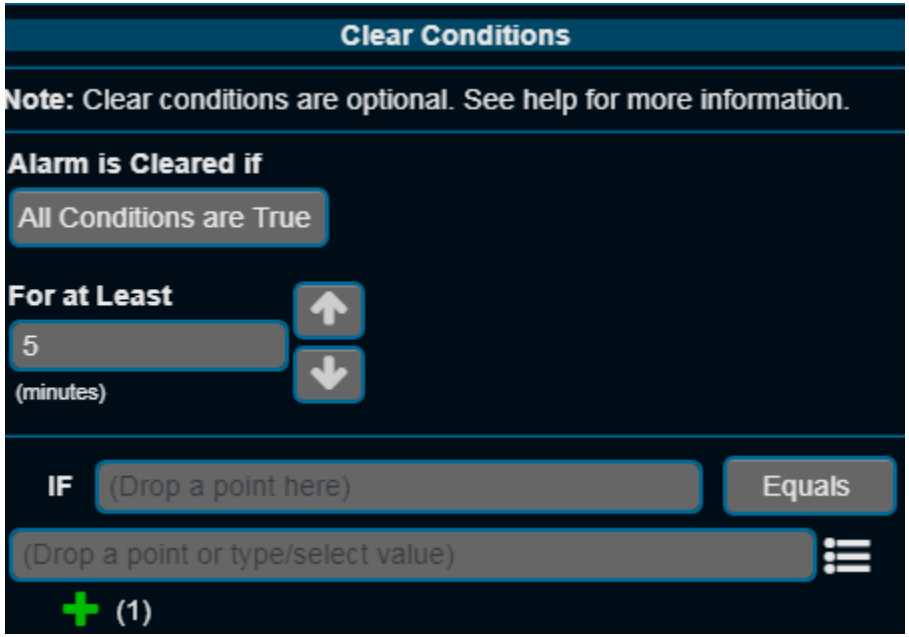
# BASview3 Alarms

- Name the alarm and press **OK**.
- Then, left-click the newly created alarm.
- Click **Edit Alarms**.
- Drag/Drop a point from the device tree into the condition box.
- Set the value box.
- You can select equal, less than, greater than, not equal.
- Set your time and add any additional conditions.
- Press Save



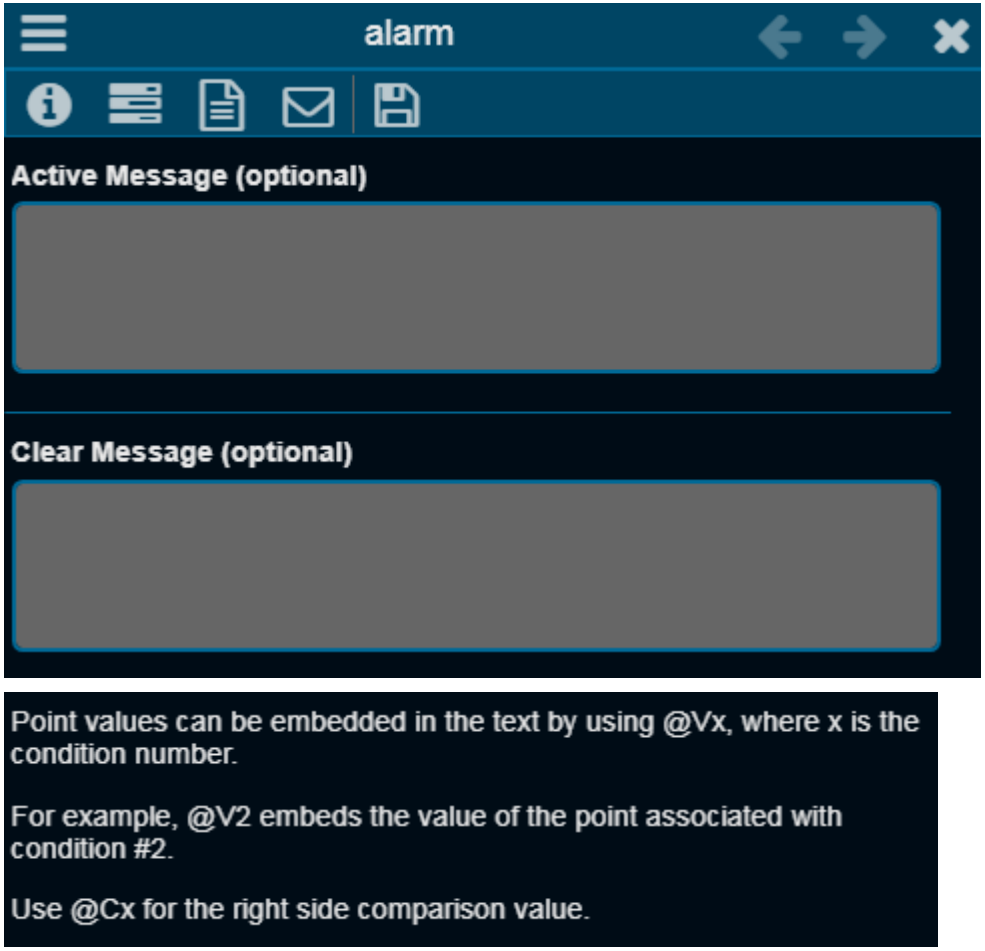
# BASview3 Alarm Clearing

- The process is the same as with alarm activation.
- Drag/drop a point, set the valuation and set the condition value.
- Set the time condition.
- Add any additional conditions (press the **green +**).



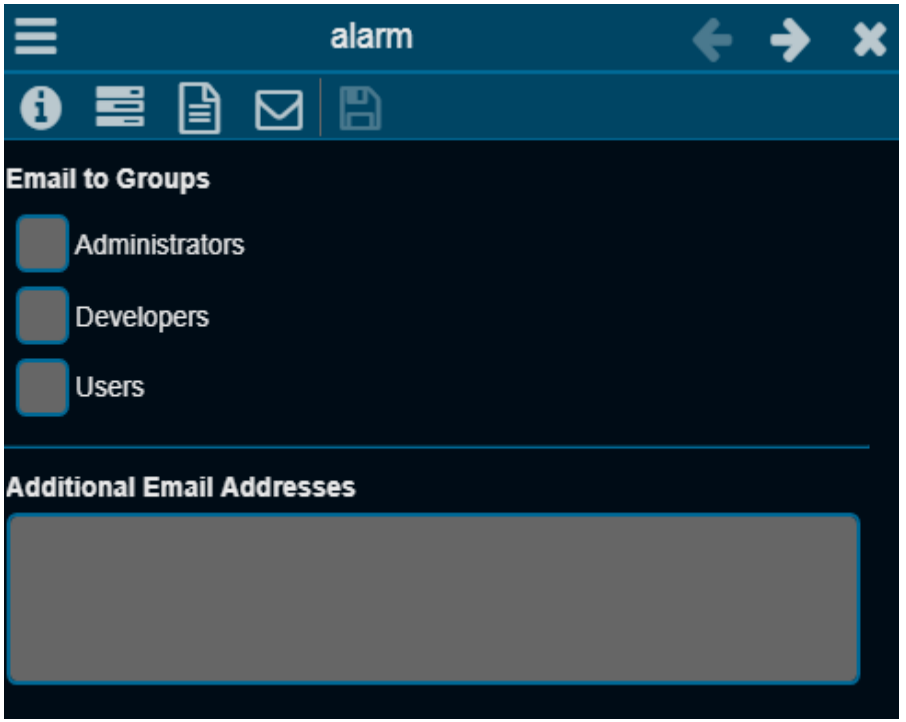
# BASview Alarm Messages

- The Alarms can have a message when they are set and when they are cleared.
- Press the **Edit Alarm Messages** button and provide the Alarm messages.
- Then press the **Save** button.
- You can place point data in the message.



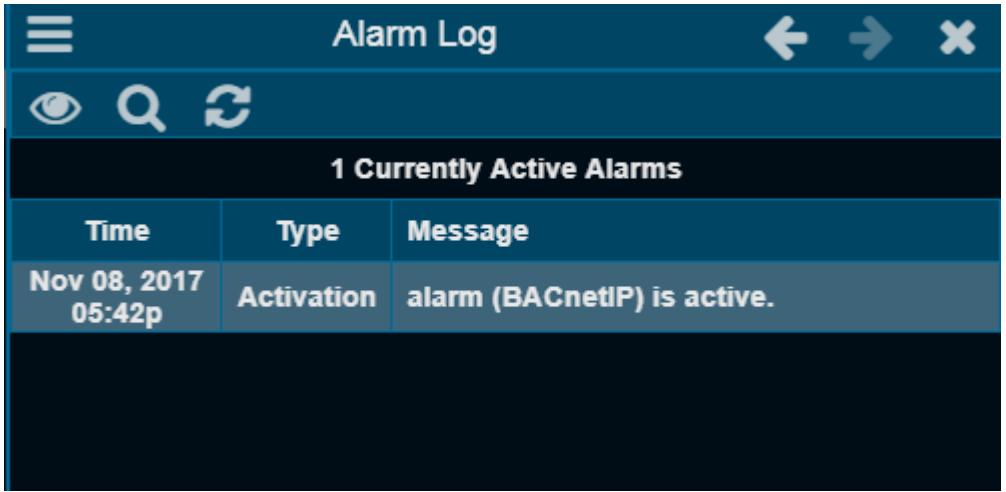
# BASview3 Alarm Emails

- The BASview3 can send emails when an alarm condition occurs and when the condition becomes in active.
- In the alarm edit screen select the email icon .
- Here you can select to email the alarm to a specific group or additional email addresses. (Make sure setting menu email settings and user settings are correct)
- Press **Save** .



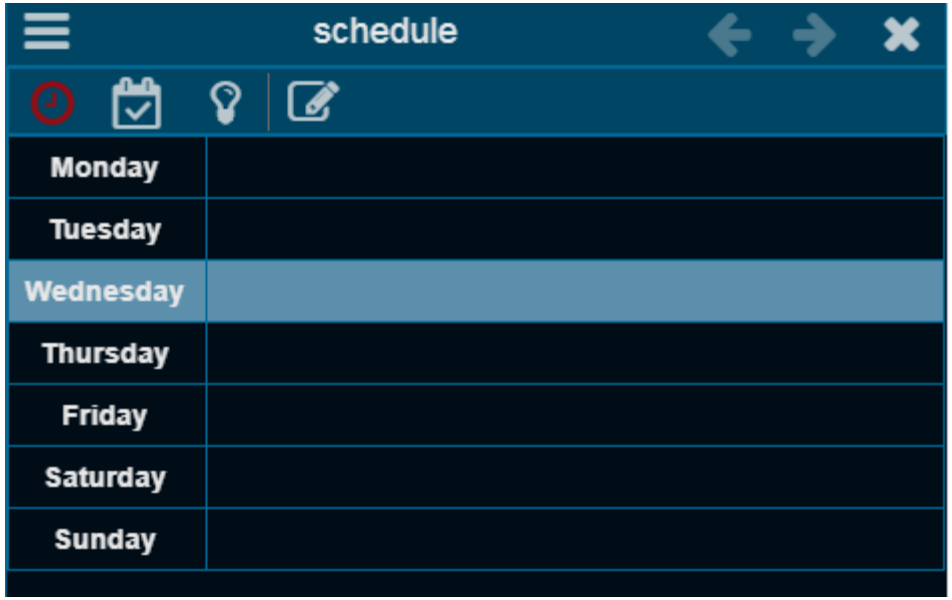
# BASview3 Alarm Log

- When the Alarm icon is red and flashing, one or more alarms have occurred.
- Left-click this icon and you will see the Alarm Log window. These alarms clear when the condition has cleared.
- You can edit the alarm here by left-clicking the alarm entry.
- You can search for alarms here .
- To refresh the alarms press .

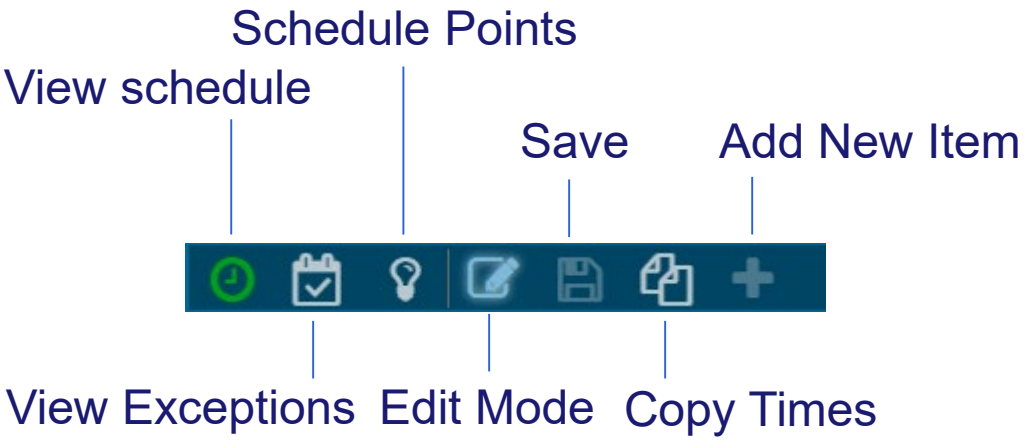


# BASview3 Schedule

- To create a schedule, right-click the driver or device and select **New Schedule**.
- Name the schedule and select **OK**.
- Left-click the newly created schedule to configure it.

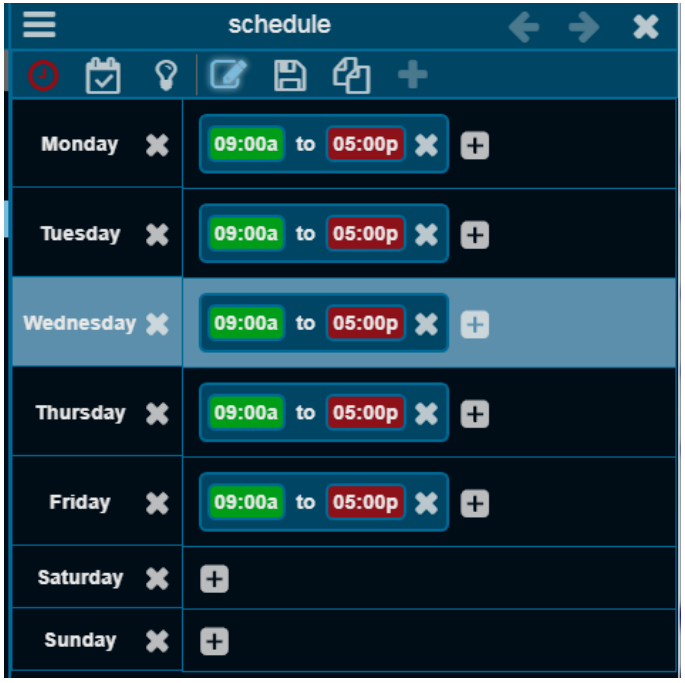


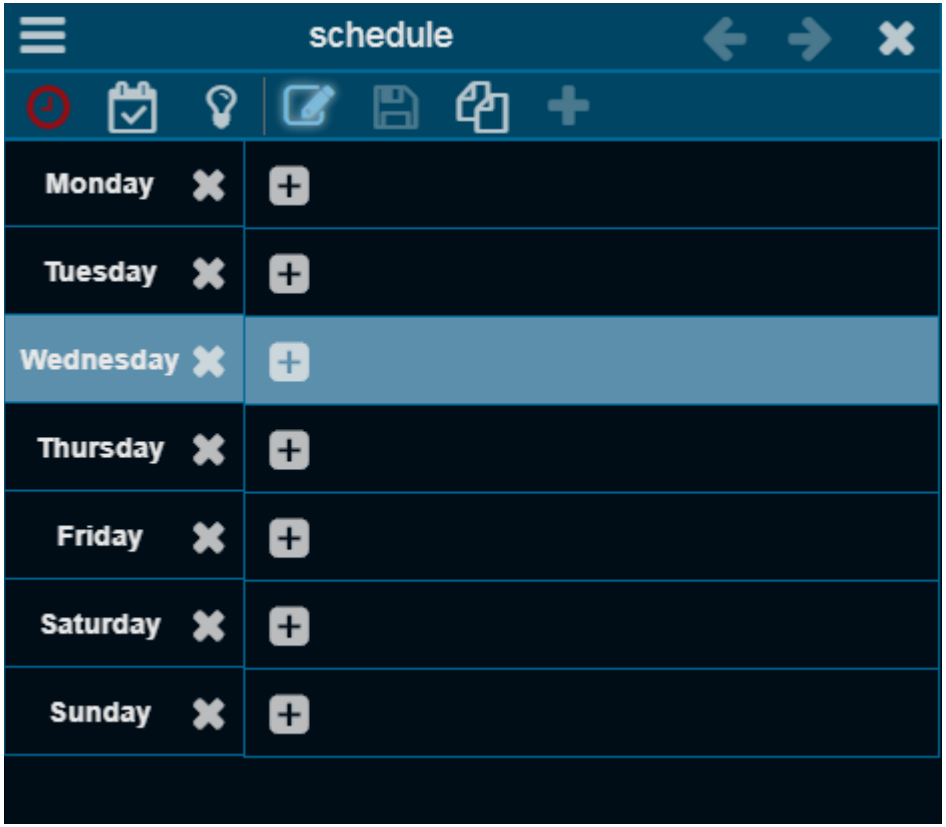
# BASview3 Schedule Menu



# BASview3 Edit Schedule Time

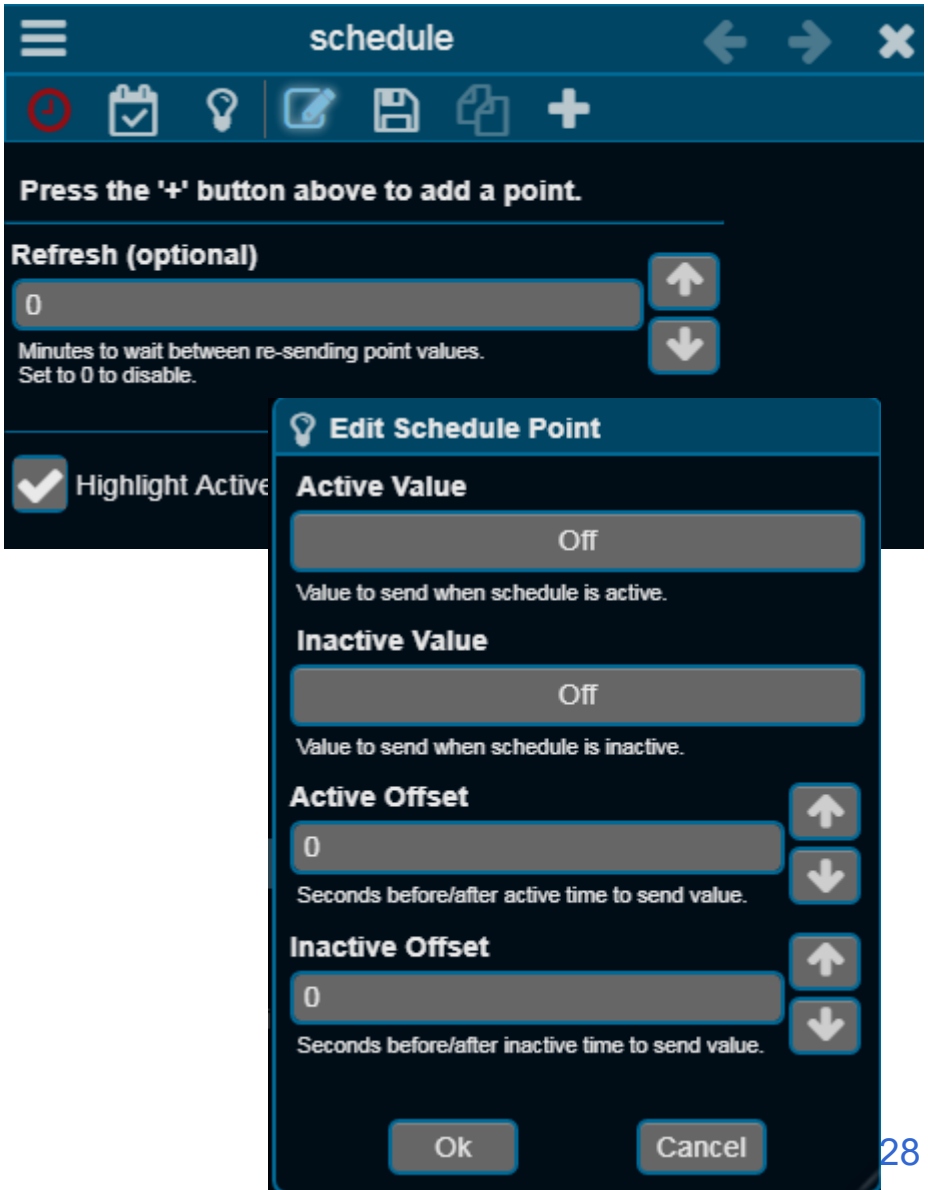
- Press the Pencil icon and the **+** icon for “Monday.”
- Enter a start and stop occupied time.
- Press the copy icon to copy this entry to the rest of the week.
- Press save .



# BASview3 Schedule Points

- Press the Point icon
- Press **+**.
- Drag/drop a point from the device tree and fill out the schedule point edit box.
- Press **Save** .

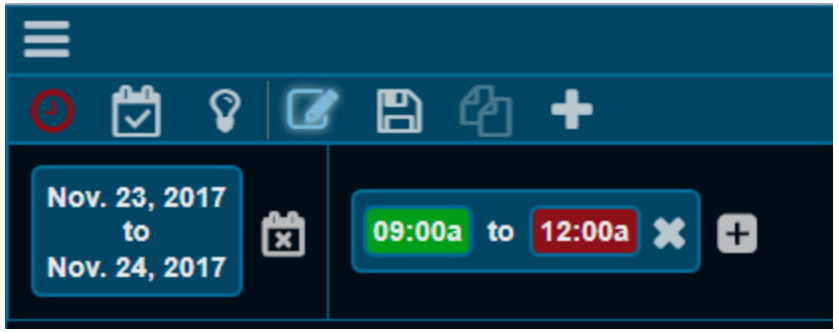


# BASview3 Schedule Time

- The Schedule will allow us to set the Active and Inactive time period.
- When the schedule is in the “Active” period the BASview will send the Active value you created previously to the point in the device that you provided
- When the schedule is in the “Inactive” period, the BASview will send the Inactive value you created previously to the device.
- You can select this value to sent periodically to the device.

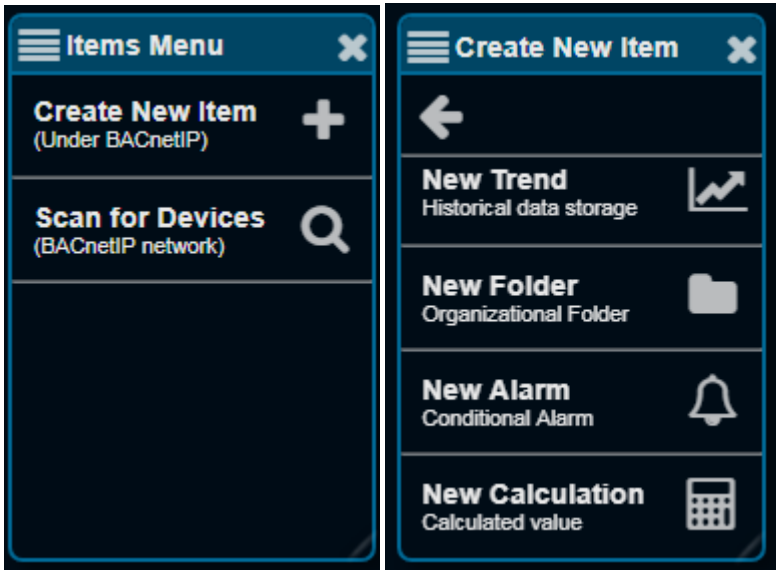
# BASview3 Schedule Exceptions

- You can add Exceptions to your schedule.
- Press the Exceptions button .
- In the Exception Editor press **+** and enter the dates when your normal schedule will not apply. Then enter the active times for that date by pressing the **+** next to the date. Or, leave it blank for unoccupied the entire day.

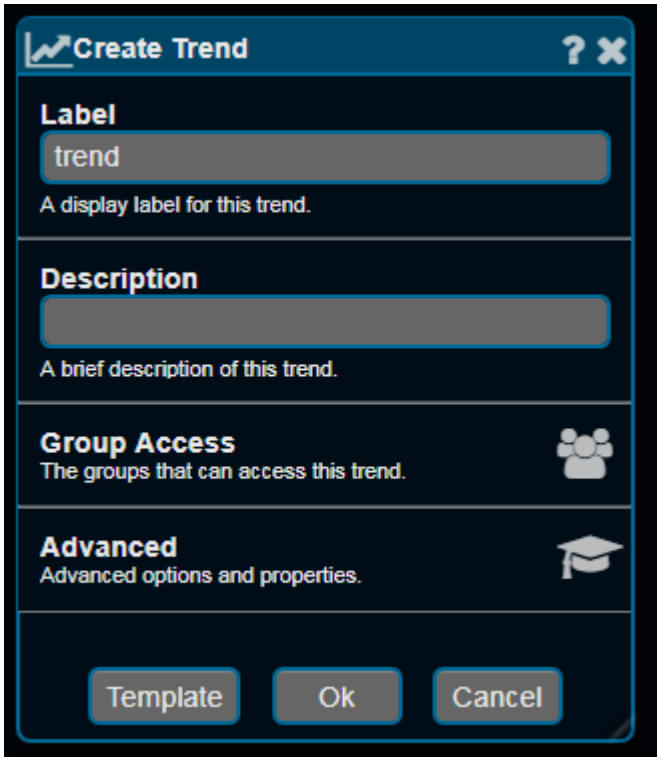
# BASview3 Trends

- You can trend any point in the Device Tree.
- You can have your trend below the driver. Right-click driver and select **Create New Item** and **New Trend**.
- You can have your trend below a device. Right-click driver and select **Create New Item** and **New Trend**.



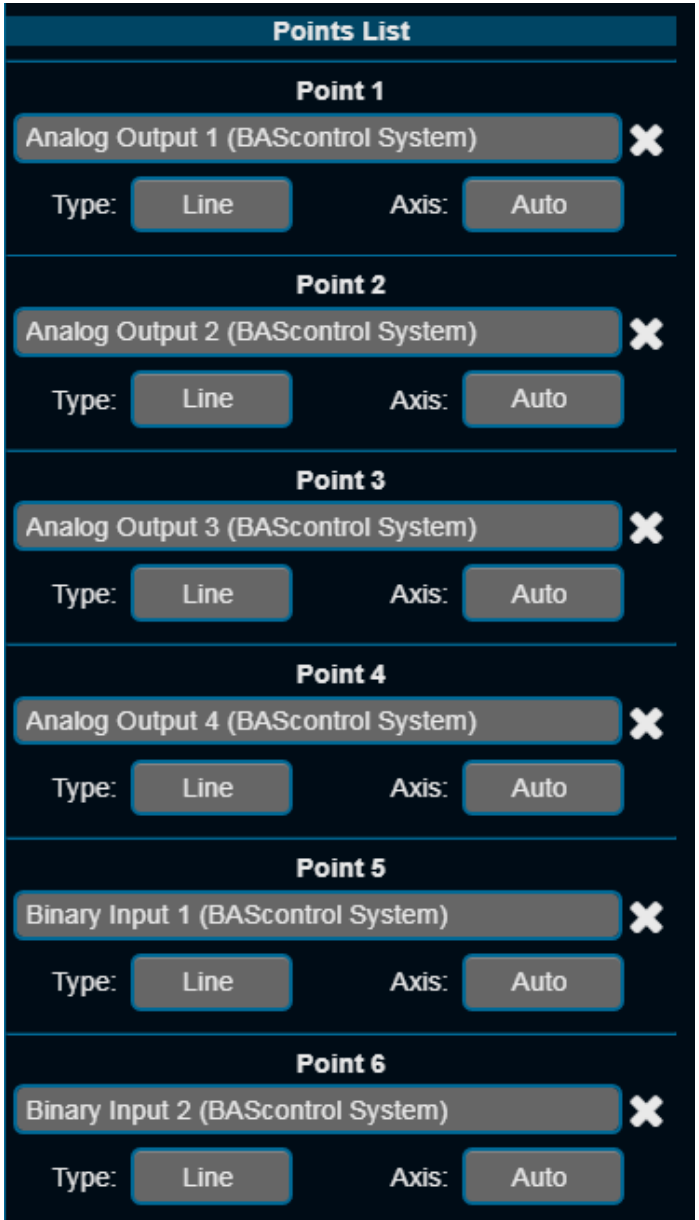
# BASview3 Trends

- After you create a trend, provide a meaningful label in the Create Trend window and press OK.
- Left-click the newly created Trend in the Device Tree, and you will see the BASview Trend screen.



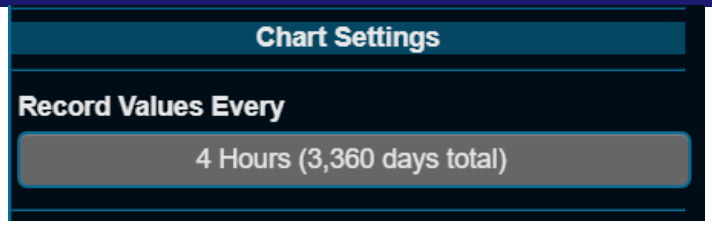
# BASview3 Trend Point Screen

- You will need to add points to the screen.
- Right-click the trend window and select **Edit Settings**.
- You can Drag/Drop up to six points from the Device Tree.
- Drag a point from the Device Tree you want to trend.
- You can have up to six points in one trend.



# BASview3 Trend Point Frequency

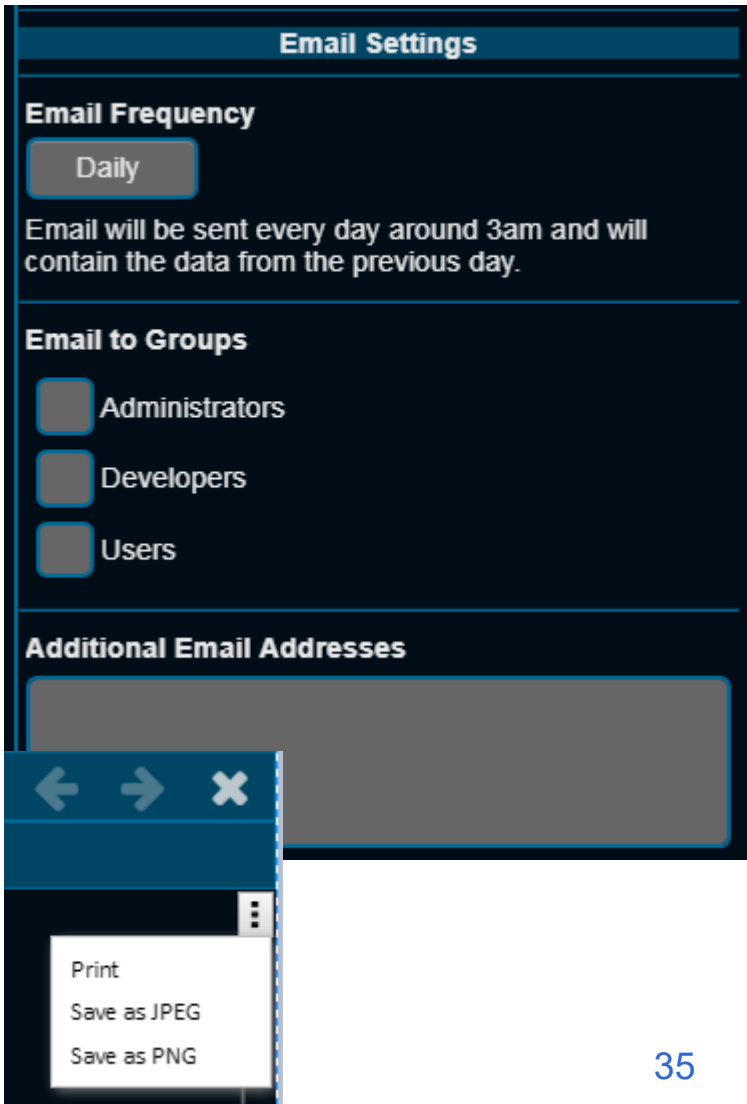
- You can indicate how often the points will be trended (Record values every), and press **Save**.
- Each setting will give a differing number of days of storage before the oldest trend data starts getting overwritten with the latest trend data.
- You can have multiple trends of the same points using different frequencies. For example, using one minute finer and 15 minute for less fine.
- Older versions of the BASview only provided half of the storage time.




| Frequency | Storage Time |
|---|---|
| 1 minute | 14 days |
| 5 minutes | 70 days |
| 10 minutes | 140 days |
| 15 minutes | 210 days |
| 30 minutes | 420 days |
| 1 hour | 840 days |
| 2 hours | 1680 days |
| 4 hours | 3360 days |
| 6 hours | 5040 days |
| 8 hours | 6720 days |
| 12 hours | 10080 days |
| 1 day | 20160 days |

# BASview3 Trend Screen

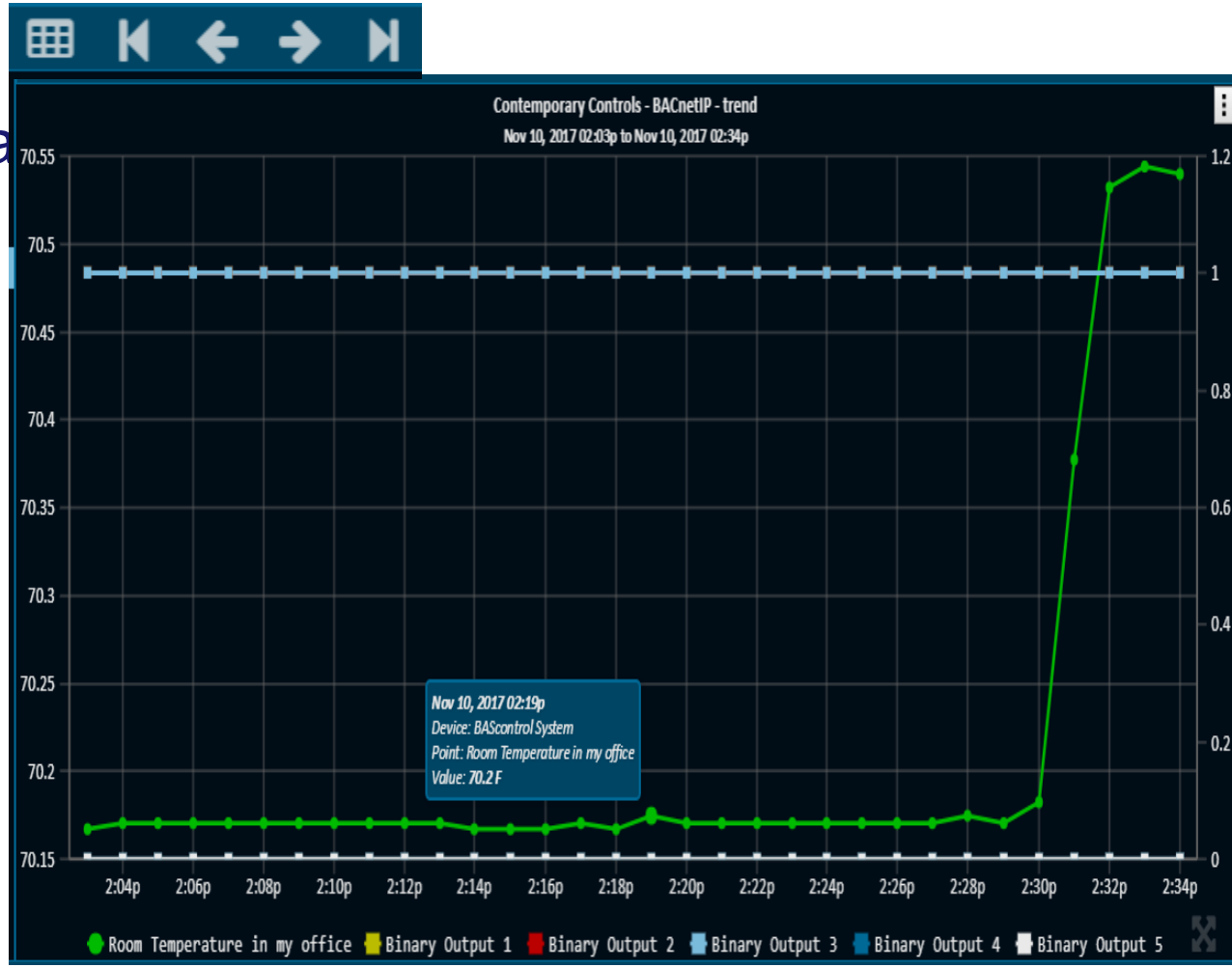
- After the Trend acquires data, you can see graphs in the Trend screen.
- You can select the date and time to view by right-clicking and selecting **Select Date/Time**.
- Hover to see the value/time.
- You can zoom in by selecting in the graph and dragging.
- You can export the data in a CSV file.
- You can email the trend data on a periodic basis.
- You can also view in table format.
- You can print or save as a PNG file.



# BASview3 Trend Screen

From the Trend Screen, you can

- Turn off individual lines
- View analog and Boolean values on same graph with left/right y-axis (one for analog and one for Boolean)
- Show values
  - Up/down in time
  - Forward/back



# BASview3 Graphics/Dashboard

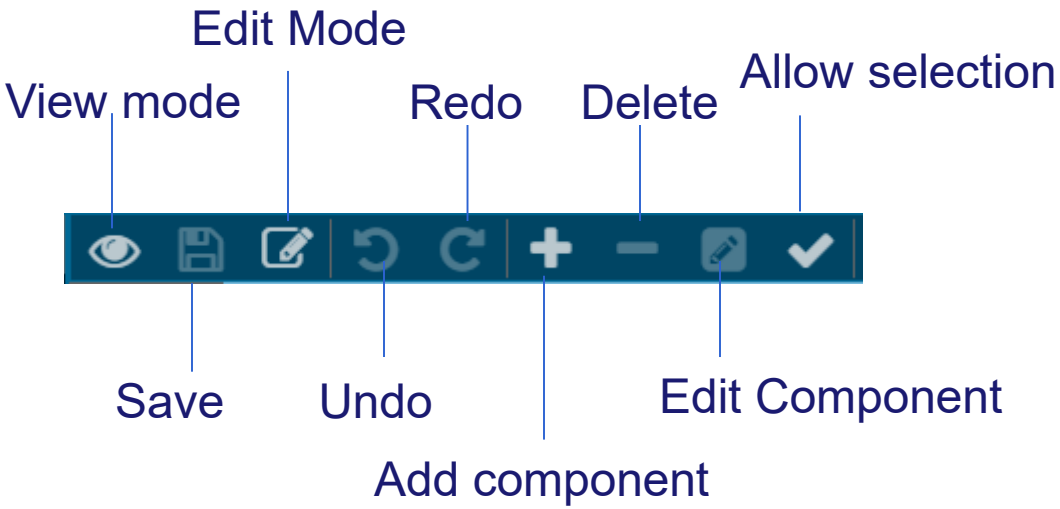
- The BASview3 provides two ways to display current values on a user defined screen
  - Graphics are fixed in size and can provide animated views of the system (animated mechanical systems can be purchased from ControlPix) along with real-time values of points in the system.
  - Dashboards are dynamic in size and work well on smart phones or PCs. These usually just have values of points in the system. They can have mechanical equipment animations as well, but these are typically hard to scale down to smart phones.

# BASview3 Graphics

- Graphics allow you to create a set of custom webpages with animated elements and values that display the status of the building.
- Graphics also allow you to change the operation of the building in a graphical view.
- Typically, the end user is only provided access to one or more graphics.
- Graphis allow the integrator to create various logins for their end users and categories for end users e.g., building engineer, building owner, etc.
- These logins can have access to different graphic screens and can have different rights to the system.

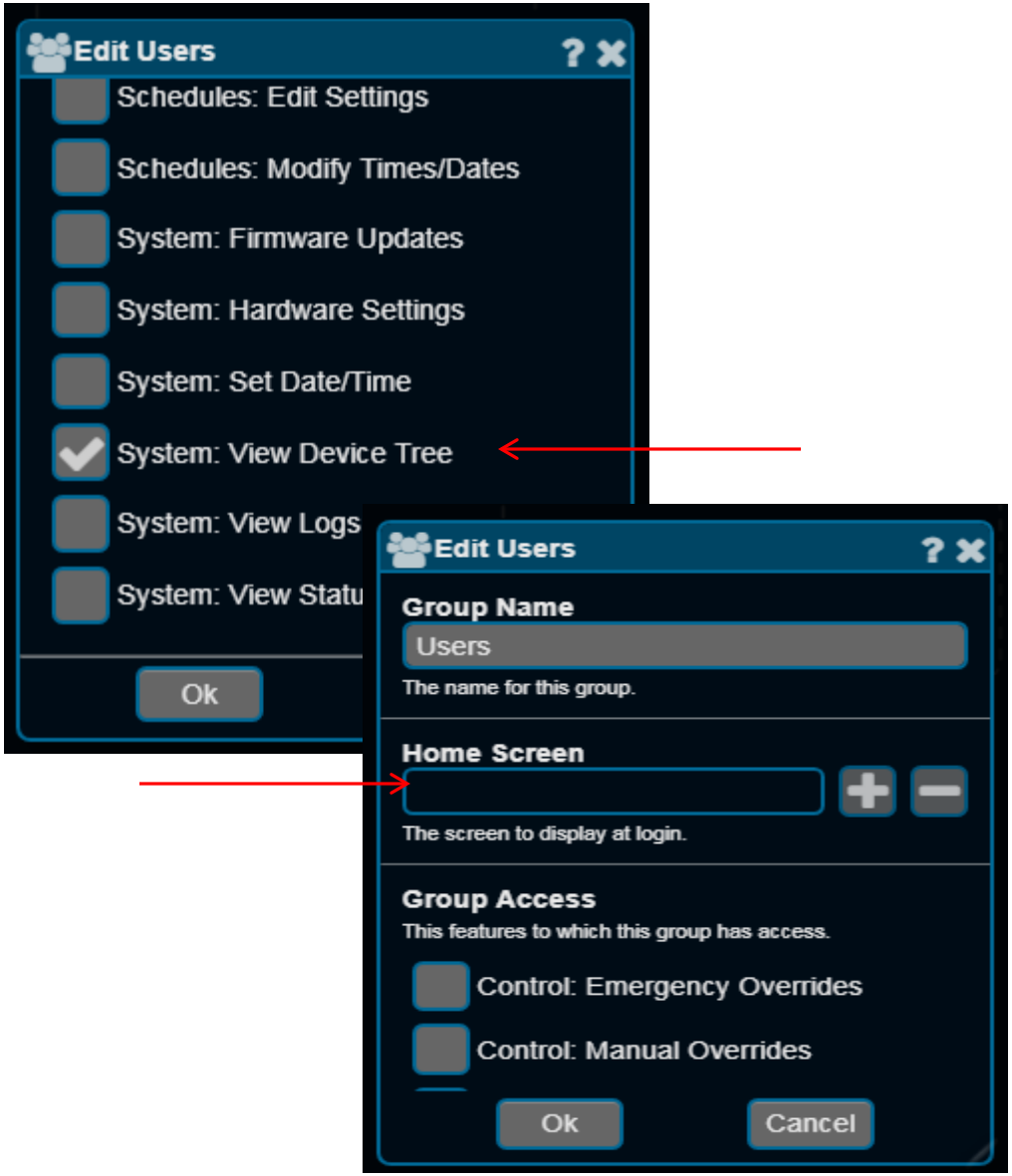
# BASview3 Graphics

- Right-click in the tree and select **Create New Item**.
- Select **New Graphic**.
- Give it a label (name).
- Right-click and select **Edit Mode**.



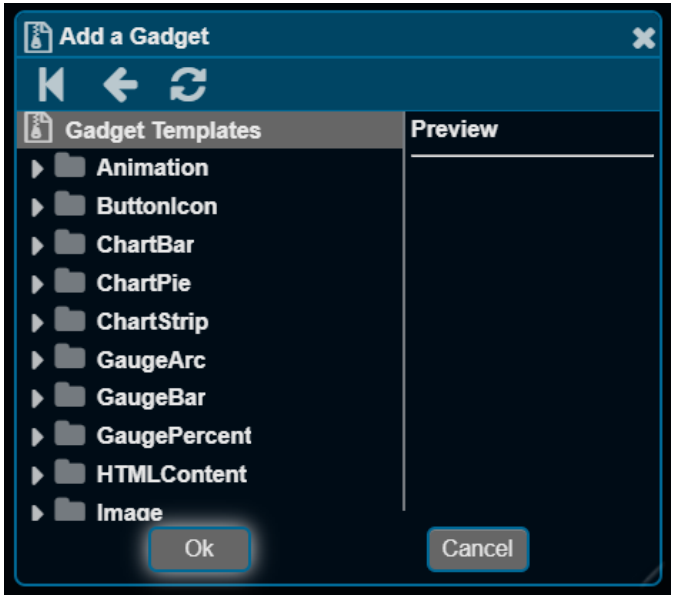
# Users

- Left-click the S m Menu.
- Select **User & Groups**.
- Select **Edit Groups**.
- Select your group or create new one.
- You can block their access to the device tree and select home screen: graphic/dashboard.



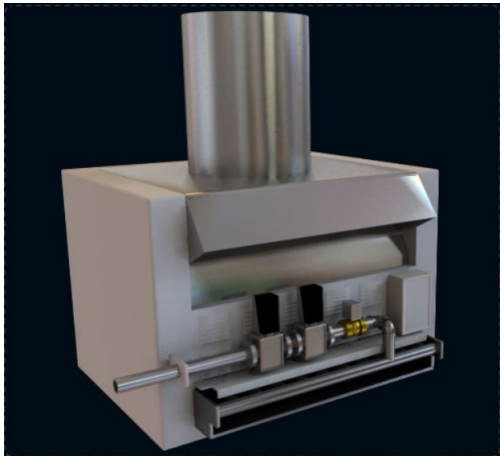
# Creating Graphics

- Press **Add component**.
- There are 22 dashboard gadget types:
  - Animation
  - ButtonIcon
  - ChartBar
  - ChartPie
  - ChartStrip
  - GaugeArc
  - GaugeBar
  - GaugePercent
  - GraphicContainer
  - HTMLContent
  - Image
  - IndicatorIcon
  - Label
  - MultiState List
  - MultiState Selector
  - Panel
  - PointGrid
  - ScheduleContainer
  - SlideBar
  - SwitchRound
  - SwitchSlide
  - TrendContainer



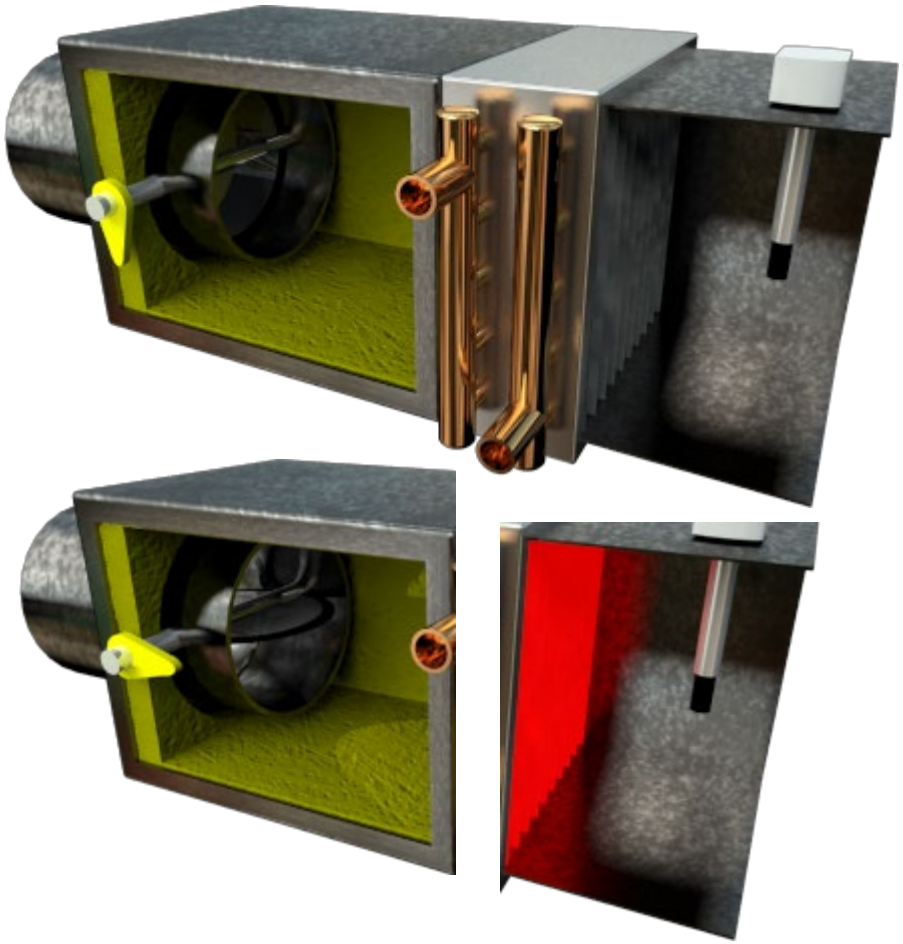
# Animated Icons

- Animated Icons can be standalone animated GIFs that animate when a point in the system is true, false, or at a specific level
- Animated Icons can be used with an image to animate that part of the image
- The first image is a boiler image from ControlPix (Controlpix.com). The image below it is the animated icon that changes based on a point in the system.
- Place the burner animated icon on the boiler image to make it appear as the boiler is active when the system point indicates an active boiler.



# Animated Icons

- Here is a VAV from ControlPix.
- You can add multiple PNG files to show different damper positions and coil temperatures based on system point values.



# Animated Icons

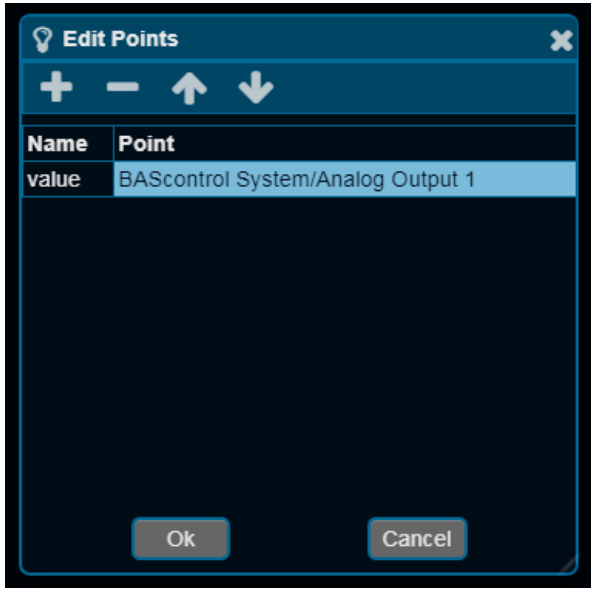
- You can also show two images for a point, one when the point is true and one when the point is false (or outside a specific range).
- You can also use an animated GIF and show a specific cell of the animation based on a system point value.

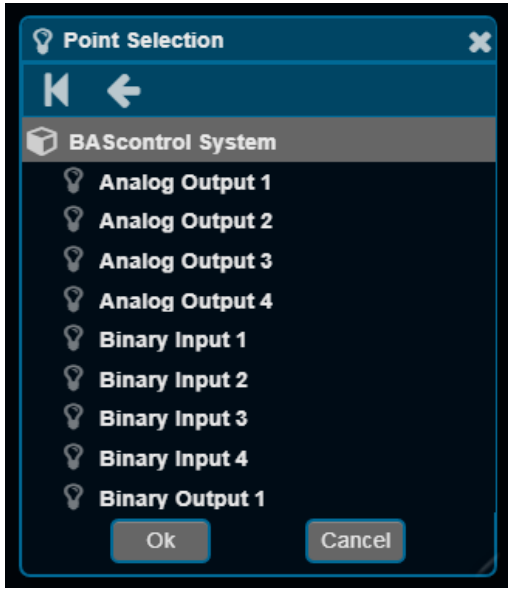
# Graphics

- An image can also be the background of your graphic.
- For example, you can show a building floorplan and layer system values on top of the floor plan.
- You could show the outside of the building.


# Graphics and Points

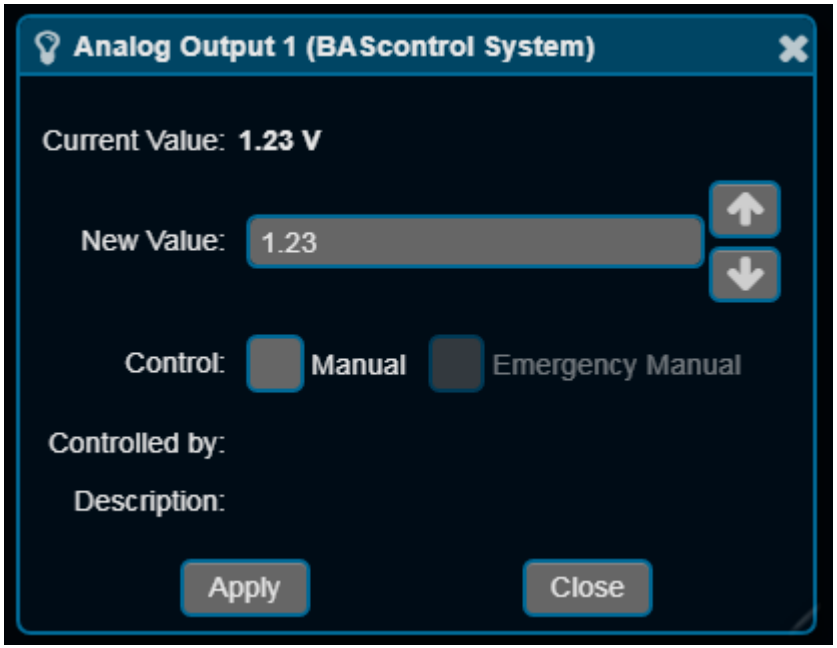
- You can typically add points in one of two ways
  - Drag a point from the device tree and drop it on the graphical element while it is in edit mode.
  - Right-click the graphic and select **Edit Points** (scroll down).
  - Press the **+** button and select your point from the provided menu.
  - If you drag the point with the CTRL button activated, it will use the same gadget you used previously.



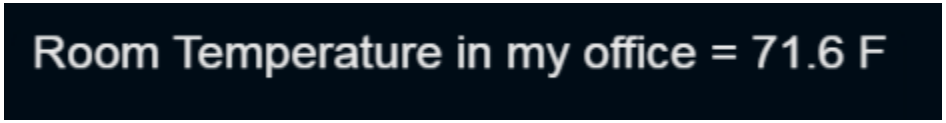
# Button icons

- The button is tied to a point in the system.
- Drag and drop this point onto the button in edit mode.
- The button can show its value.
- When pressed, a popup box will appear, and the user can edit the value of this point.

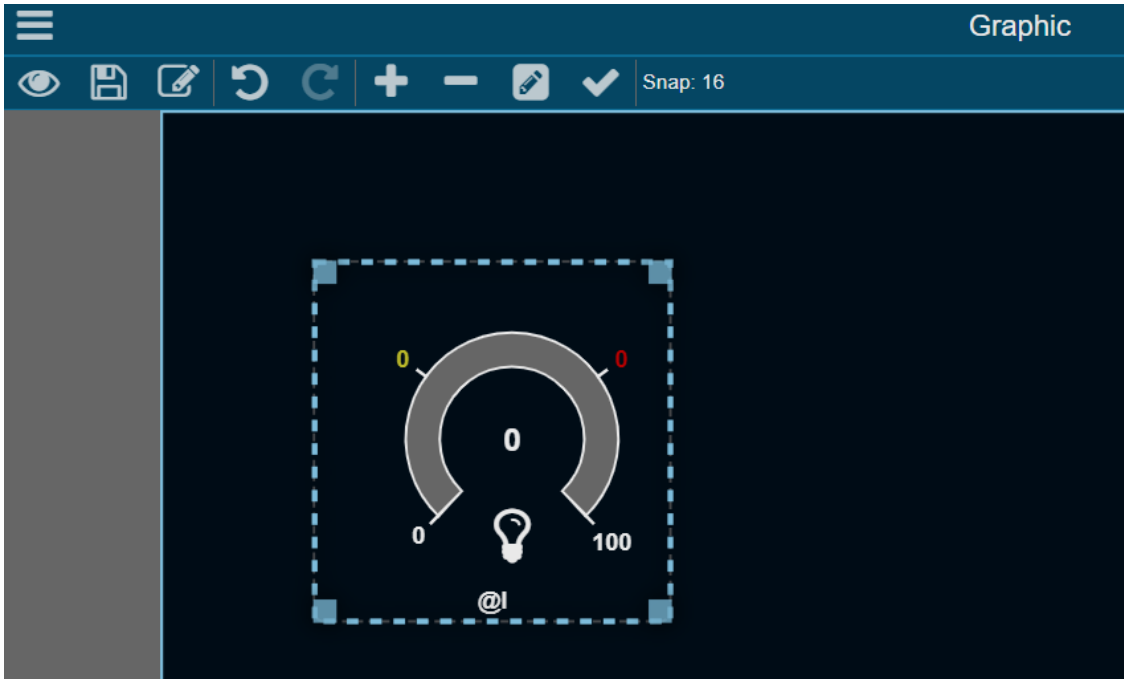
# Label

- A label can contain text and the value of a point in the system.
- Drag and drop a point from the device tree onto the label while in edit mode.
- When the graphic is active, the current value of the point will be displayed and will change as the point changes in value.



# Gadget Positioning

- While in the edit mode, the gadgets on the graphic can be moved by selecting them with the mouse and dragging them into position.
- Once selected, you can also move gadgets with the arrow keys to provide more precise positioning.

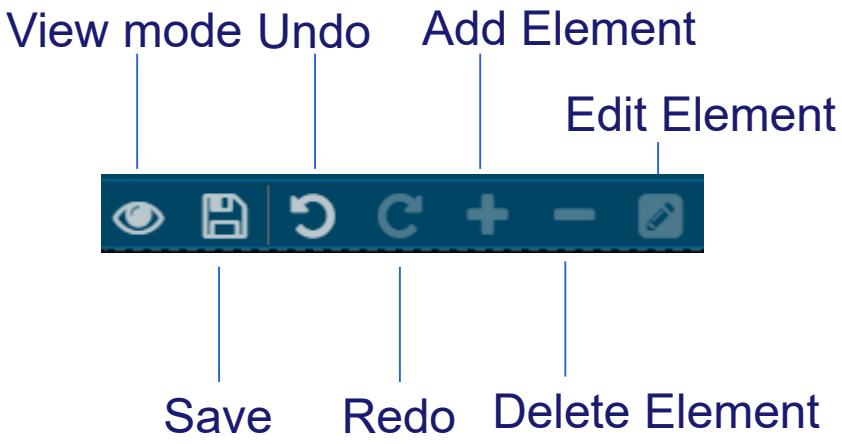


# Dashboard

- With a BASview3 graphic, the placement of each element is precisely defined.
- With a BASview3 dashboard, the elements are placed relative to one another and will appear in this order, but they appear on separate lines based on the size of the screen and may change their size,
- Graphic and Dashboard have the same widgets,
- There are containers to show your trends, schedules, and other graphics.

# Dashboard

- Left click the device tree and select **Create New Item**.
- Select **New Dashboard**.
- Provide a meaningful label
- Press **OK**.
- You will initially see a blank dashboard with just a title.

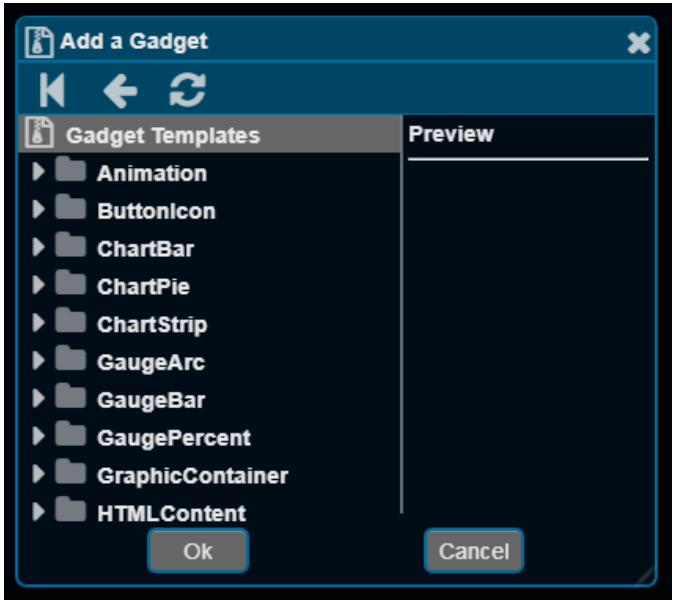


# Dashboard

- Click the dashboard in the device tree.
- Right-click and select **Edit Mode**.
- Click the title element.
- Right-click and select **Edit Gadget** and adjust its parameters.
- Press the **Add Element**  .
- Select your gadget type.
- Right-click the gadget on the screen and select **Edit Gadget**.
- You can change the order of the gadgets by dragging them before and after other gadgets.

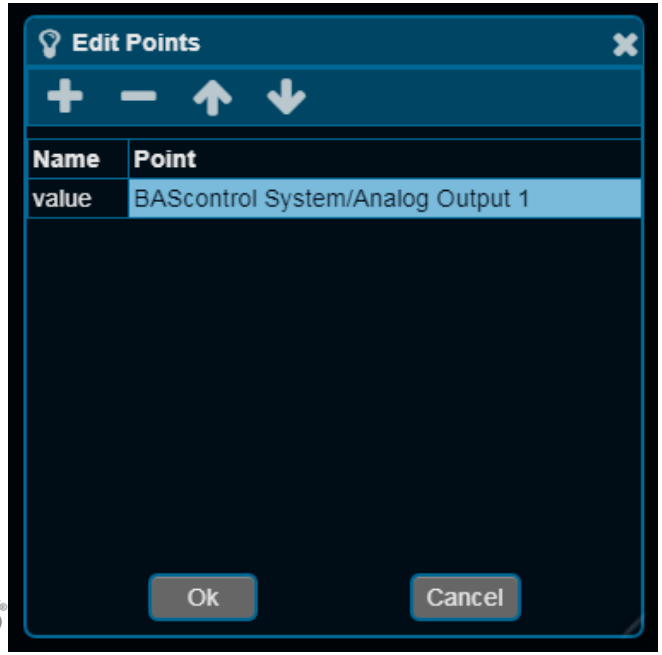
# Dashboard Gadgets

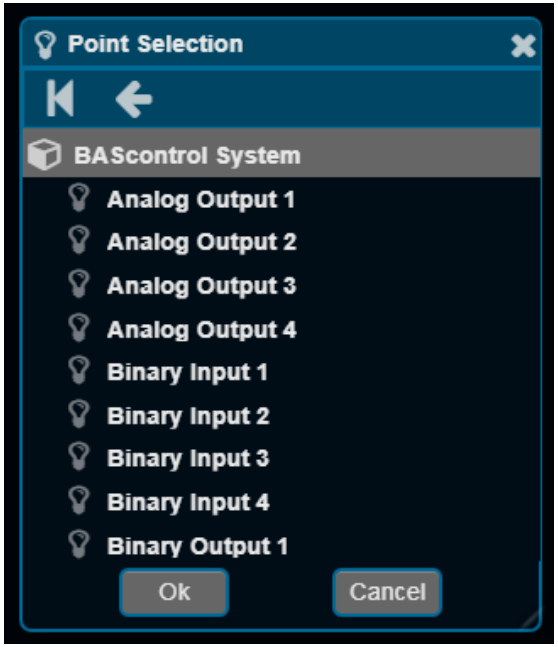
- There are 22 dashboard gadget types:
  - Animation
  - ButtonIcon
  - ChartBar
  - ChartPie
  - ChartStrip
  - GaugeArc
  - GaugeBar
  - GaugePercent
  - GraphicContainer
  - HTMLContent
  - Image
  - IndicatorIcon
  - Label
  - MultiState List
  - MultiState Selector
  - Panel
  - PointGrid
  - ScheduleContainer
  - SlideBar
  - SwitchRound
  - SwitchSlide
  - TrendContainer



# Dashboard and Points

- You can typically add points in one of two ways
  - Drag a point from the device tree and drop it on the dashboard element while it is in edit mode.
  - Right-click the element and select **Edit Points** (scroll down).
  - Press the **+** button and select your point from the provided menu.



# Dashboard Animation

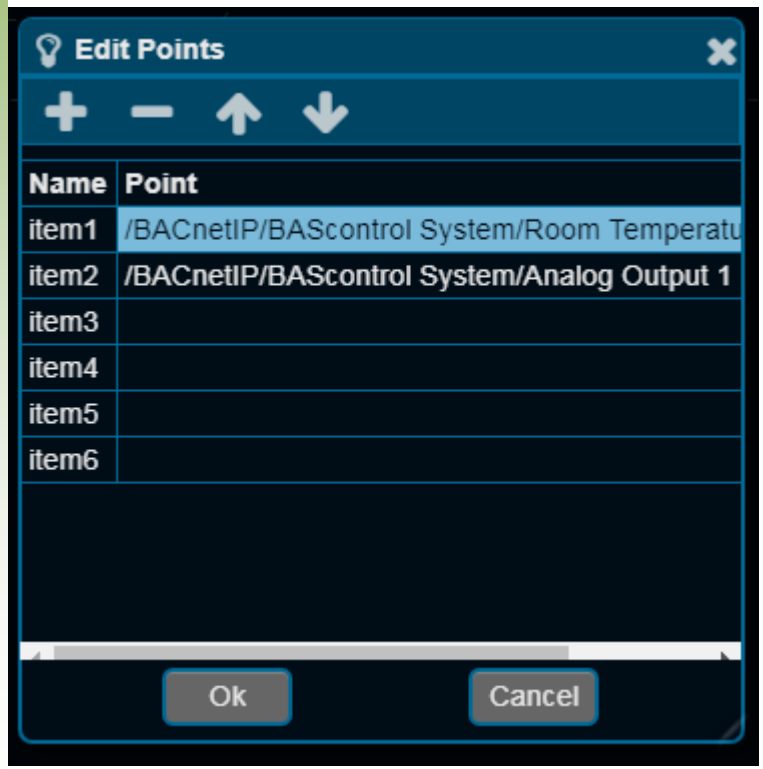
- This feature allows you to show animated GIFs and animate based on a point value or show two different images based a point value.
- You can also show the point value.
- You can change its color theme background and foreground colors.

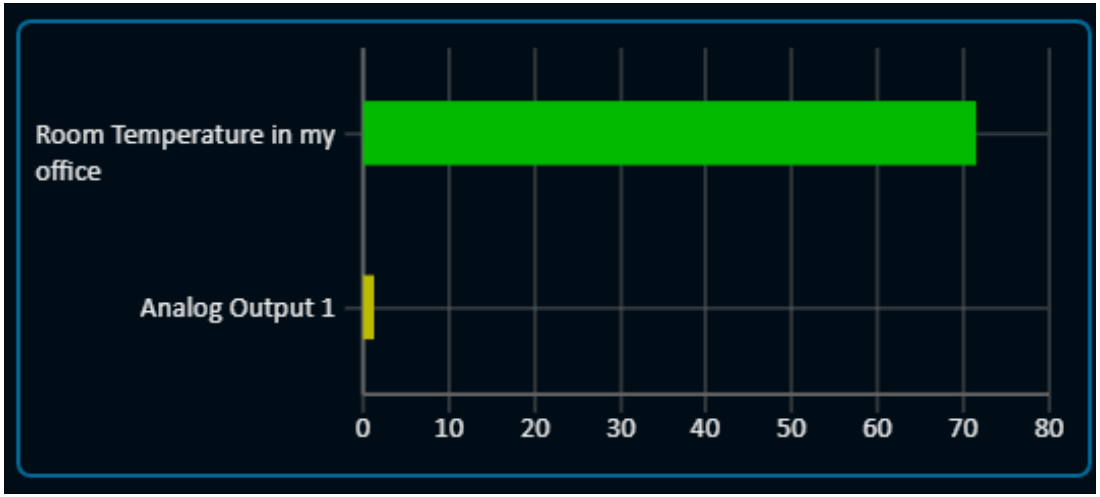
# Dashboard ButtonIcon

- You can have a button can be used to modify a point value.
- You can show the live point value.
- You can change the displayed button icon.
- You can change the button's foreground and background color.
- Drag and drop a point from the device tree onto the button in edit mode to set the button – point connection.
- You can also edit the selected point by right-clicking the button and selecting **Edit Points**.

# Dashboard ChartBar

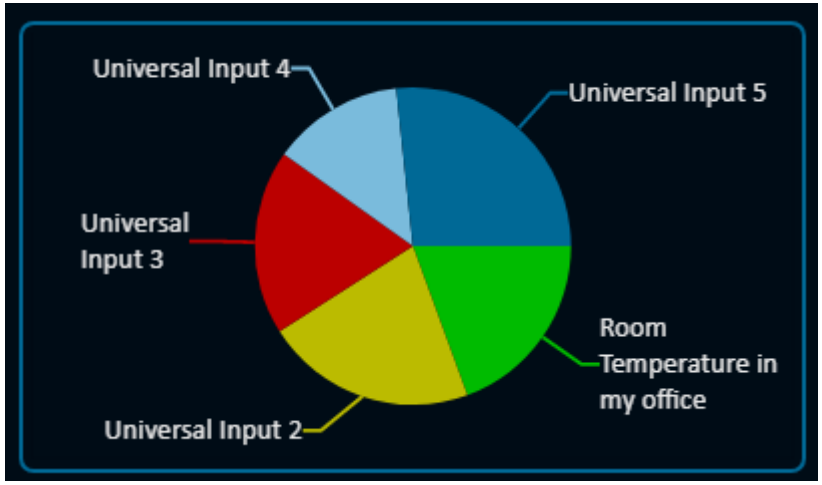
- You can show a bar chart that compares the values of up to six points.
- Drag and drop the points onto the ChartBar or right-click the ChartBar and select **Edit Points**.



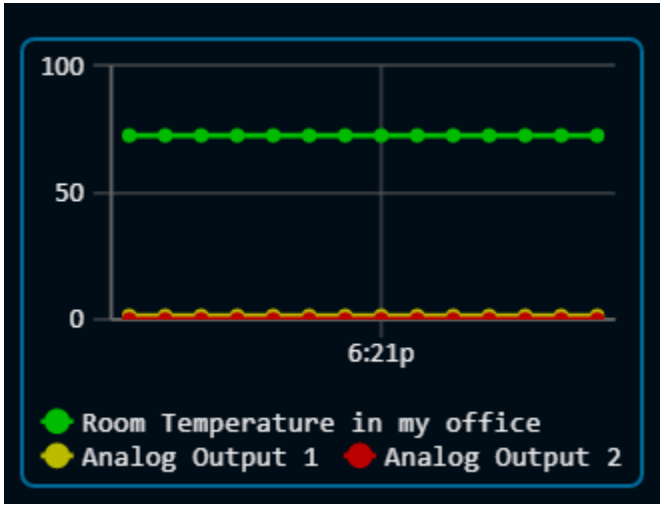
# Dashboard ChartPie

- ChartPie can be used to show a live pie chart composed of system point data .
- Drag and drop the points onto the ChartPie in Edit Mode or right-click the ChartPie in Edit Mode and select **Edit Points**.



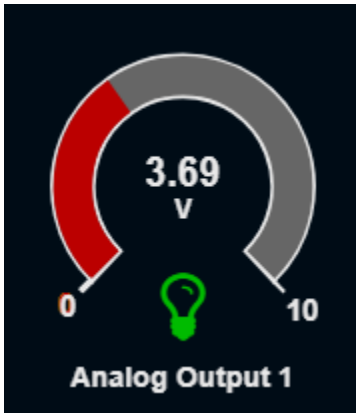
# Dashboard ChartStrip

- ChartStrip will create a small live graph of up to four points.
- You can hover over the points to get their values.
- You can turn points on/off by clicking on their names.
- You can change its size, reading interval, maximum number of readings, borders, legend, caption and theme.



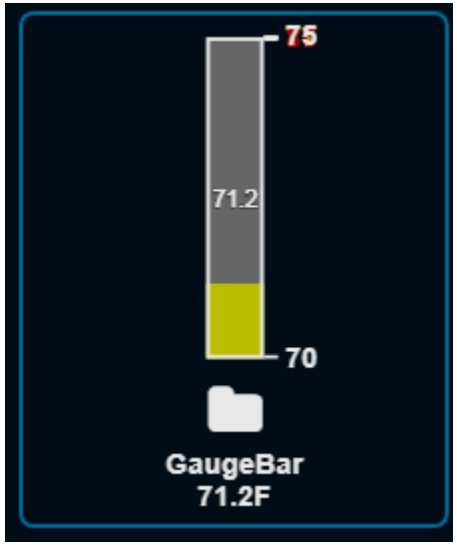
# Dashboard GaugeArc

- GaugeArc can show the live value of a system data point.
- Drag and drop the point from the device tree onto the GaugeArc in Edit Mode or right-click the GaugeArc in Edit Mode and select **Edit Points**.
- You can change many features of the GaugeArc such as range of value, colors, labels, units, etc.



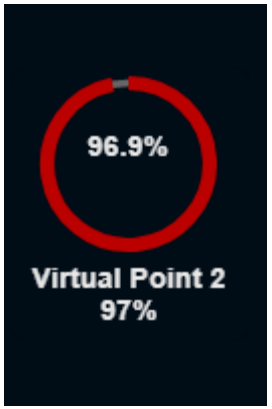
# Dashboard GaugeBar

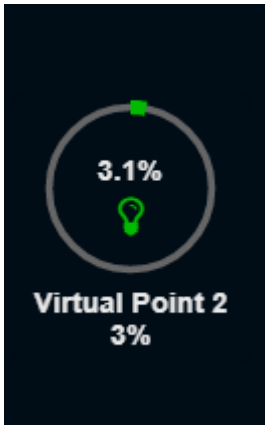
- GaugeBar can show the live value of a system data point.
- It can flash if the value is outside the set range.
- Drag and drop the point from the device tree onto the GaugeBar in Edit Mode or right-click the GaugeBar in Edit Mode and select **Edit Points**.
- You can change many features of the GaugeBar such as the range, colors, labels, etc.



# Dashboard GaugePercent

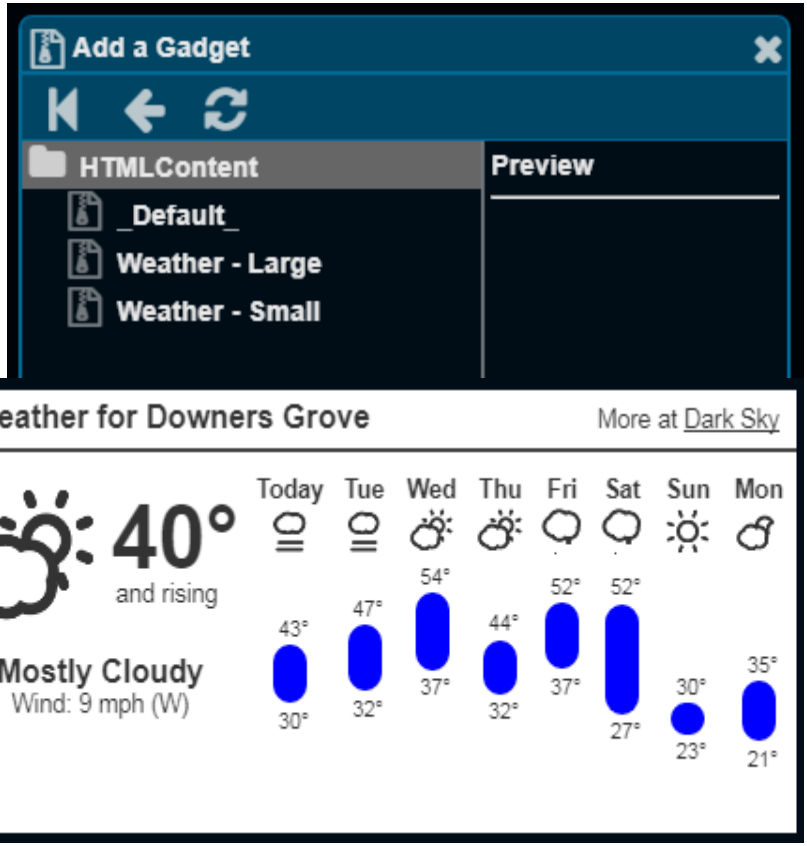
- The GaugePercent can be used to show the live percentage in a system data point.
- As the value gets closer to 100%, the gauge will display red and flash.
- When the value is lower, it will show green.
- You can change many features of the GaugePercent such as color, labels, etc.



# Dashboard HTMLcontent

- HTMLcontent can be used to to customize the contents of a gadget with your own HTML.
- You can also use this to display the local weather for a specific region.
- When adding the gadget, select **Weather**.
- In the HTML content box, change the “lat” (Latitude) and “long” (Longitude) values to those of your location.




```
src="http://forecast.io/embed/#
color=blue&lat=41.80894&lon=-88
.0112&name=Downers Grove">
</iframe>
```

# Dashboard Image

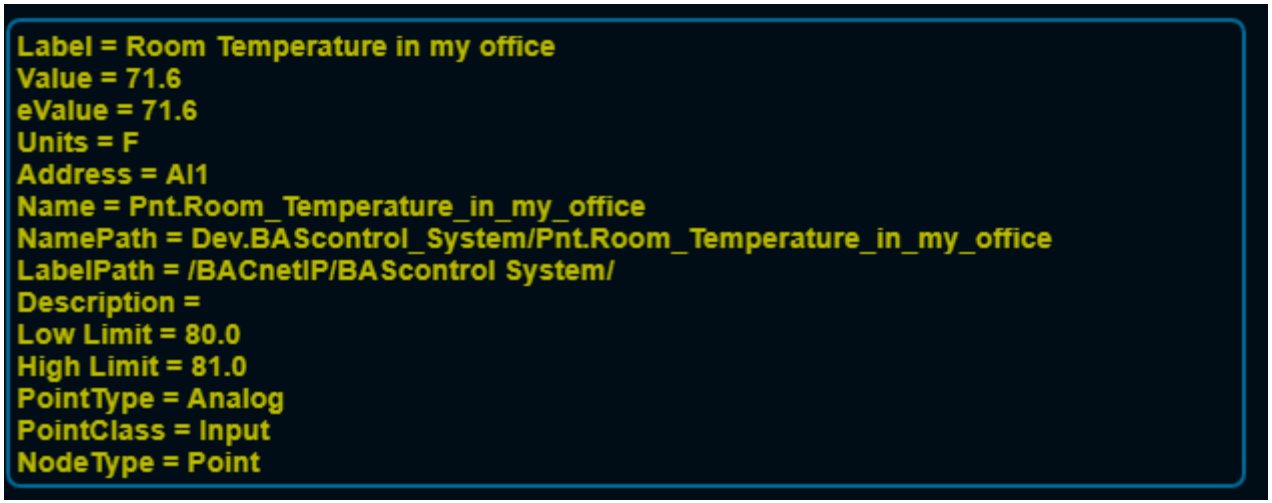
- Image can be used to display images based on live system data point values.
- An image can be used when the point is off or low and another can be used when the point is on or high.
- It can flash the image if the value is close to end of the range or show an additional image.
- The caption can show the live value.
- You can adjust the range, color, size, etc.

# Dashboard IndicatorIcon

- The IndicatorIcon can be used to display an icon and value based on a live system data point.
- You can select the on or normal range icon (defaults to checkmark).
- You can select the off or low range icon (defaults to minus).
- You can select the high limit icon (defaults to plus).
- You can set the range or allow a default range to be applied.
- You can adjust captions, colors, etc.

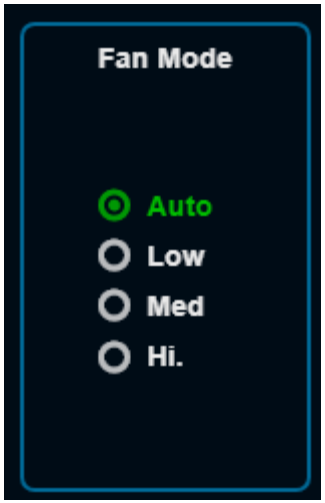
# Dashboard Label

- Label can be used to display the live value of a point from the device tree.
- Label can also display full point info for a point.
- You can adjust the format of the text, what text is displayed, the font size, alignment, colors, range, etc.



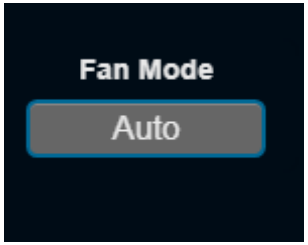
# Dashboard MultiStateList

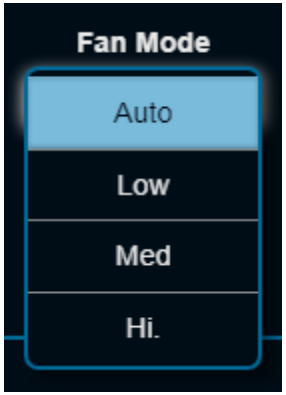
- MultiStateList displays a list of available states for a BACnet multistate point and allows the user to select a new state for the point.
- You can change the font, color, border,  caption, etc.



# Dashboard MultiStateSelector

- MultiStateSelector displays the live state of a BACnet multistate.
- It also provides a drop down for changing the value.



# Dashboard Panel

- This is a container for other dashboard gadgets.
- It allows gadgets to be displayed vertically or horizontally.
- You can adjust the title of the container, border, and colors.

# Dashboard PointGrid

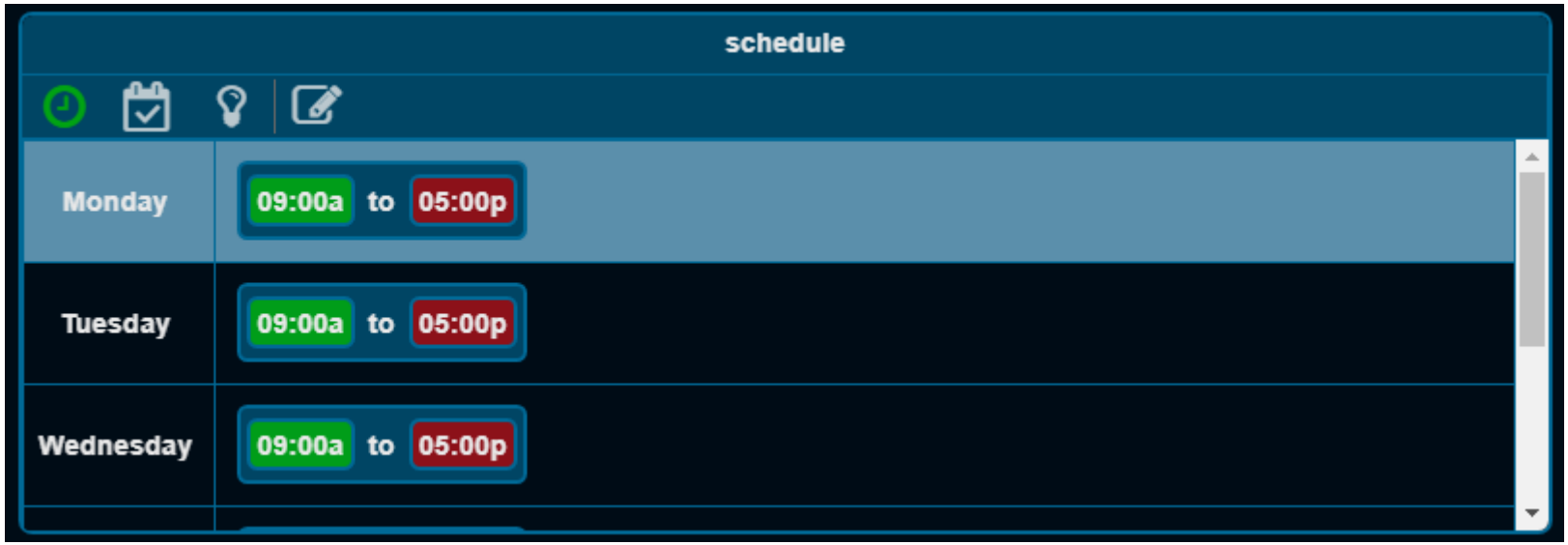
- PointGrid displays the live values for up to 8 points in a table format.
- Shows the units and description.
- You can change the caption, columns displayed, and colors used.

PointGrid Example

| Point | Value | Units | Description |
|---|---|---|---|
| Room Temperature in my office | 71.2 | F | |
| Analog Output 1 | 6.09 | V | |
| Virtual Point 2 | 61 | | |

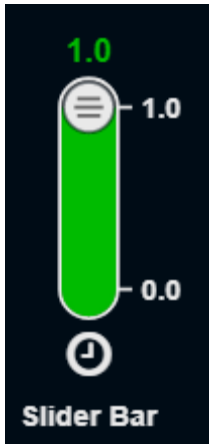
# Dashboard ScheduleContainer

- ScheduleContainer can be used to show the schedule in the dashboard.
- The Schedule can be edited.
- You can set the minimum width, height, and colors used.



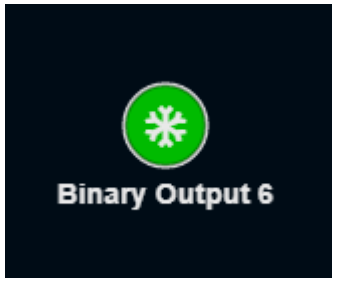
# Dashboard SliderBar

- The SliderBar can be used to display or modify the live status of a point.
- When you slide the bar up/down it brings up an editor for the point to confirm the change.
- It can be vertical or horizontal.
- It can set the scale, icon, labels, display of current value, caption, border, and colors.



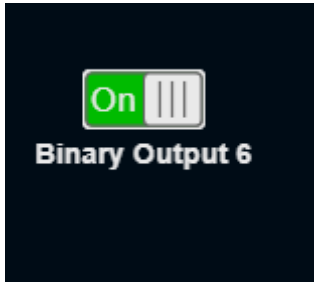
# Dashboard SwitchRound

- SwitchRound is a round switch that allows a binary point to be modified.
- Click the switch, and it will bring up an edit box for the point.
- It will display the current state (green = on, black = off).
- You can modify the size, icon, caption, colors, and border.



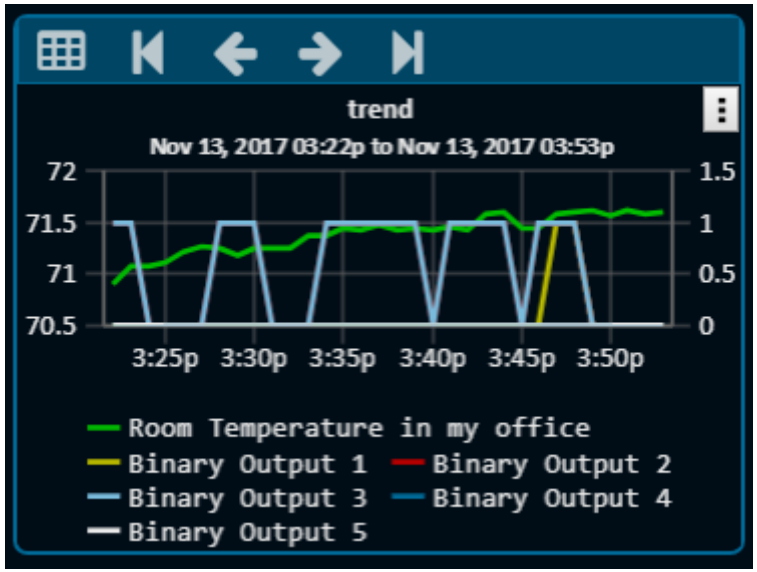
# Dashboard SliderSwitch

- SliderSwitch displays a slider switch for modifying the value of a binary point or for displaying the status of a binary point.
- You can change the size, caption, color, or border.



# Dashboard TrendContainer

- TrendContainer can display a trend.
- You can set the minimum width and height and color.
- The trend container buttons work the same as in the trend – you can go to the first trend or page through trends or go to the last trend. You can temporarily turn on/off points in the trend to better understand the graphs. You can zoom and hover on the graphs.



# Graphics/Dashboard

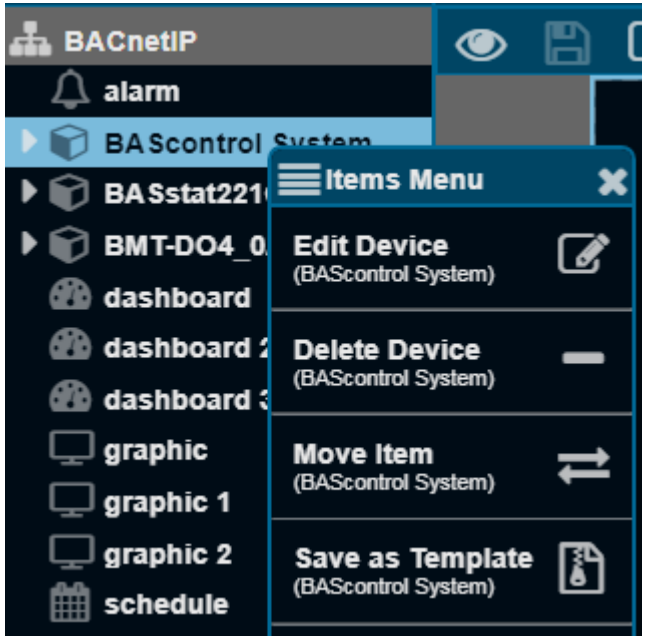
- All of the Dashboard widgets are available on the Graphics pages.
- The Dashboard pages will automatically scale to various size screens and will automatically reposition elements to work best on those screens.
- The Graphic pages will scale but will only shrink on smaller devices and may be difficult to work with.
- You can have many pages in the BASview – you could show the same data in a Graphic and in a Dashboard so the Graphic could be used for PCs, and the Dashboard could be used on smaller devices, such as phones.

# Templates

- One of the most important features of the are its templates.
- Templates allow you to copy and paste something you have already created.
- This is useful when you doing similar tasks over and over.
- Your template can be as simple or as complex as you like.
- You could have a device, its points, schedule, and graphics in the same template.
- For example, if you had 48 VAVs, you could create one VAV with its points, schedules, graphics, alarms and put this into a template which you can use 47 times.

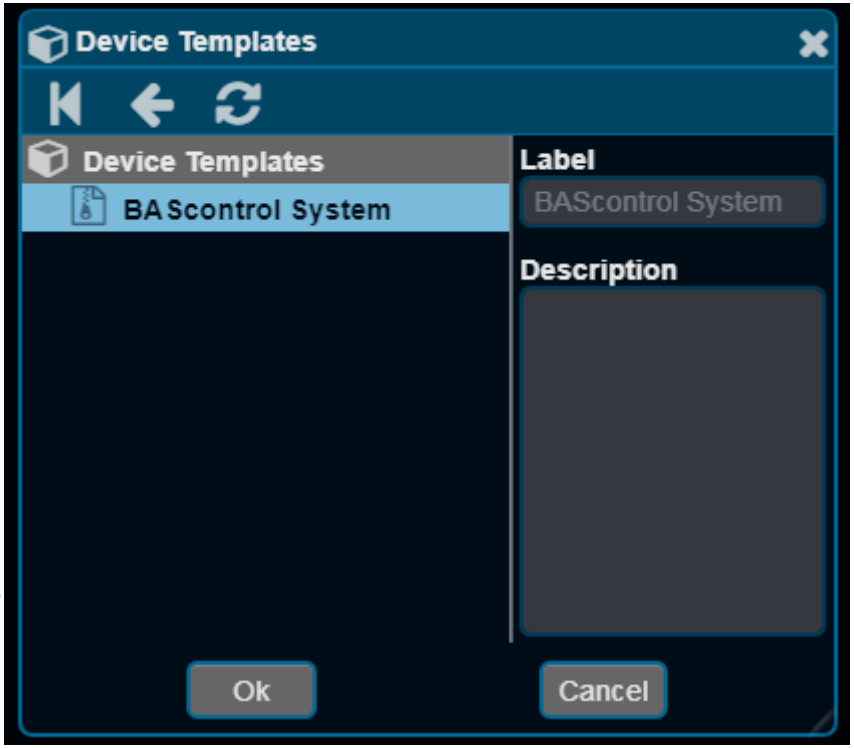
# Templates Creating

- To create a template, go to the device tree and select the portion of the tree that you want to make into a template and select **Save as Template**.
- Anything below that point will be put into the template.
- This can be devices, points, alarms, trends, schedules, graphics, programs, calculations, and runtimes.



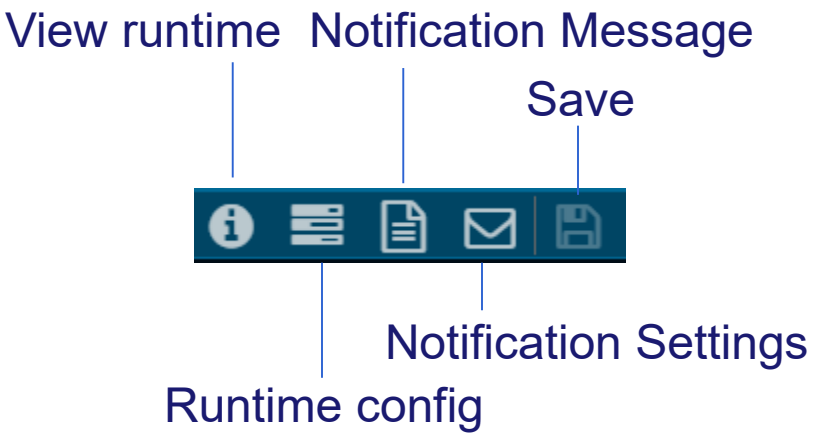
# Using Templates

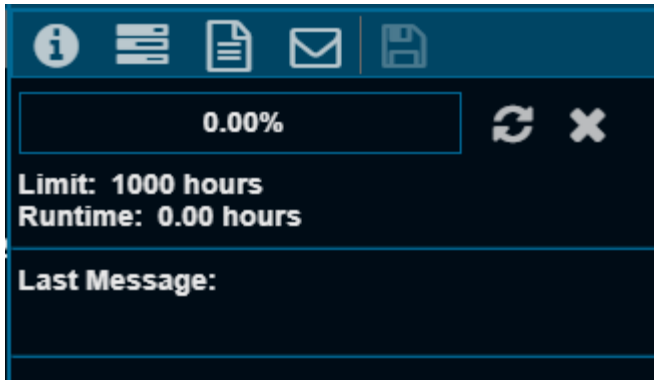
- To use the template, add a new element to the tree using the highest element type in your template.
- In our example, we'll use Create New Item->New Device.
- Press the **Template** button.
- Select your template.
- Then give it the appropriate label and settings (for a BACnet device its IP address and device ID).



# Runtime

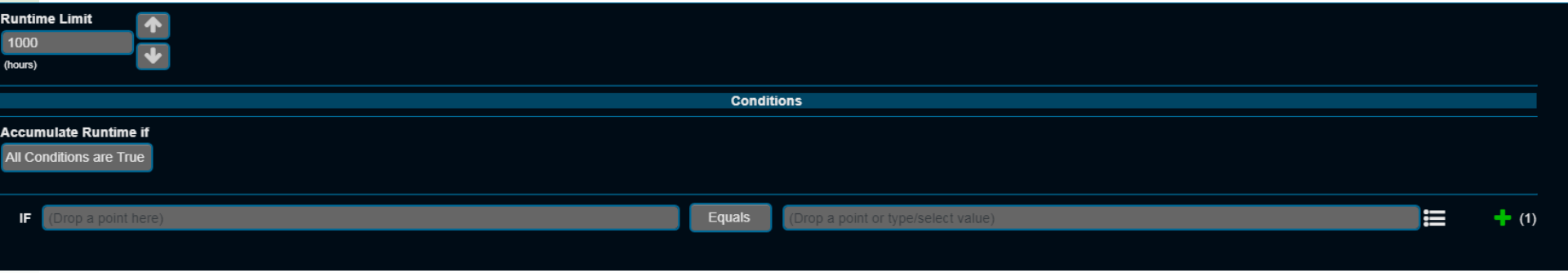
- Runtime can be used to count the number of hours a particular piece of equipment has run (its runtime).
- You can set the runtime limit for the equipment.
- When this runtime is exceeded, an alarm is generated.
- An email can also be generated.
- Right-click on the tree and select **Create New Item**. Then select **New Runtime**.
- After it is created, left-click it to set its properties.



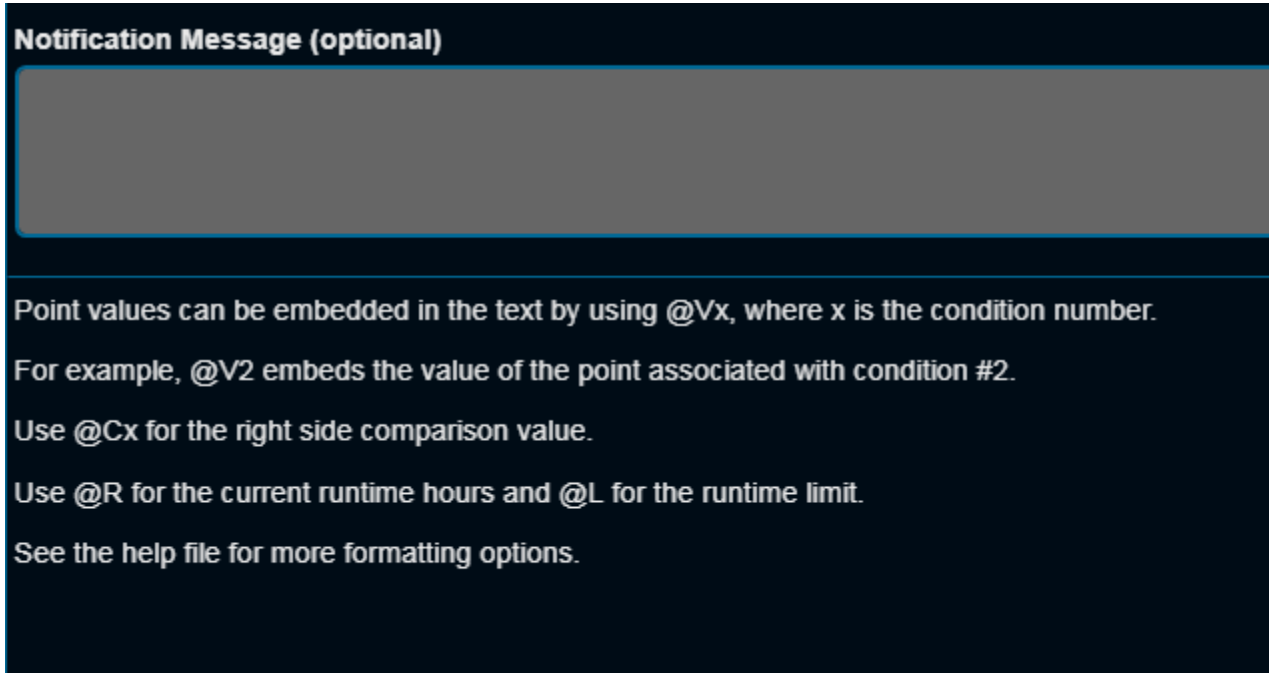
# Runtime Configuration

- Set the conditions for runtime accumulations. Like the Alarms, you can input the conditions that indicate that the equipment is active.
- You can also set the runtime limit.



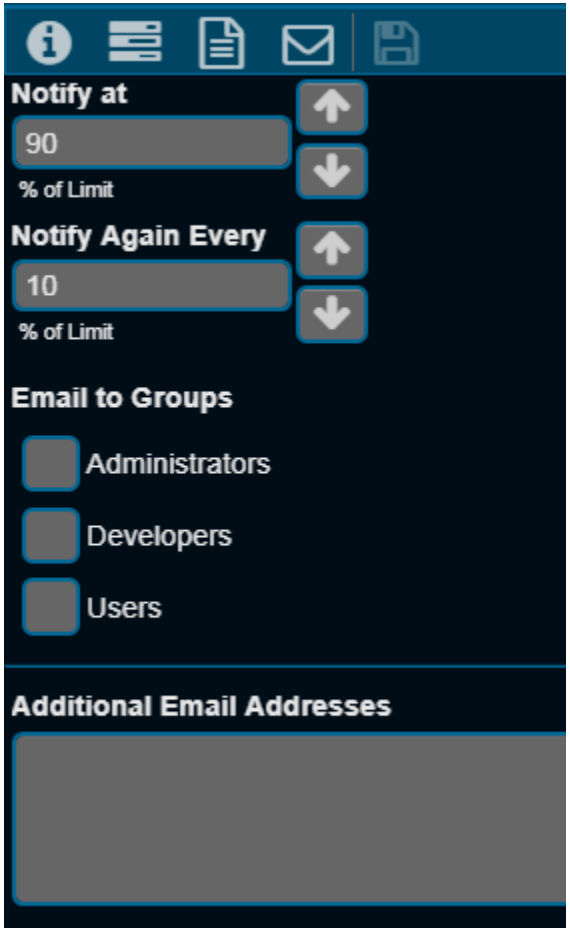
# Runtime Message

- This optional message can be set by the Notification Message button.
- The message can contain value data as shown below.



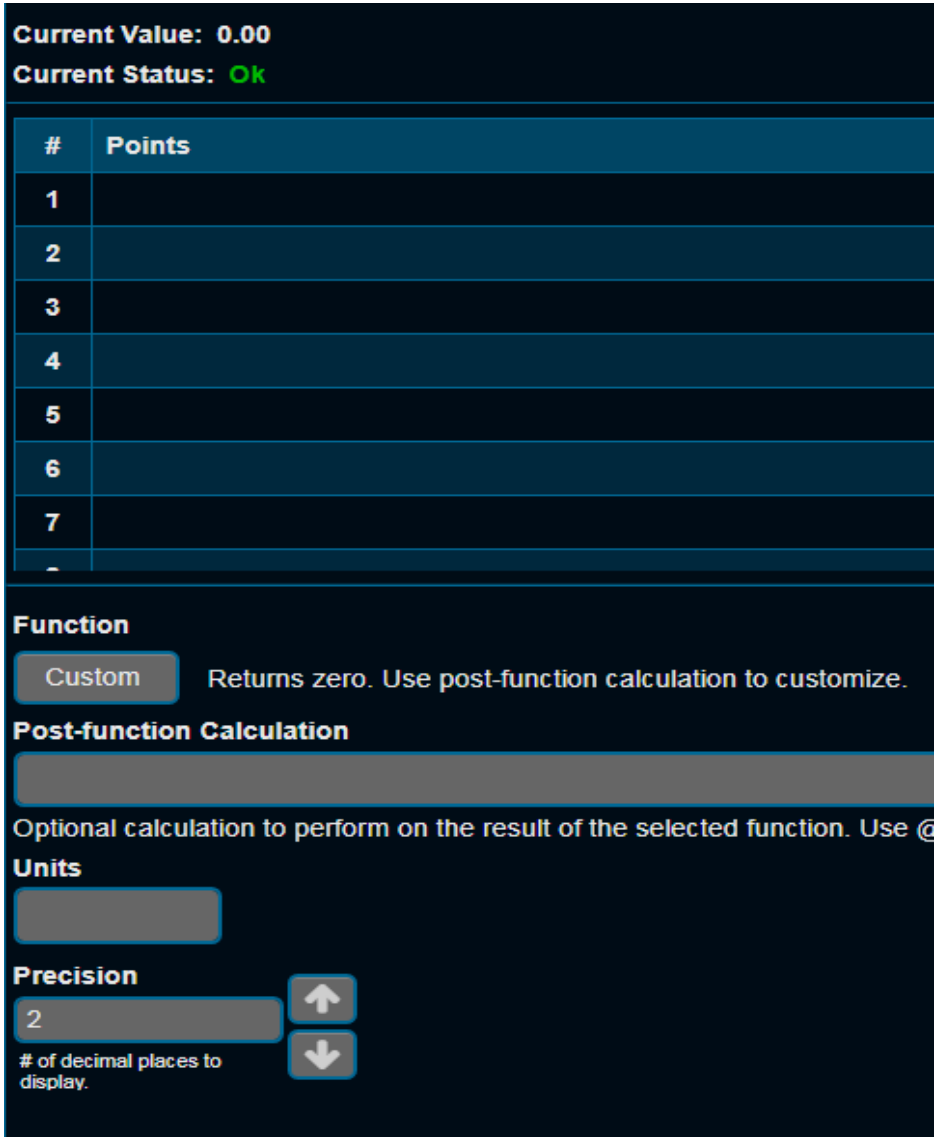
# Runtime notifications

- Press the **Notification Settings** button.
- You can indicate when the notifications are sent.
- You can select which groups receive the message.
- You can add additional email addresses.
- Press the **Save** button when finished.



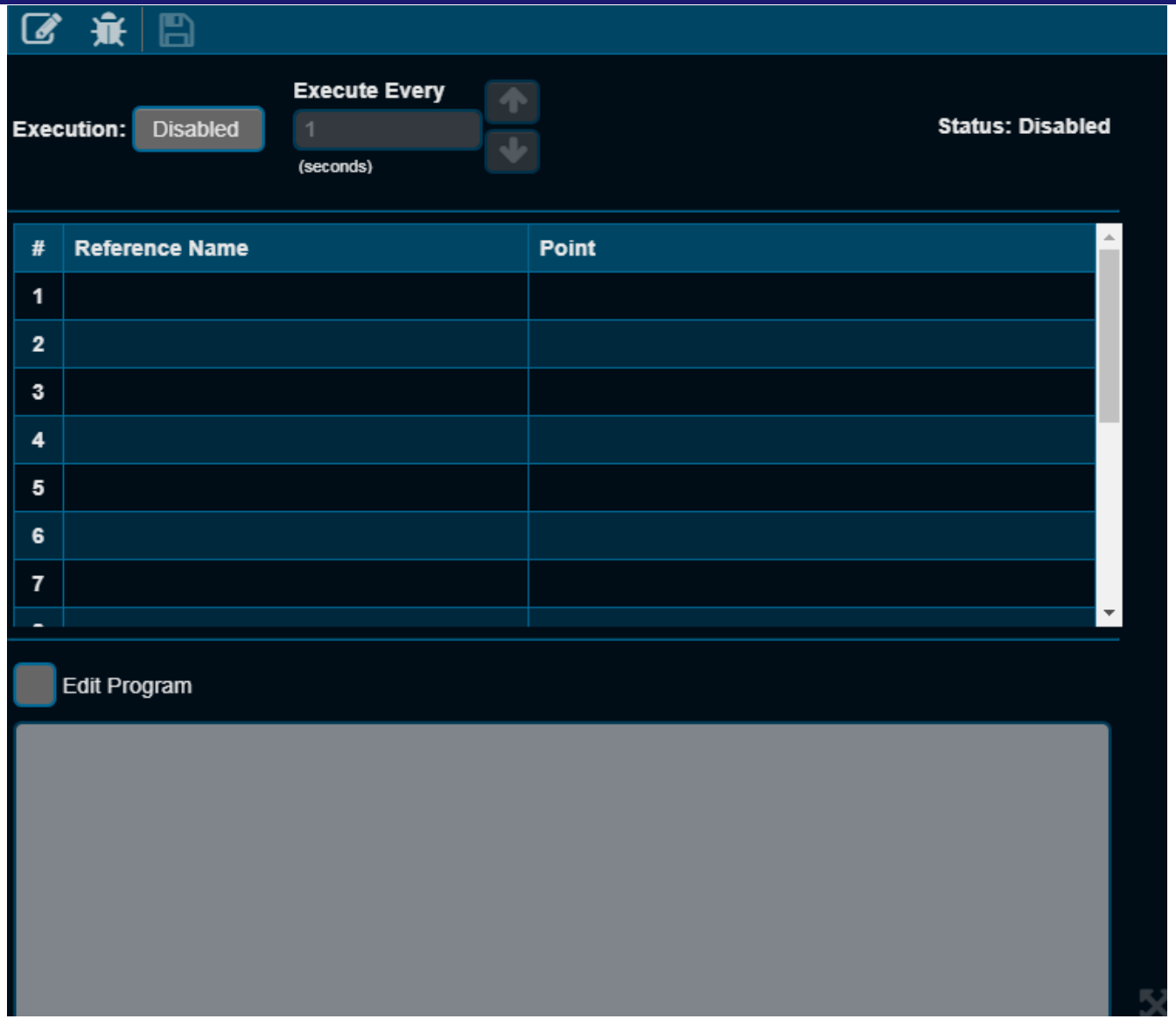
# Calculations

- Calculations are handy way to manipulate a data point.
- You can see the max, min, average, median, or sum for a point.
- You can convert to Fahrenheit/Celsius or enter your own conversion equation.
- You can have up to 100 points from the device tree in the calculation.
- Drag and drop points from the device tree.



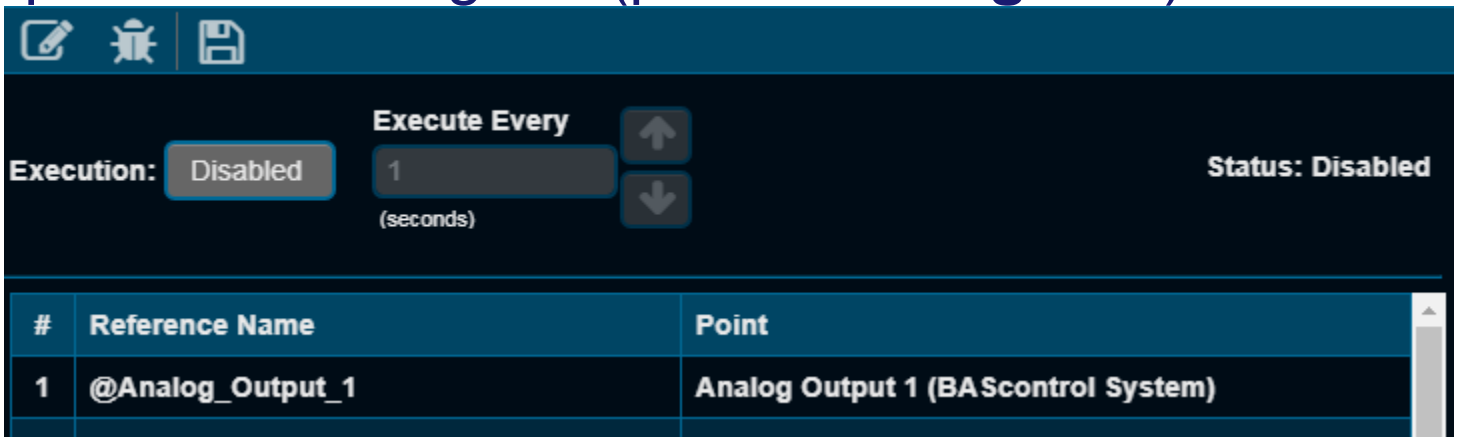
# Programs

- The BASview supports user Python programs.
- Select create **New Item -> New Program**.
- Provide a label (name).
- Left-click to edit.



# Programs

- Drag points from the tree into the reference boxes.
- Use the created Reference name in your program (e.g. @Analog_Output_1).
- You can read/write points from the tree.
- Programs can execute periodically or on demand.
- You can put print statements in the program and see the output in the debug tab (press the **bug** icon).

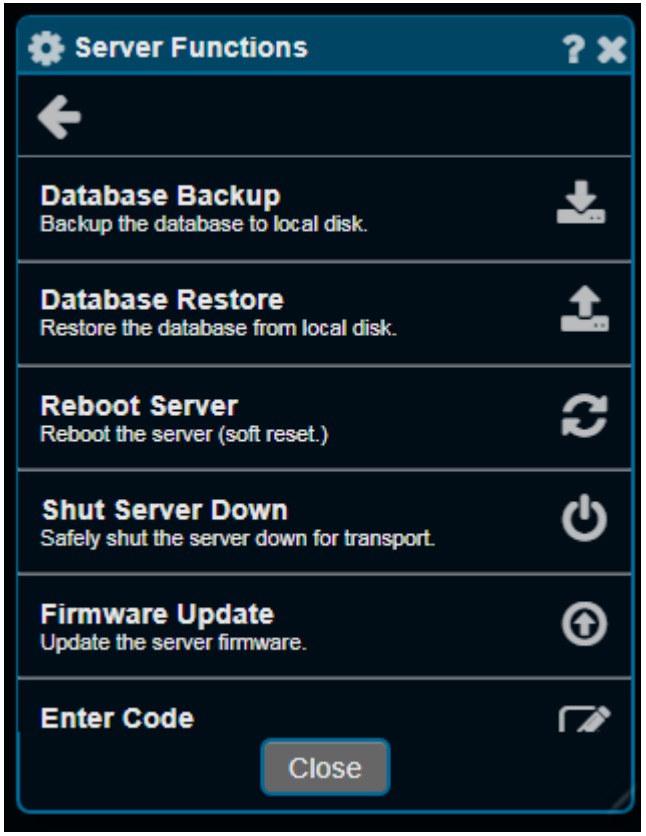


# Programs - Help

- Press the **?** button at the bottom of the page.
- Scroll down to Programs.
- The Programming Reference link will provide details on the Python functions supported by the BASview and the parameters for these functions.
- Look at the getValue() and setValue() functions.
- This is how the program can read/write values in the BASview .
- Points controlled by a schedule can be overridden in a program.

# Backup and New Firmware

- You can back up your work or copy your work to a new BASview3 by selecting the System Menu and Server Functions. Then, select **Database Backup** and the **Database Restore** selections.
- You can upload new firmware by selecting the Firmware Update selection in the same menu.



# QR Code

- You can print a QR code, that when scanned, will take the user to the BASview3 page that is associated with selected element.
- Right-click the element in the tree and select the **Make QR code** option.
- This can be used with various types of BASview3 elements, such as graphics, schedules, etc.
- When creating the QR code, you can indicate which user ID/password to use when the user scans the QR code. This allows the user to see the BASview element without needing to login. Or you can allow the user to enter their login information when scanning this QR code.

# Special URLs

- You can use special URLs when viewing the BASview.
- http://192.168.92.68/html5/index.pih?username=user&password=password&theme=WhiteGreen&simread=1&homeScreenID=4256
- The IP address is the BASview's IP address.
- The username is the username for the user's account.
- The password is the user's password.
- The theme is the theme to be used for the BASview pages.
- Simread will use simulated data when set to 1.
- The homeScreen value can take the user directly to one of the pages in the BASview3 using its node ID. This value can be seen in the advanced settings.
- You can leave out some of the elements from the URL above, such as the username/password, simread, or theme, etc.

# Conclusion

- As you can see, the BASview3 is a powerful tool to work with the system Alarms, Trends, Schedules, Graphics and Control.
- This makes it a Building Controller (and GUI for devices).
- It has all of its features contained in the small metal box.
- Many building controllers are programs which must be purchased and used with a PC which is also purchased.
- The screens can be viewed with PC/Chrome or smart phone/tablet.
- The template feature can save you a lot of time.
- Use the online help to learn more about the features discussed and those which were not discussed.