

# CORAYVAC<sup>®</sup>

## MODULATING HEATING CONTROL

### QUICK START USER GUIDE



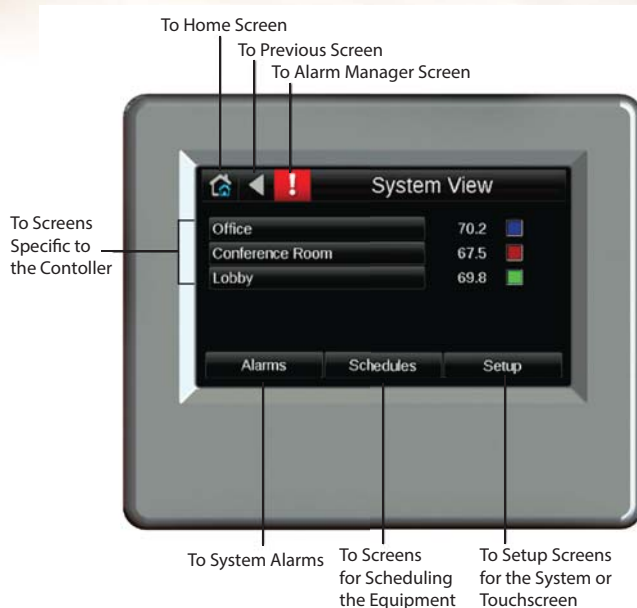
800.828.7450

[www.robertsgordon.com](http://www.robertsgordon.com)

The CORAYVAC® Modulating Heating Control features an easy-to-use touchscreen user interface that provides access to a network of up to 31 separate control panels. Mounted in the central control panel, the touchscreen display provides building occupants, facility managers and technicians a powerful HMI for managing all of the ROBERTS GORDON® infrared heating equipment in their facility. With the ability to limit access via an administrator level password, users can set zone temperatures, set schedules for every day of the week, view equipment status, historical trending data, and more!

## Key Features:

- Auto-discover of BACnet controllers on MS/TP network
- Alarm Management
- Historical Trending
- Multi-level Password Protection
- Color LCD Display
- Equipment Status Screen
- Flexible Schedule Adjustments



## Touchscreen Specifications:

**Power:** 24 V ( $\pm 15\%$ ), 50/60 Hz, Class 2.

**Display:** 4.3 in. resistive touchscreen color LCD display with backlighting (Wide Quarter VGA, 480x272 )

**Enclosure:** ABS plastic with polycarbonate bezel

**Ports:** • EIA-485 based serial port for BACnet MS/TP communication  
• USB host port for driver upgrades

**Real-Time Clock:** A 365-day real time clock/calendar chip. The time and date will be maintained for a minimum of 72 hours after loss of power (at room temperature).

**Temperature Sensor Range:**  $-4.0\pm F$  to  $140\pm F$  ( $-20^{\circ}C$  to  $60^{\circ}C$ )

**Environmental Operating Range:**  $-4^{\circ}F$  to  $140^{\circ}F$  ( $-20^{\circ}C$  to  $60^{\circ}C$ ), 10–90% RH, non-condensing

**Overall dimensions Width:** 5.4 in. (13.7 cm)

Height: 4.6 in. (11.7 cm)

Depth: 1.3 in. (3.3 cm)

**Weight:** 8 oz. (0.23 kg)

**Listed By:** C UL US Listed 88F0, E143900, Type 1304TS

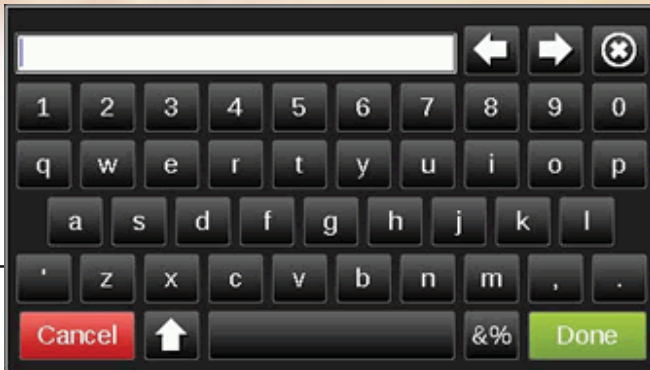
## Initial Touchscreen Setup

Initial setup is required in order to communicate with all controllers within the network. Prior to initial touchscreen setup, ensure that the system(s) are properly installed and that all universal inputs and outputs, ports, rotary and DIP switches are properly configured for the system(s). Refer to the CORAYVAC® Modulating Heating Control Installation and operation manual for details.

From the **System View** screen press **<Setup>**



The administrator password screen will appear prompting users to login. Login for setup (case sensitive):  
Username: **Admin**  
Password: **admin**



After logging in, you will be taken to the **Setup** screen. Select **<Communications>**



Select the desired baud rate (19200 for network length up to 4000' or 76800 for network length up to 2000') and press **<Save>**. This will allow the central panel to communicate with all satellite panels on the network. Check that the baud rate selected matches that set on the control board.

Next on the **Setup** screen, select **<Discovery>** then **<Set Range>**. Define a range which includes the highest and lowest MAC addresses set on each control panel then select **<Save>**.



From the **Discovery** screen, select **<Discover>**.




The system will then discover every BACnet controller found on the network. Edit names of discovered controllers if desired by selecting each of the discovered controllers shown on the screen. A key board will appear, rename the device and select **<Done>** when finished. Check the box for all controllers you want on the network or **<Select All>** and click **<Create DB>**



The **System View** screen will now show the new network of connected control panels. To access the **Home** screen, choose one of the controllers in the list. It will take you to the local Home screen for that controller.

**Optional:** Users have the option to set any controller on the network as the Home screen. To do so, from the **System View** screen select **<Setup>** then **<Touchscreen Setup>** and then **<Home Screen Setup>**. Check the box for **<use equipment standby/home screen>**, then select a desired panel for the **Home** screen.

# Programming the System

The following instructions provide a general overview of programming your system. Each controller on the network must be programmed separately. When programming for controller is complete, select the  icon to return to the **System View** screen. Select the next controller on the network and repeat the programming instructions. For detailed instructions, please refer to the CORAYVAC® Modulating Heating Control installation and operation manual.

**Note:** Prior to programming the system, ensure that initial Initial Touchscreen Setup has been complete.

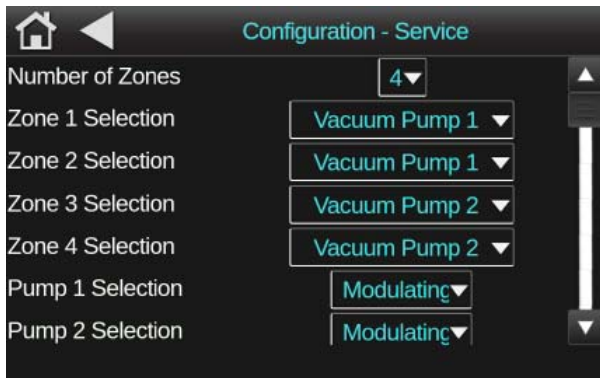
The touchscreen comes standard with different levels of password protection. There is a User level and Admin level password. The default credentials are shown below (case sensitive):

User: password: **user**      Admin: password: **admin**

The end user is prompted for these credentials when attempting to access a protected screen. Once entered, the access level is saved until the screen sleeps. While logged in, the password can be changed. Please refer to the CORAYVAC® Modulating Heating Control installation manual for more details.

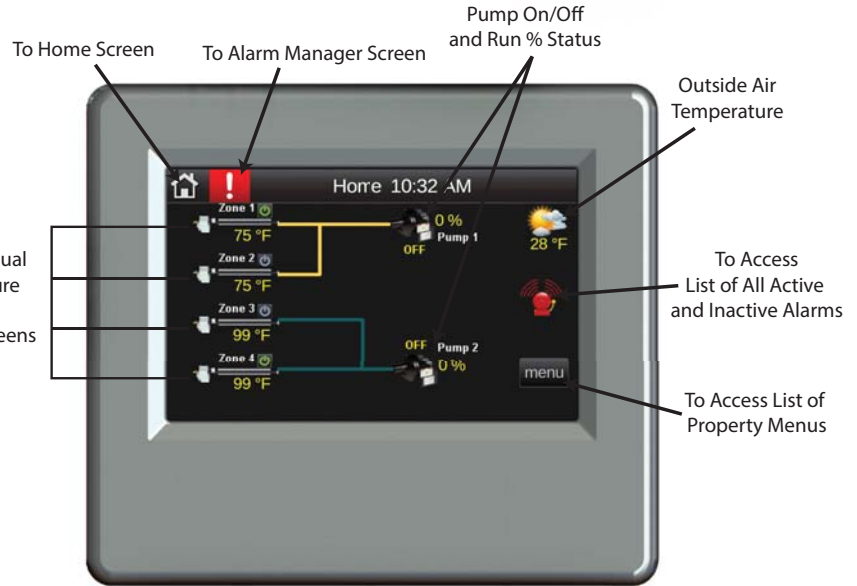
## Home Screen System Configuration

From the Home screen select **<menu>** to access the list of **Property Menus**. Scroll down and select **<Configuration – Service>**.



The **Configurations-Service** screen is used to adjust how many zones, vacuum pumps, and the type of heating system that is connected to the controller you are programming. Select the box next to **'Number of Zones'** and set the number of zones connected to that controller. Select the box next to each **'Zone "#" Selection'** and choose the type of heating system that is associated with that zone.


**Example 1:** If the controller is controlling two CORAYVAC® systems with a combination of



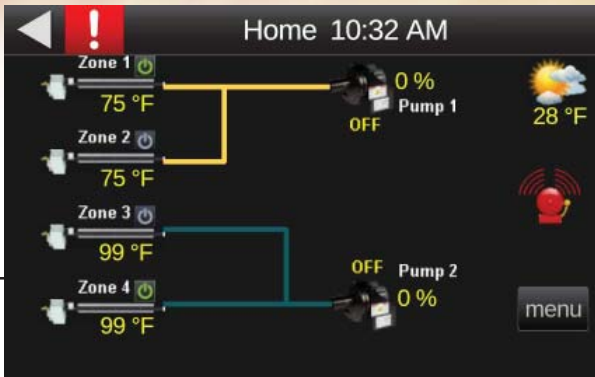
four heating zones, the user must assign which vacuum pump is associated with each zone. If zones 1 and 2 are connected to vacuum pump 1, then set **'Zone 1 Selection'** and **'Zone 2 Selection'** both to **<Vacuum Pump 1>**. Set **'Zone 3 Selection'** and **'Zone 4 Selection'** to **<Vacuum Pump 2>**.

**Example 2:** If the controller is controlling unitary heaters, select **<Unitary Modulating>** or **<Unitary On/Off>** (depending on what type of unitary heater is installed) to the appropriate **'Zone "#" Selection'**.

Continue to scroll down **Configuration-Service** screen and set each selection to the appropriate setting (depending on what type of heating system(s) are connected to the controller). The **'External Design Temperature'** should reference the coldest possible outside air temperature during the heating season, The **"Internal Design Temperature"** should reference the warmest desired space temperature.

Press the  icon to return to the Home screen.

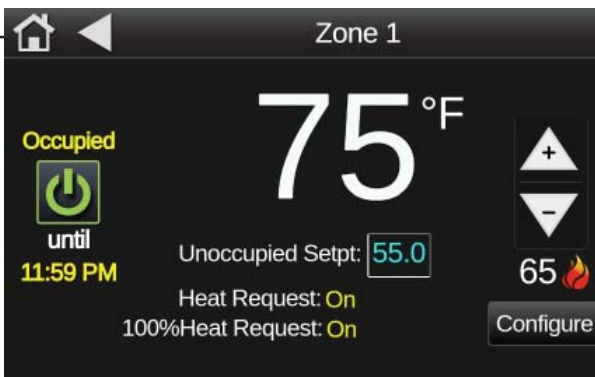
After the **Configuration-Service** screen is adjusted, the **Home** screen will show zone-to-pump associated wiring. Yellow and blue lines indicate which pump each CORAYVAC® system is connected to within the controller's logic.



**Note:** Ensure the hardwired connections match the connection within the logic. Repeat this configuration for each controller on the network.

### Zone Temperature Setpoints

Press any of the 'Zone #'s displayed on the **Home** screen to access the temperature adjustments for the associated zone. If 'Zone 1' is selected, 'Zone 1' screen will be accessed.



From this screen, users can make adjustments to the zone temperature setpoint, or override a schedule. Adjust the occupied setpoint by pressing the up and down arrows to the desired zone temperature displayed next to the flame icon. To override an unoccupied temperature, select to select the desired space temperature and the duration of the override.

**Note:** The **<Configure>** icon will bring users to the **Configuration-Zones** screen. It is recommended to create all schedules prior to adjusting the settings in the **Configuration-Zones** screen.

### Schedule Creation

To maximize comfort and system performance, it is recommended to program your heating schedule in accordance with your occupied and unoccupied zones and schedule. For best results, keep your night setback temperature within 5 to 8 °F of your occupied setpoint temperature.

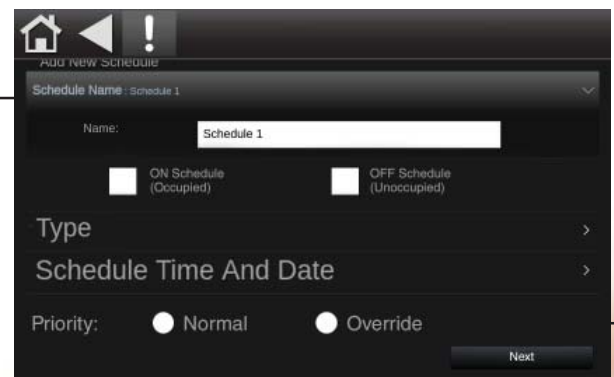
In the **Home** screen select **<Menu>** then select **<Schedules>**. A list of schedule objects numbered 1 through 4 will appear. The schedule object number corresponds with each zone number. Each zone should be programmed individually.



Select **<Schedule Object #1>**, to access the **Calendar View** screen.



To add a schedule, press the icon.



• Edit the name by pressing the box to bring up the key board. Enter new schedule name if desired and press **<Done>** when complete.

**Note:** When viewing schedules only the name of the one, priority 'normal' schedule will appear. However, all programmed information is effective.

- Choose whether or not this is an occupied schedule by selecting the box to the left of **'ON Schedule (Occupied)'**. A green check mark will appear in the box indicating that you have selected that option. Select the box to the left **'OFF Schedule (Unoccupied)'** if the schedule is for unoccupied times.

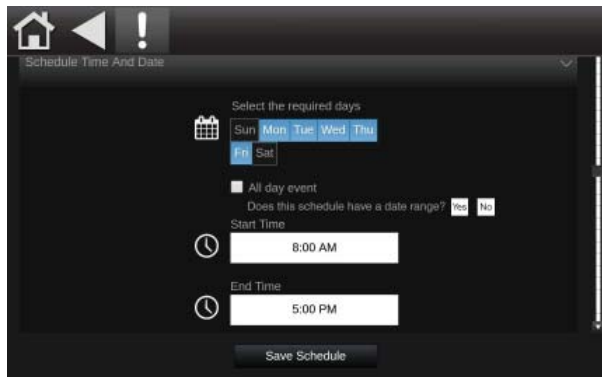
- Next, choose the **'Type'** of schedule by pressing the drop down menu. Options include: Dated, Weekly, Continuous. In this instruction, we selected **'Weekly'**.

- For **'Priority'**, select **'Normal'** to create an occupied/unoccupied status in the applicable zone, for a certain time duration, for certain days dependent on the type of schedule selected.

**Note:** The time slot must be vacant for the schedule to be effective. Choosing **'Override'** will reverse a normal schedule which is in place by turning an occupied time to unoccupied or vice versa.

Press **<Next>** when complete

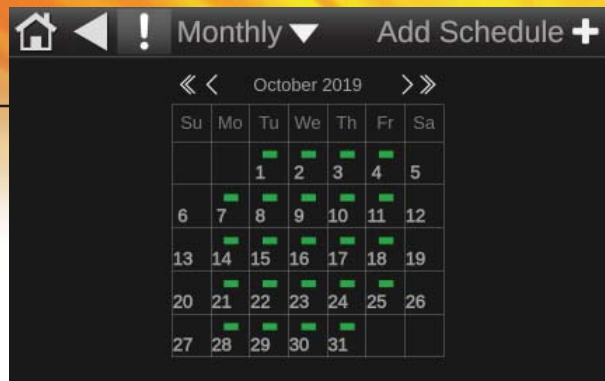
### Schedule 'Weekly' Example



Press the times to edit the **'Start'** and **'End'** times. Select desired Days of the week schedule is to be active. **Optional:** Users can input a date range by pressing **<Yes>** and selecting **'Start'** and **'End'** dates.

**Note:** For 24/7 schedule, select all week days and select **<All Day Event>** for the start and end times.

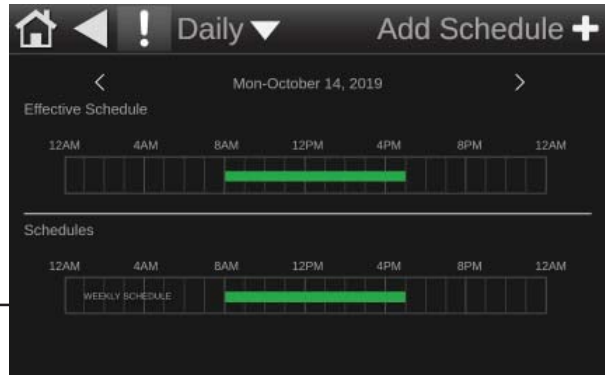
Press **<Save>** when complete.



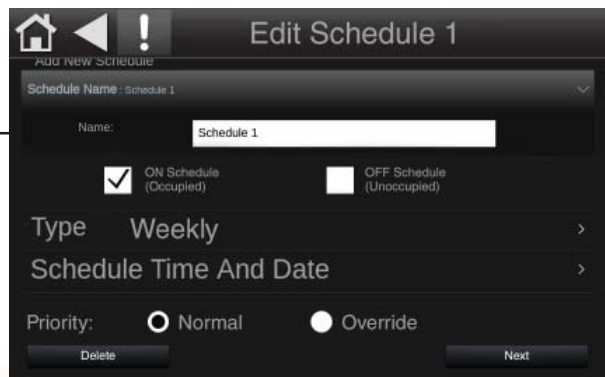
The **Calendar View** screen populates the schedule.

### Edit Existing Schedule

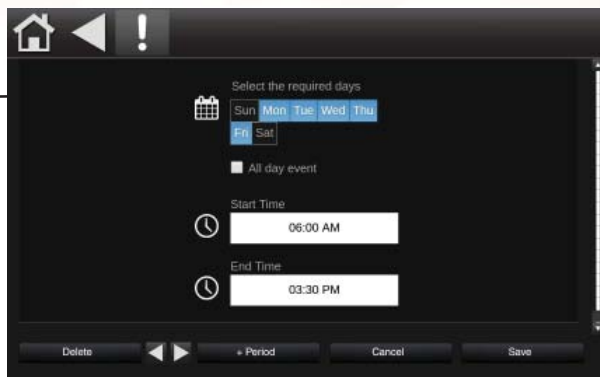
If at the **Home** screen, users can access the **Calendar View** screen by selecting **<Menu>** then **<Schedules>** then select the appropriate **<Schedule Object #X>**. The Calendar View screen will appear showing the populated schedule. To open the **Schedule Editor** screen, select the day of the week the schedule is active.



In the Schedule Editor screen, click on the schedule name or the green bar. Note: If more than one 'Normal' priority schedule exists, only one name will appear.



The schedule information will be shown on the screen. To change the schedule type, priority, or occupied/unoccupied settings, the schedule must be deleted by pressing **<Delete>**, and a new schedule must be created. If users want to change the effectivity times or week days, select **<Next>**.



Edit schedule information by press the times to edit the **'Start'** and **'End'** times. Select desired Days of the week schedule is to be active. Note: For 24/7 schedule, select all week days and select **<All Day Event>**. Press the arrows to navigate between multiple schedules.

**Note:** If multiple **'Normal'** schedules were created, this is where information for all schedules can be viewed

Users can delete the schedule period by selecting **<Delete>** and then **<Delete Period>** or delete all schedules in the zone by selecting **<Delete All>**.

## Zone Configuration

Access the **Configuration-Zones** screen by selecting **<Menu>** from the **Home** screen, scroll through the list of properties and select **<Configuration-Zones>**.

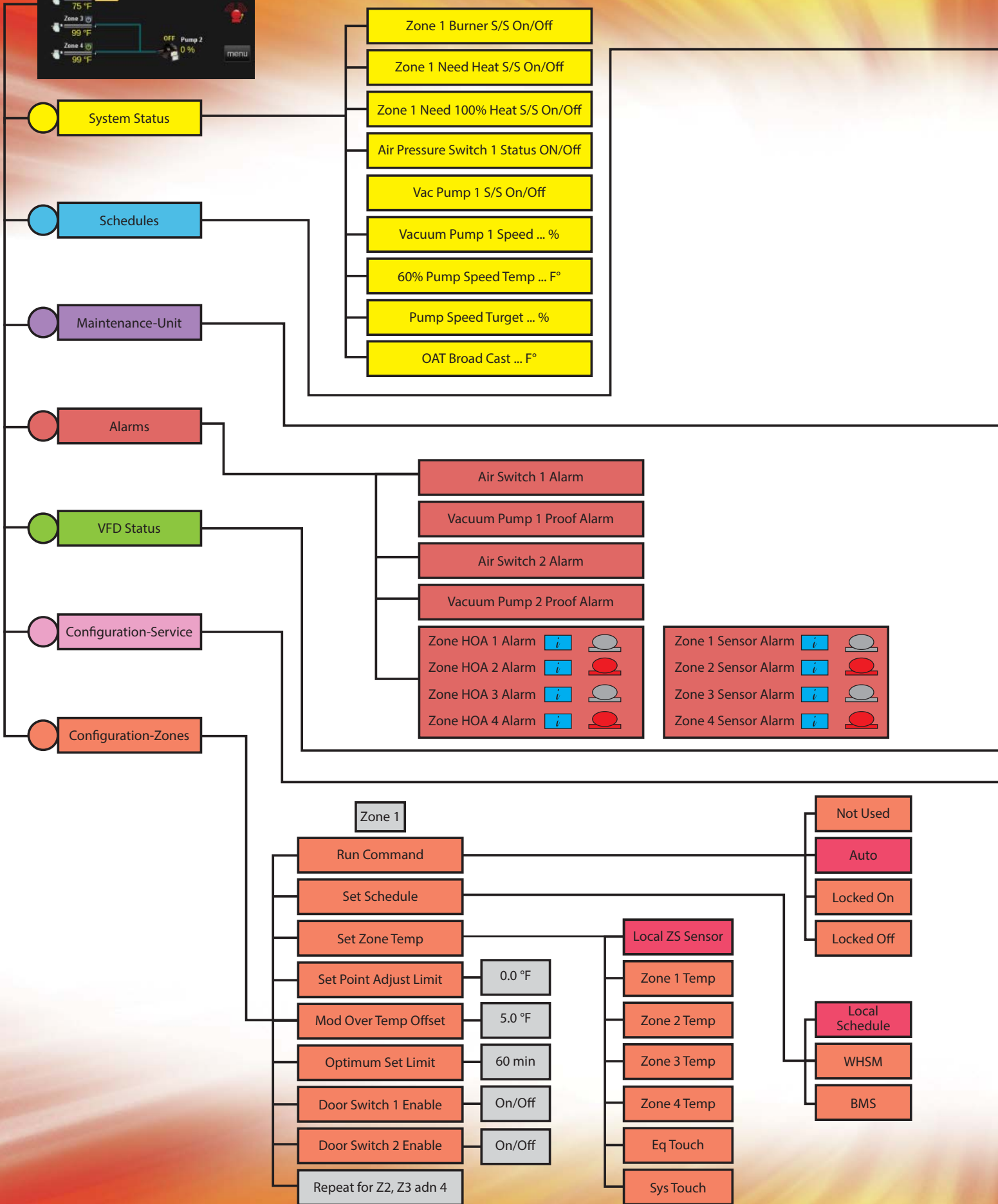


Adjust the following settings by pressing the boxes to the right. Adjust according to the recommended settings.

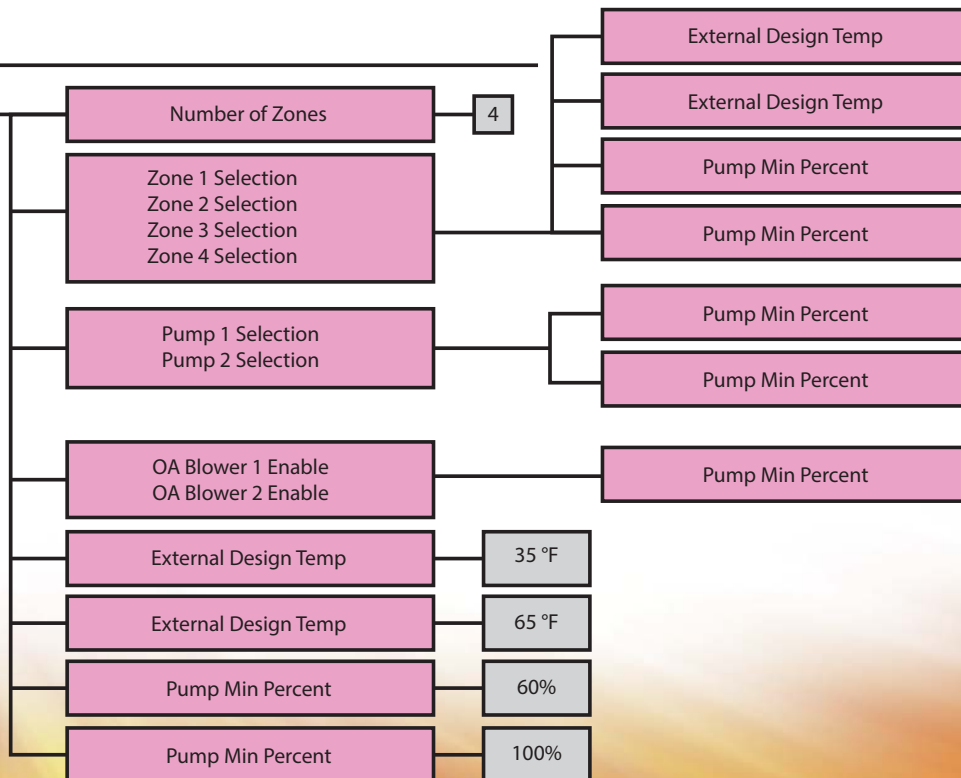
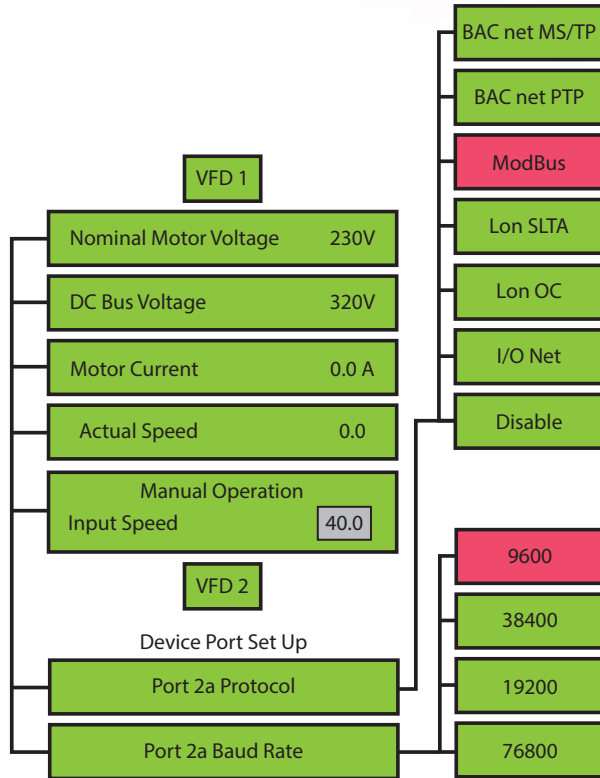
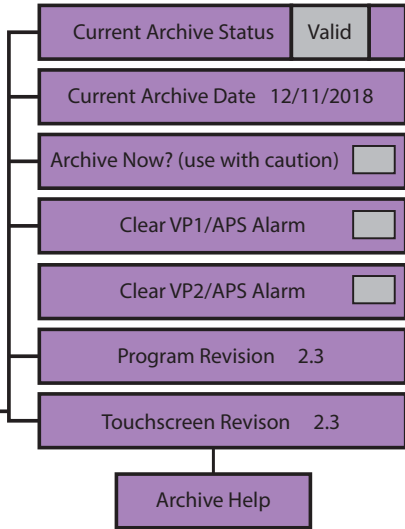
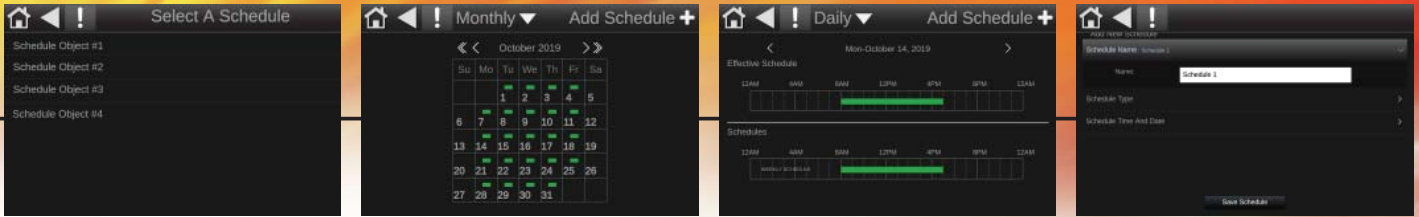
### Recommended settings:

- **'Run Command'**: Auto
- **'Set Schedule'**: Local Schedule (allows users to read schedules created)
- **'Set Zone Temp'**: Local ZS Sensor (allows users to read space temperature through zone sensor)
- **'Setpoint Adjust Limit'**: 5.0 °F (limits the degree to which the setpoint can be adjust at the zone sensor)
- **'Mod Ovr Temp Offset'**: 5.0 °F (if temperature within the zone falls below this many degrees below the setpoint, a 100% heat request will be activated)
- **'Optimum Start Limit'**: 60 min (maximum time allowed (before schedule occupancy) for zone to pre-heat, bringing the temperature in the space up to occupied setpoint.)
- **'Door Switch "1" and "2" Enable'**: On or Off (this setting allows users to wire in a door switch to the controller to prevent the heating system from operating while the door is open (review the CORAYVAC Modulating Heating Control installation manual for installation details). Setting must be set to "On" in two separate locations; in the **Configuration-Zone** screen and the **Configuration-Unit** screen. If the switches are set up differently in the separate screens, power will not go to the burners. If users do not have this option in their system, set to "Off")

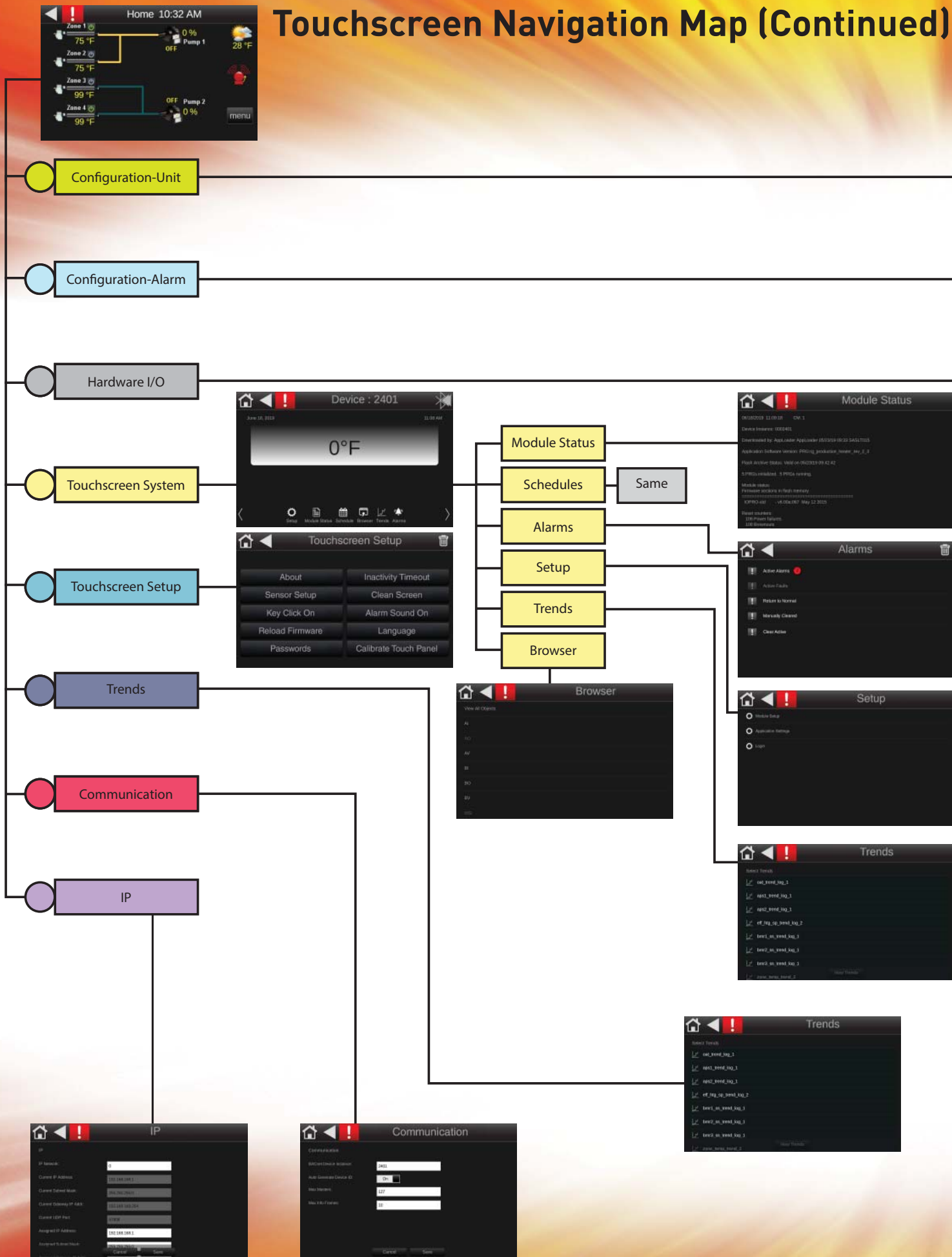
# Touchscreen Navigation Map

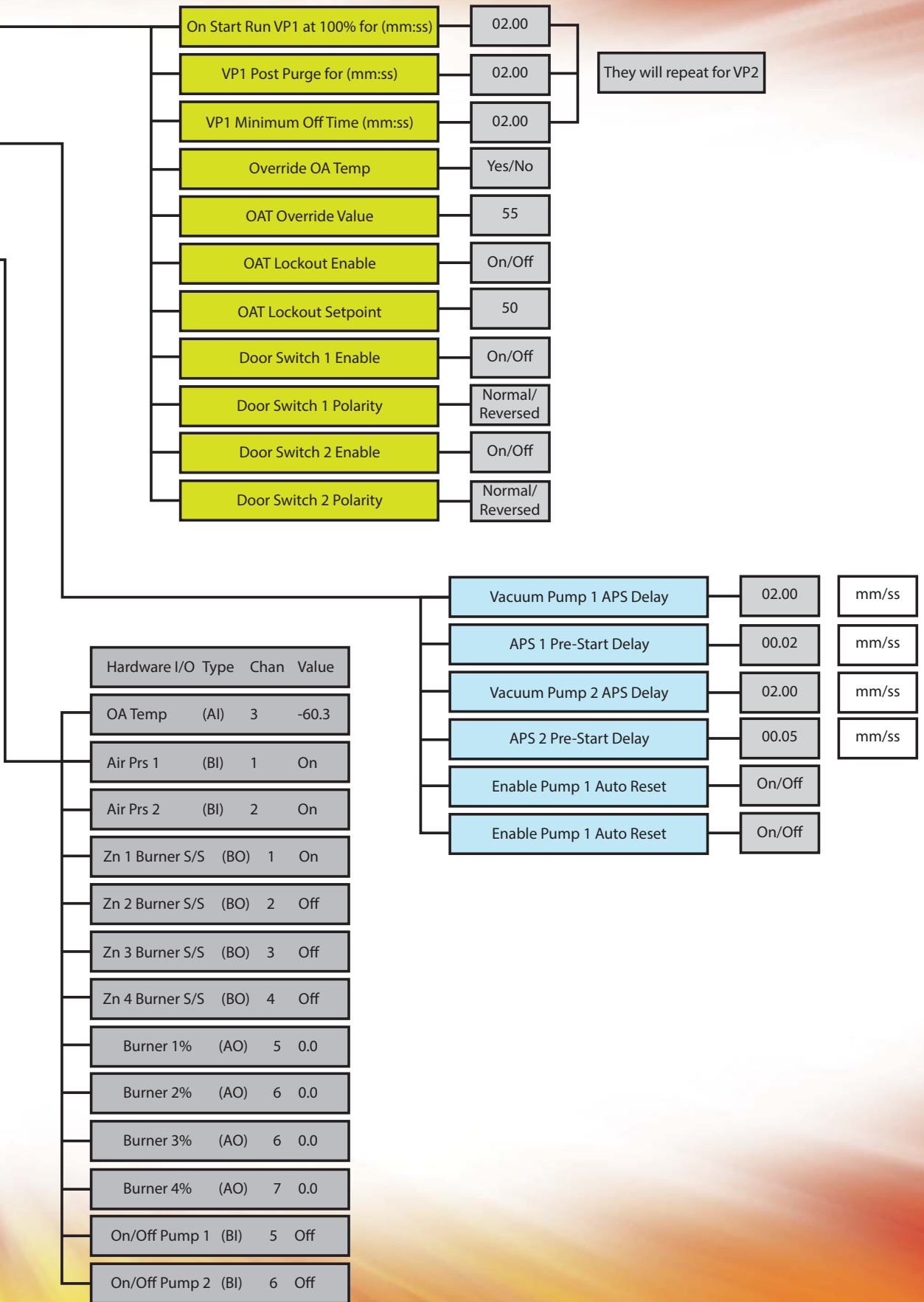







# Touchscreen Navigation Map (Continued)







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