



SIEMENS



Siemens RDY2000BN

Start Up Guide

What this slide set is about

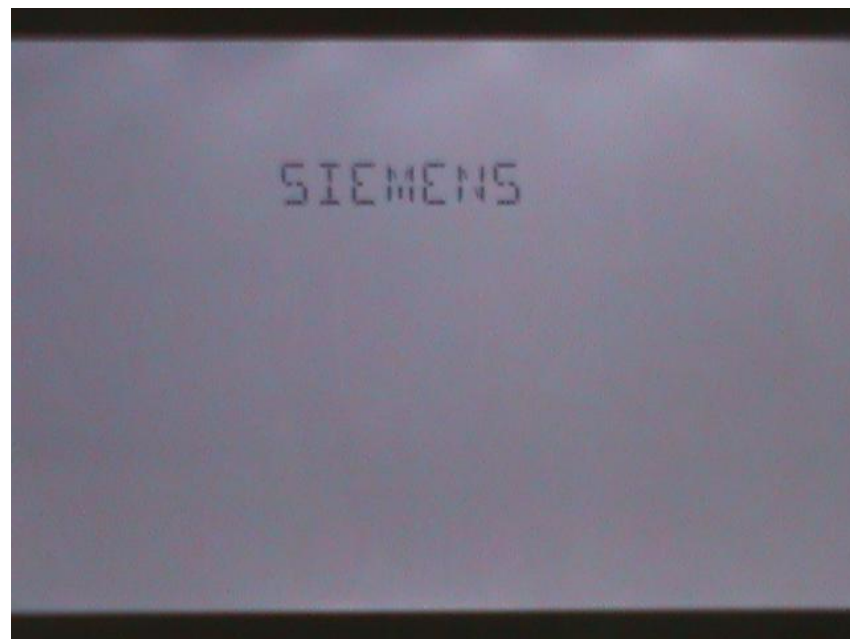


This is a start up guide for the RDY2000BN BACnet Commercial Thermostat.

This procedure show how to set up the unit via its Wizard mode or from the Installation menu, including network parameter set up.

Powering Up

This is the screen when the unit powers up. If the unit has never been configured it will go into Wizard mode next.

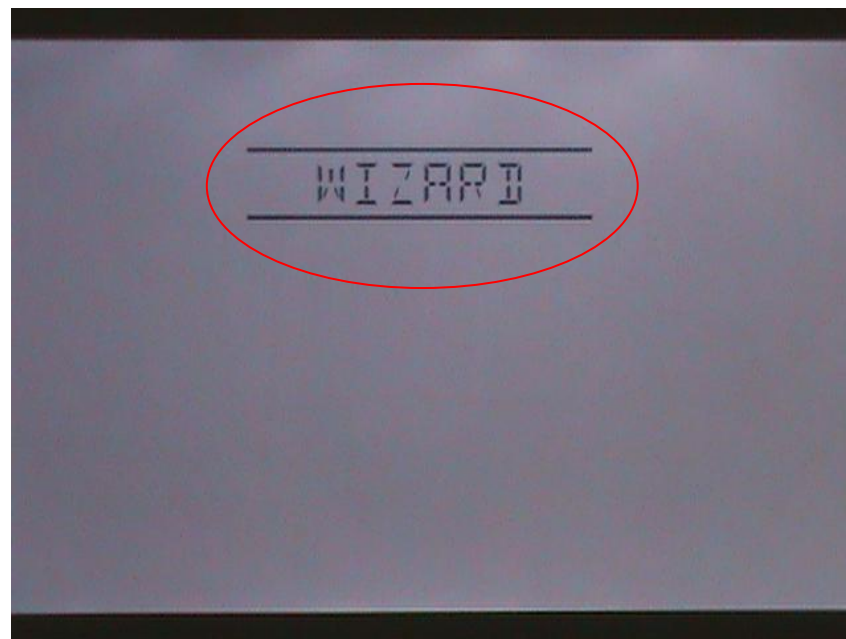


Wizard

If the unit has never been configured or has been reset, the Wizard will initiate to guide entry of key parameters.

Tap the word WIZARD to start.

If you are changing configuration on a running unit, tap the set up icon on the lower right corner and INSTALLER will be displayed. Skip to page 14.



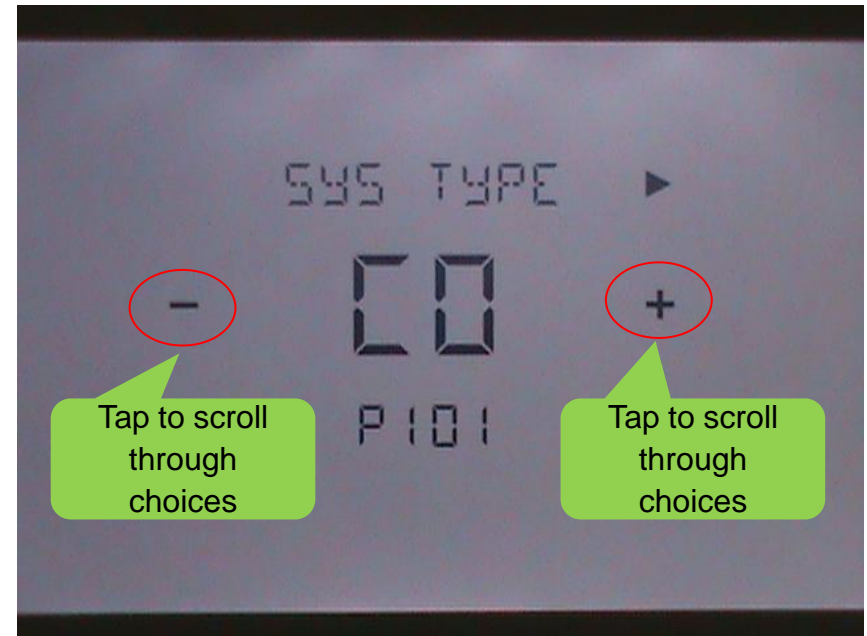
Controlled System Type

The RDY2000BN supports multi stage Conventional DX or multi stage HP.

CO for conventional. To change to Heat Pump, tap the + or the – icons to scroll to the other choice HP.

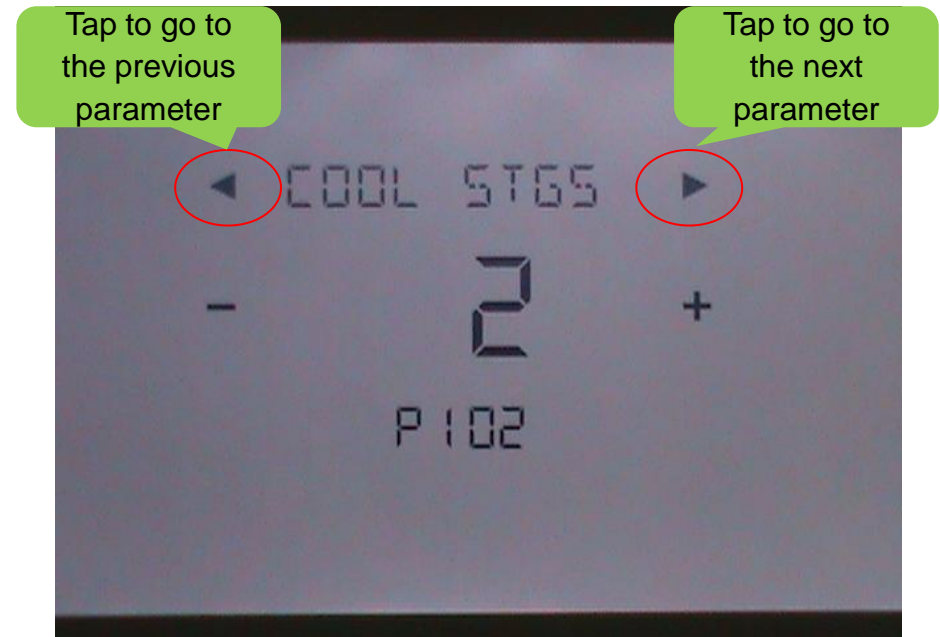
When done, tap the right arrow next to SYS TYPE to proceed to the next field.

This example shows how a Conventional DX application is configured. The parameters will be slightly different for Heat Pump application.



Configuring number of Cooling Stages

The RDY2000BN supports up to 3 stages of Cooling in Conventional mode and 2 stages of Cooling in Heat Pump mode



Configuring number of Heating Stages

The RDY2000BN supports up to 3 stages of Heating in Conventional mode and 2 stages of Heating in Heat Pump mode plus 2 stages of Aux Heat.



Configuring Electric or Gas Heat

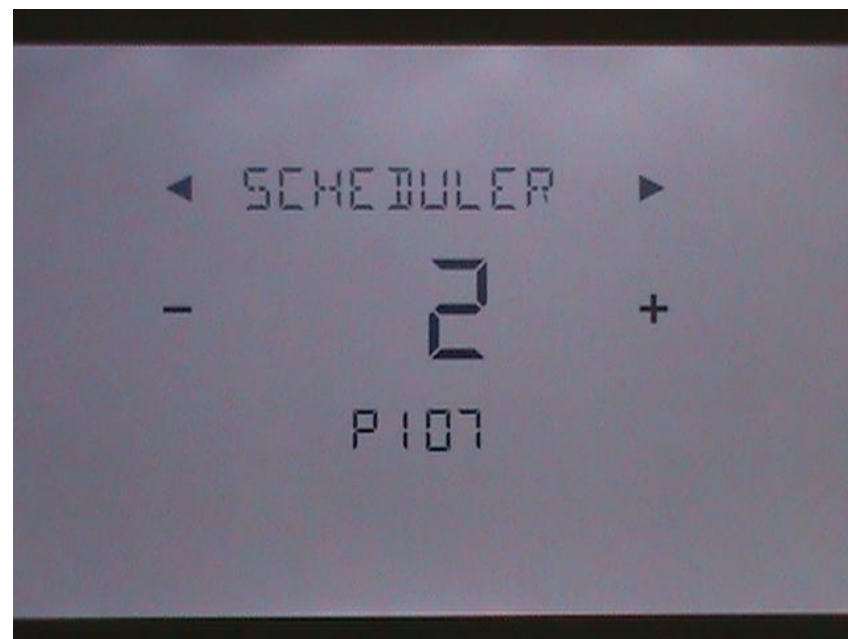
This configures if the Heat is Gas or Electric. The fan will be started immediately when there is a call for Heat in Electric mode. The HVAC unit will signal start with a delay in Gas mode, unless in Aux Heat.



Schedule Configuration

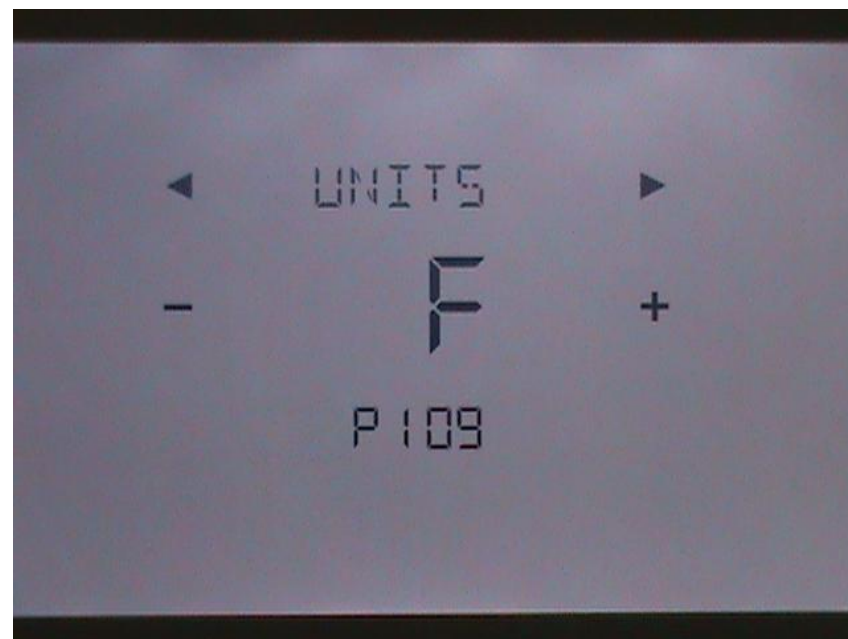
Selects schedule. Choices are:

- 1 – 7 day same schedule daily
- 2 – 2 schedules (M-F and Sat-Sun)
- 3 – 3 schedules (M-F, Sat & Sun)
- 7 – 7 individual schedules
- OFF – No schedule



Select Degree Displayed

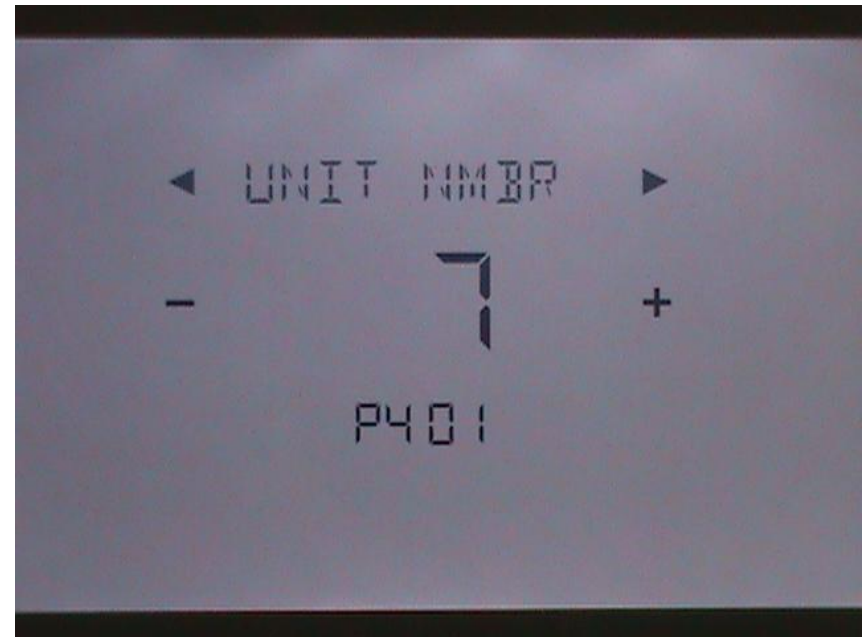
Select between Celcius and Fahrenheit



Unit Number

Select the Unit Number to be displayed to identify the HVAC unit being controlled by the thermostat, if desired.

Tap the + o – to select the desired number between 0 and 999.



Confirm

Voilà! The basic configuration is done.

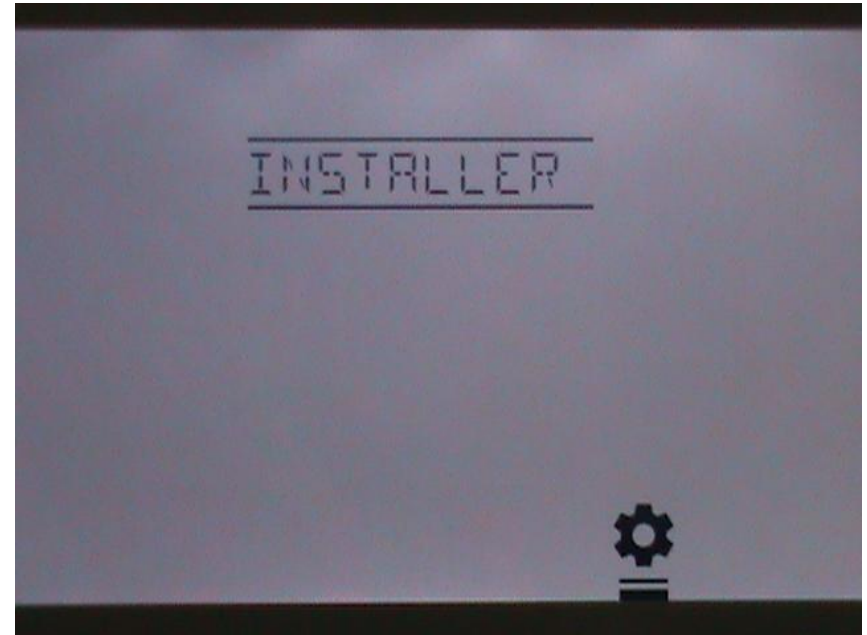
Tap CONFIRM to confirm the parameters. You can always return to previous parameters using the left arrow icon to change them.



Finish?

INSTALLER will be displayed where you have the choice for more detailed configuration.

After a few second with no input the unit will go to an OFF state. When you are ready to start the unit, tap OFF icon and you can choose RUN to start operations. The unit will run with the parameters entered and default control values.

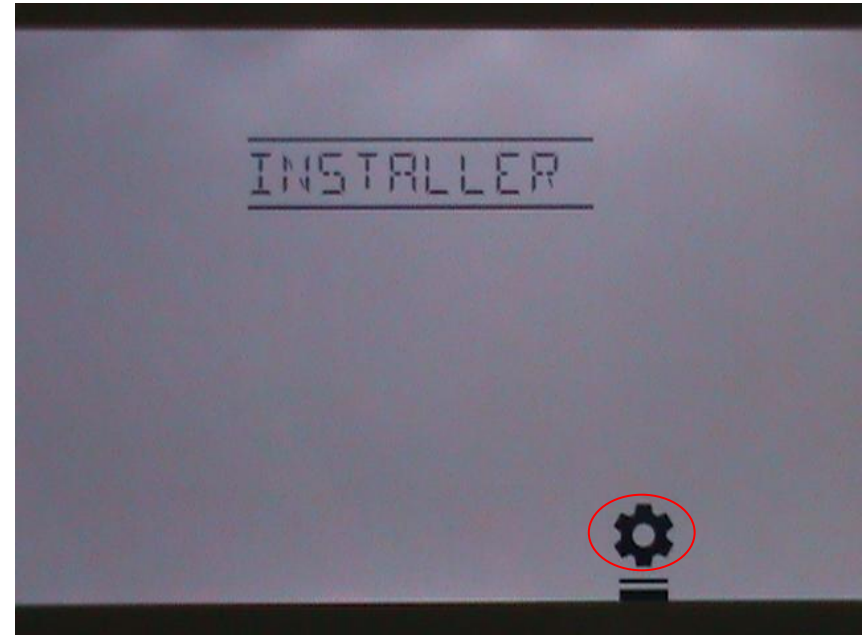


Advanced Configuration

This menu starts the process to fully configure the RDY2000BN, including network parameters.

You reach this menu either by finishing up with the initial Wizard or by tapping the set up icon at the bottom right of the screen.

The first few screens following INSTALLER regarding system type are repeat of initial configuration to confirm.



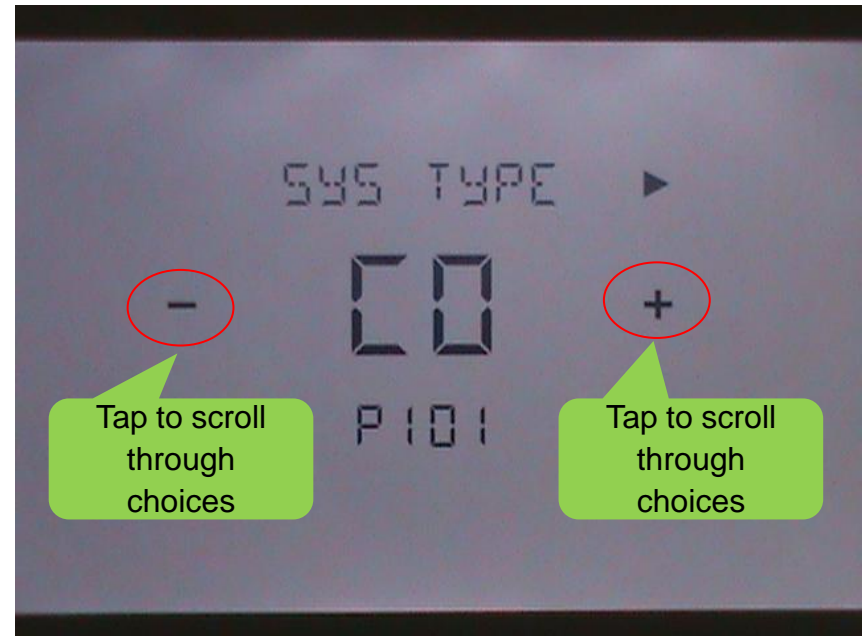
Controlled System Type

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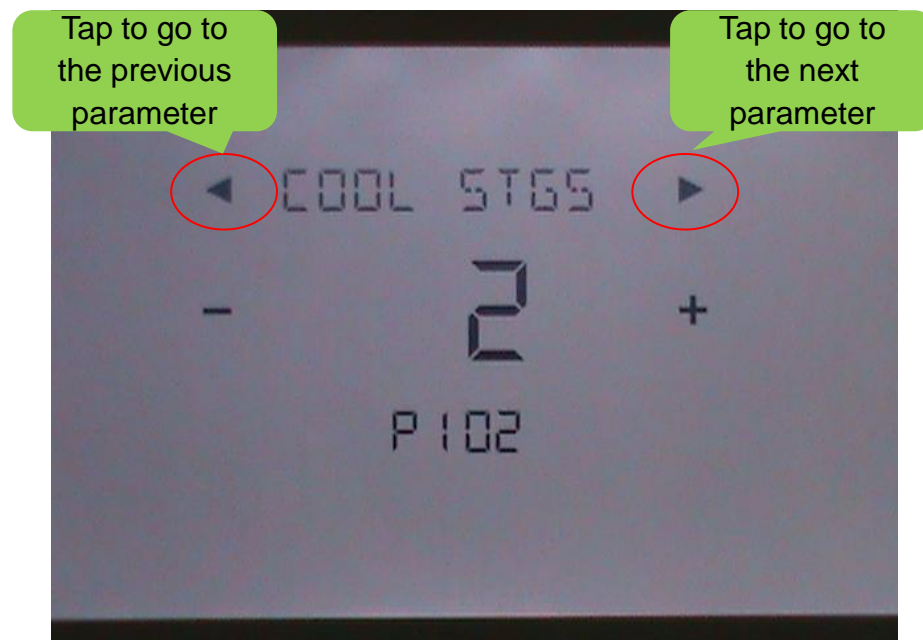
When done, tap the right arrow next to SYS TYPE to proceed to the next field.

This example shows how a Conventional DX application is configured. The parameters will be slightly different for Heat Pump application.



Configuring number of Cooling Stages

The RDY2000BN supports up to 3 stages of Cooling in Conventional mode and 2 stages of Cooling in Heat Pump mode



Configuring number of Heating Stages

The RDY2000BN supports up to 3 stages of Heating in Conventional mode and 2 stages of Heating in Heat Pump mode plus 2 stages of Aux Heat.



Configuring Electric or Gas Heat

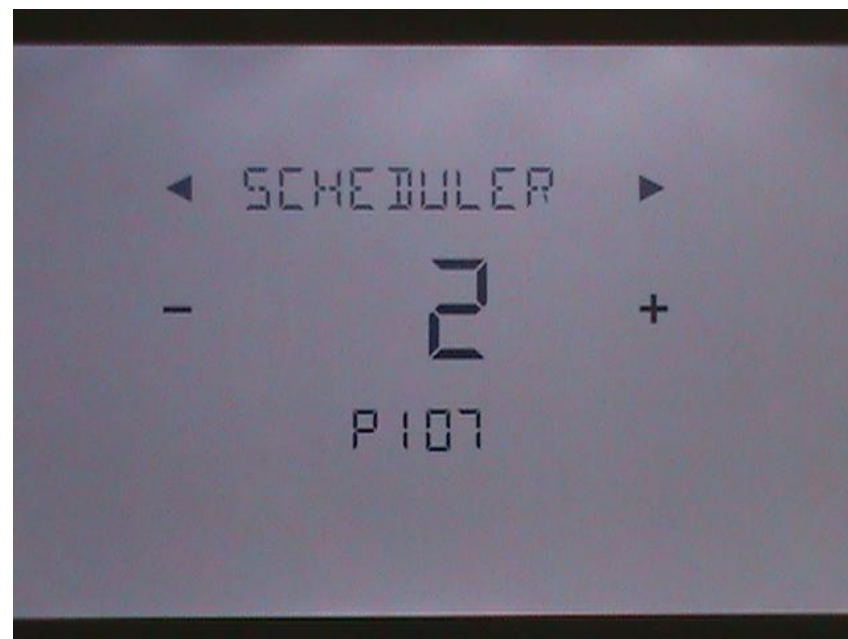
This configures if the Heat is Gas or Electric. The fan will be started immediately when there is a call for Heat in Electric mode. The HVAC unit will signal start with a delay in Gas mode, unless in Aux Heat.



Schedule Configuration

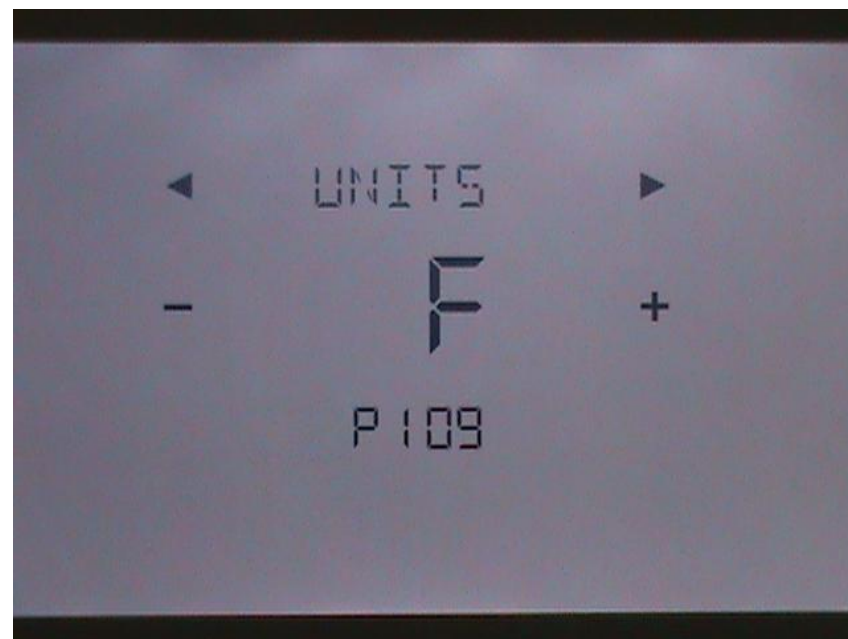
Selects schedule. Choices are:

- 1 – 7 day same schedule daily
- 2 – 2 schedules (M-F and Sat-Sun)
- 3 – 3 schedules (M-F, Sat & Sun)
- 7 – 7 individual schedules
- OFF – No schedule



Select Degree Displayed

Select between Celcius and Fahrenheit



Heat / Cool Mode Auto Changeover

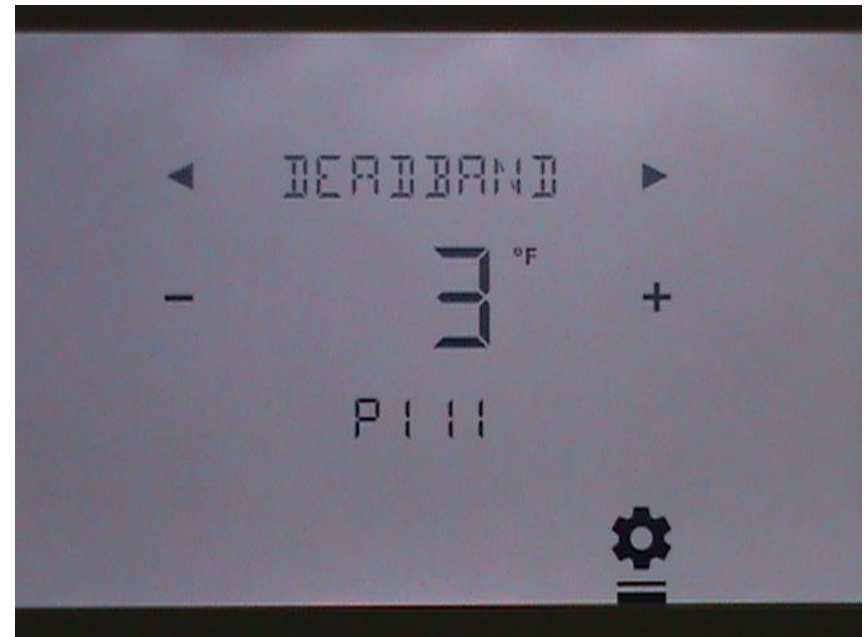
This selects if the thermostat will auto change between Heating and Cooling mode or will be changed manually.



Auto Changeover Deadband

If Auto Changeover is selected, this configures the deadband between Heat and Cool modes. The default is 5 degrees Fahrenheit.

This parameter is not visible if Auto Changeover is not selected or in Heating or Cooling only systems.



Daylight Savings Enabled

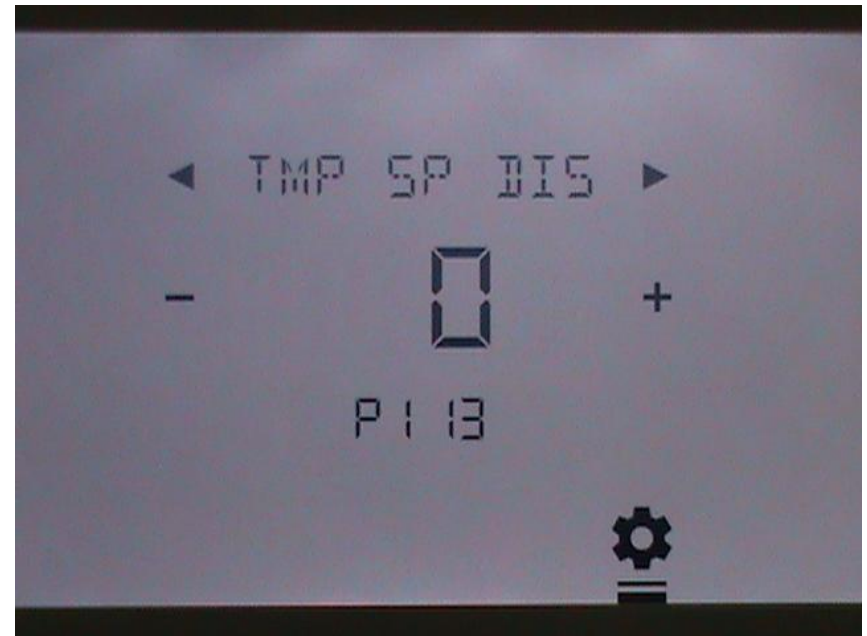
This configures if Daylight Savings mode is enabled.



Configure Displayed Set Point

This configures if the absolute temperature is used for set point adjustment or if the relative temperature (warmer or cooler than current temperature) is used for set point.

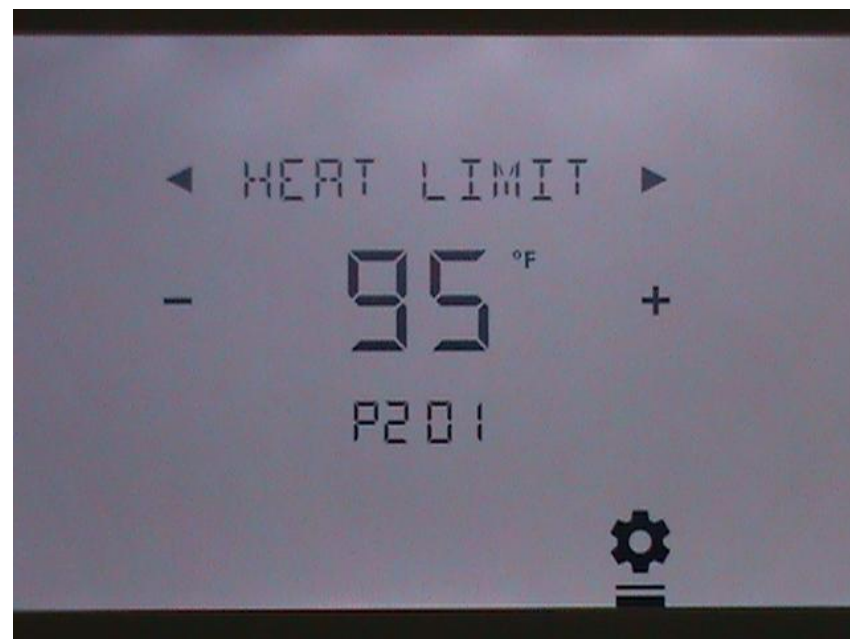
Default is 0 for absolute set point.



Heating Set Point Limit

Sets maximum heating set point between 45 – 95 deg F.

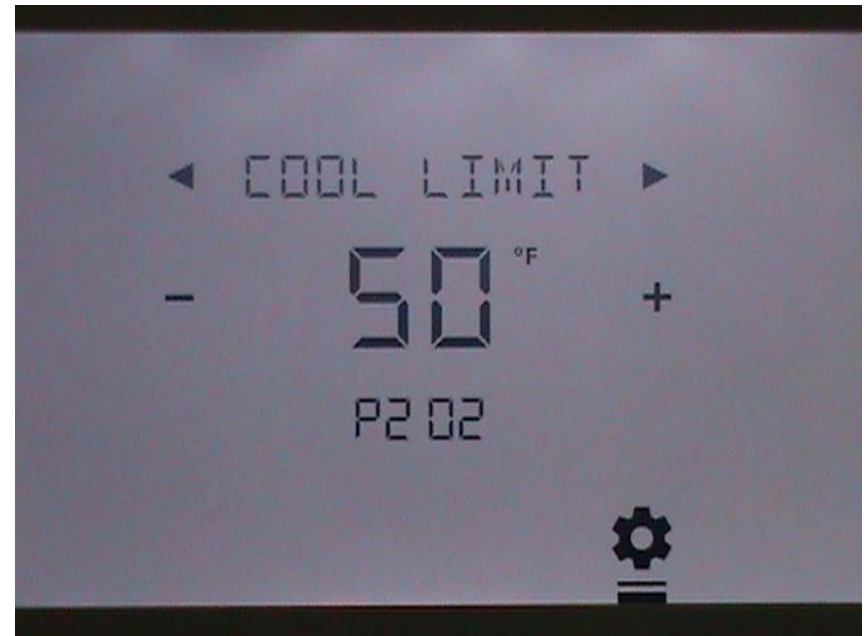
Parameter is not visible in cooling only systems.



Cooling Set Point Limit

Sets minimum cooling set point between 50 – 95 deg F.

Parameter is not visible in heating only systems.



Temperature Offset Adjustment

Adjusts offset of internal temperature sensor in 1 degree F increments



Override Time Period

This configures the time period that the set point can be overridden by the user at the thermostat.

“---” = unlimited

0 = none

2 = 2 hours

4 = 4 hours

6 = 6 hours

8 = 8 hours

10 = 10 hours

12 = 12 hours

96 = 96 hours



Is not visible if there is no schedule

Override Temperature Limit

Number of degrees that user can adjust above or below scheduled set point during override period. Parameter is not visible if schedule is not used.

“---” unlimited

1 to 10 degrees



U V Lamp Service Interval

Sets number of days until U V Lamp Service indication is set.

0 = disabled



Humidifier Service Interval

Sets number of days until Humidifier Service indication is set.

0 = disabled



Filter Service Interval

Sets number of days until Filter Service indication is set.

0 = disabled



Set Key Lock Level

OFF = No lockout.

2 = Partial lockout. User can adjust temperature

3 = Fully lockout



Set 12 or 24 Hour Clock Format

12 = 12 hour format

24 = 24 hour format



Backlight On Time

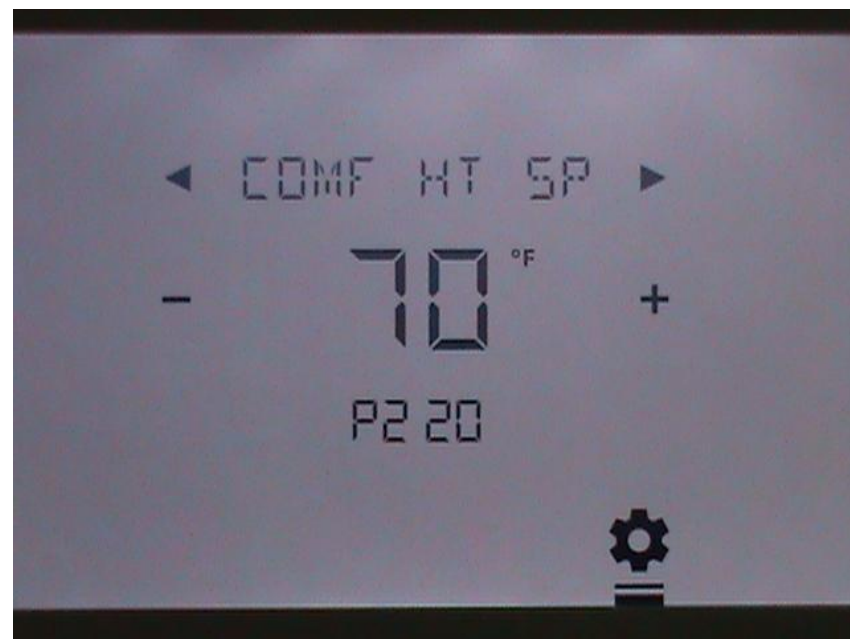
Set number of seconds from 1-99 for screen backlight to stay on after last touch.

0 = backlight always OFF.



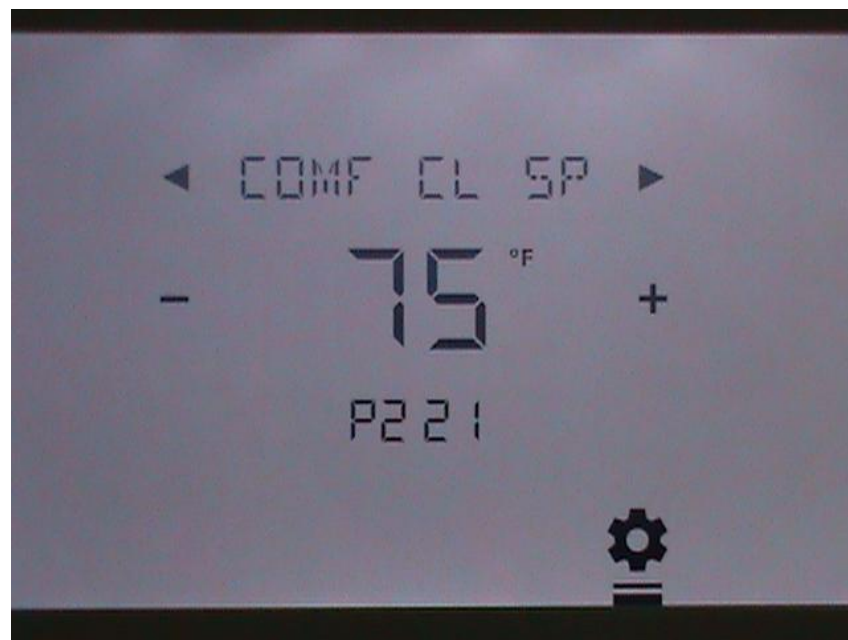
Comfort Mode Heating Set Point

Sets default Heating Set Point when system is in Comfort mode, subject to the Heating Set Point Limit in P201.



Comfort Mode Cooling Set Point

Sets default Cooling Set Point when system is in Comfort mode, subject to the Cooling Set Point Limit in P202.



Economy Mode Heating Set Point

Sets the Heating Set Point when system is in Economy mode. Range is from 40 – 104 degrees F.



Economy Mode Cooling Set Point

Sets the Cooling Set Point when system is in Economy mode. Range is from 45 – 104 degrees F.



Protection Mode Heating Set Point

Sets the Heating Set Point when system is in Protection mode. Range is from 40 – 104 degrees F.



Protection Mode Cooling Set Point

Sets the Cooling Set Point when system is in Protection mode. Range is from 45 – 104 degrees F.

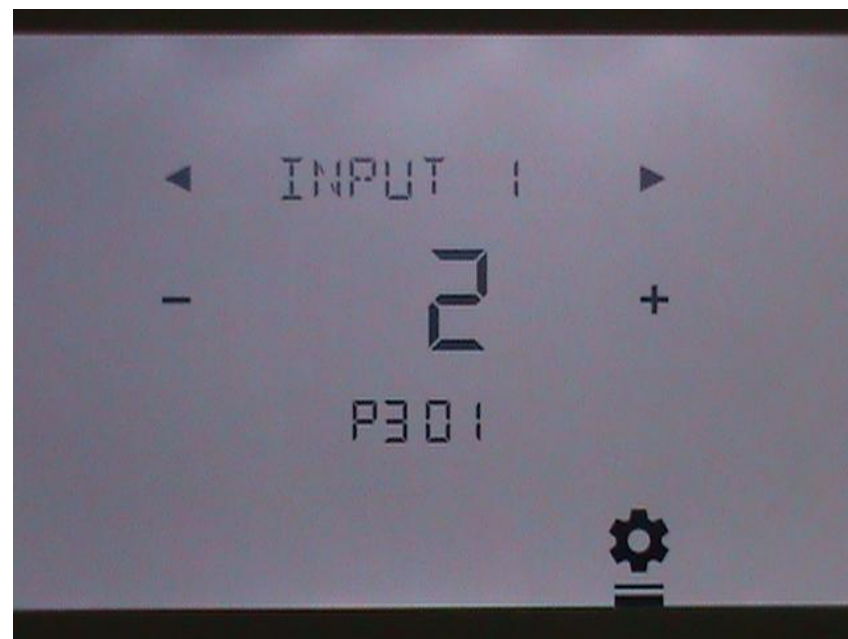


Configure Input Points

Sets Point Type for Input Points. Point 1 shown and repeat for Inputs 2 – 4.

Ensure no duplication between assignments for Inputs 1 – 4.

- 1 = Indoor Temp (Remote)
- 2 = Indoor Temp (Average)
- 3 = Supply Temp
- 4 = Return Temp
- 5 = Outdoor Temp
- 6 = Humidity (0-10V)
- 7 = CO2 (0 – 10V)
- 8 = Occupancy (DI)
- 9 = Fault (DI, triggers Service Indicator)
- OFF = Not used



Configure Temperature Point Type

If Input is configured as temperature input, configure as

1 = Type 2 Thermistor

2 = 0 – 10V

Repeat for other inputs 2 – 4 as prompted.



Remote Temperature Input Calibration (Low End)

If input is configured as Remote Temperature and using 0 – 10V type, this will be visible to prompt calibration of thermostat to low end of temperature sensor signal (0V)



Remote Temperature Input Calibration (High End)

If input is configured as Remote Temperature and using 0 – 10V type, this will be visible to prompt calibration of thermostat to high end of temperature sensor signal (10V)



Configure AUX Output Function

Configure function of each AUX Output. AUX Out 1 shown and repeat for AUX Out 2 and 3. Ensure functions are not duplicated for AUX Outputs.

- 1 = Humidification
- 2 = Dehumidification
- 3 = Occupancy Indication
- 4 = Air Quality Control
- 5 = Economizer Enable
- OFF = Not Used

Note that IAQ control requires CO2 input and if unit is configured as 3H / 3C Conventional, AUX 1 will be fixed as Cooling Stage 3

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Independent Humidity Control

Configures relation between Heating / Cooling and Humidification / Dehumidification.

Yes = Humidification or Dehumidification Control independent of Heating or Cooling.

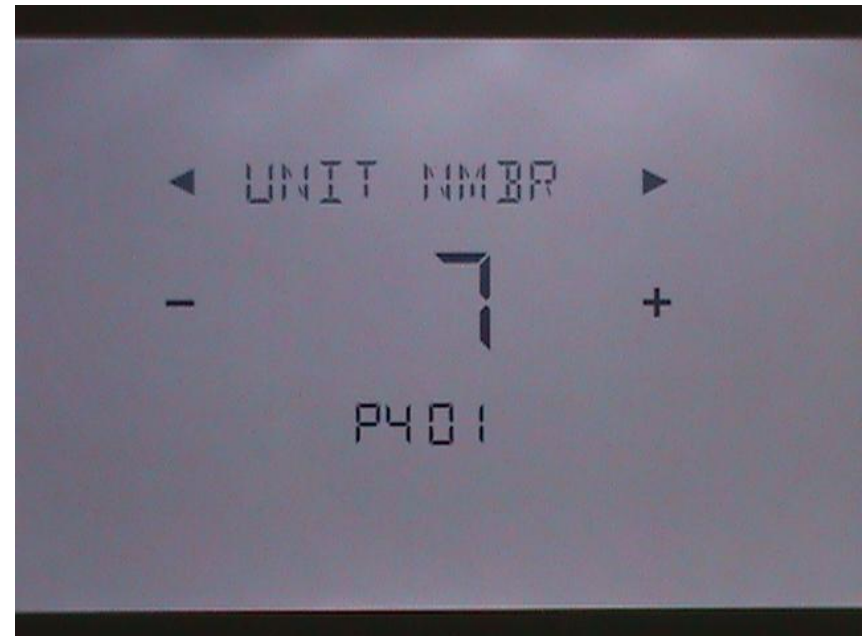
No = Humidification or Dehumidification Control active only when Heating or Cooling is active.



Unit Number

Select the Unit Number to be displayed to identify the HVAC unit being controlled by the thermostat, if desired.

Tap the + o – to select the desired number between 0 and 999.



Semi Continuous Fan

Configures if the fan runs when schedule or occupancy sensor indicates occupancy.

Choose No if fan only runs when heating or cooling is active.



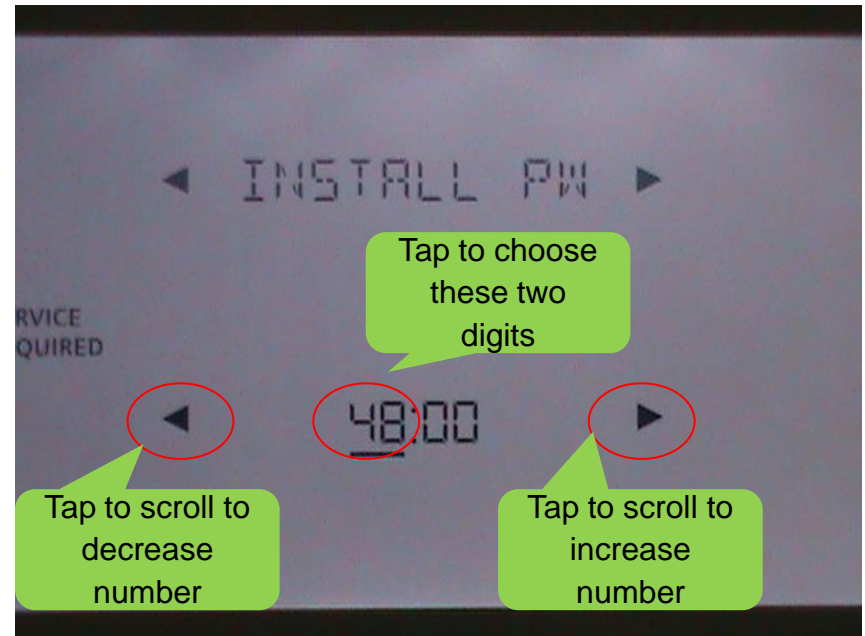
Set Installer Password

Set password to restrict access to the menu items between INSTALLER screen and this screen.

Set password by tapping on the first 2 digits, which will be underlined. Then use the left or right arrow to scroll through numerical value to set desired.

Repeat for the other 2 digits. The range of number is from 0000 to 4999.

Then tap INSTALL PW to indicate finish.



Expert Menu

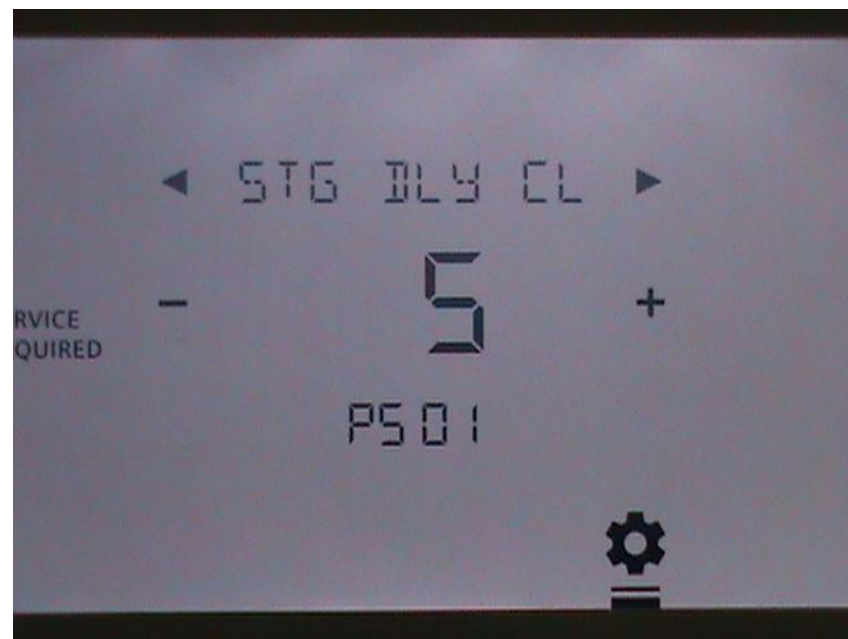
The next set of menus relate to advanced tuning of parameters or test wiring by turning on each pilot relay.

The user should have a good understanding of the parameters and the effects of turning on the outputs in order to prevent degraded comfort, inability to connect to the EMS or mechanical damage.



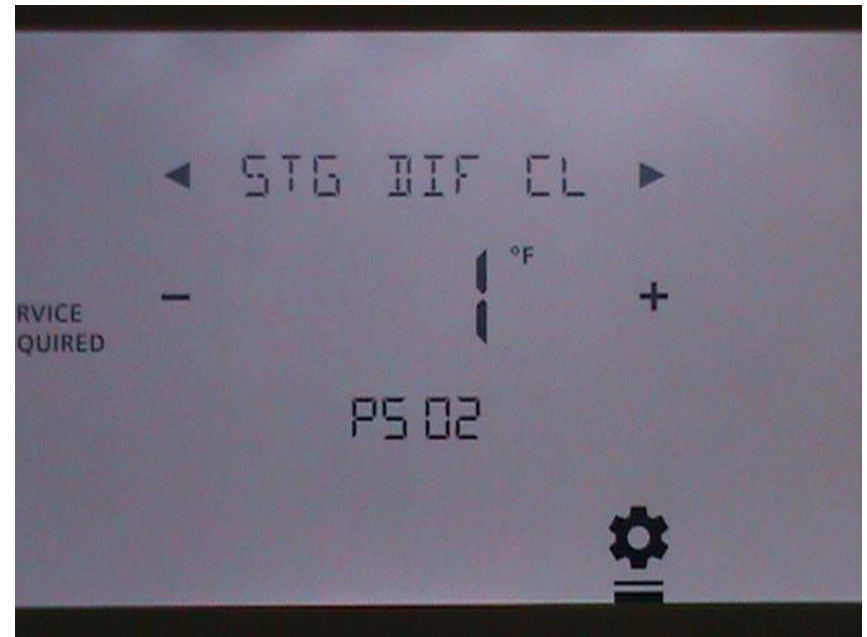
Interstage Delay -- Cooling

Time delay before next stage of cooling is activated. Range is 1 to 10 minutes and default is 5 minutes.



Interstage Differential -- Cooling

Degrees above cooling deadband before Interstage Delay Timer is initiated. Range is 1 to 10 deg F and default is 1 deg F.



Minimum Off Time Cooling

Minimum time between compressor starts. Range is 1 to 10 minutes and default is 5 minutes.



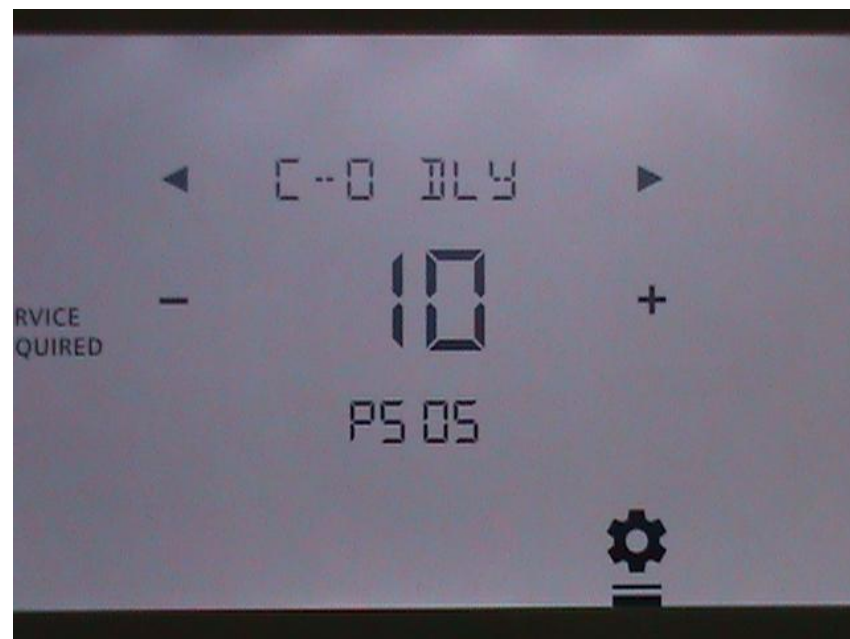
Minimum Run Time Cooling

Configures the minimum running time for any stage of cooling. Range is 1 to 10 minutes and default is 3 minutes.



Change Over Delay

Configures the delay time between switching from cooling to heating or vice versa. Range is 1 – 60 minutes and default is 10 minutes.



Cooling Deadband

Configures the Cooling Deadband.

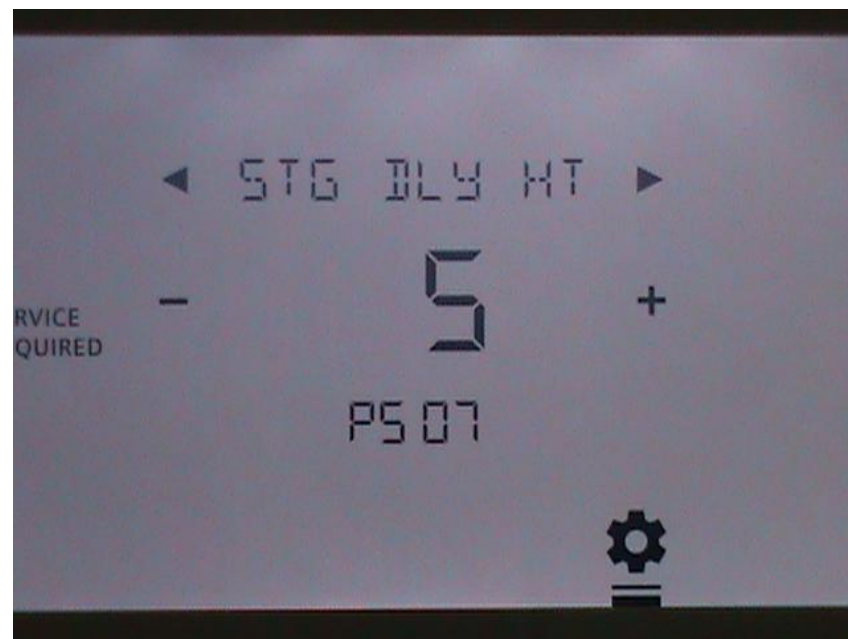
When temperature exceeds set point plus half the deadband, cooling will initiate. When temperature reaches set point minus half the deadband, cooling will stop.

Range is 1 to 5 deg F with default is at 1 deg F.



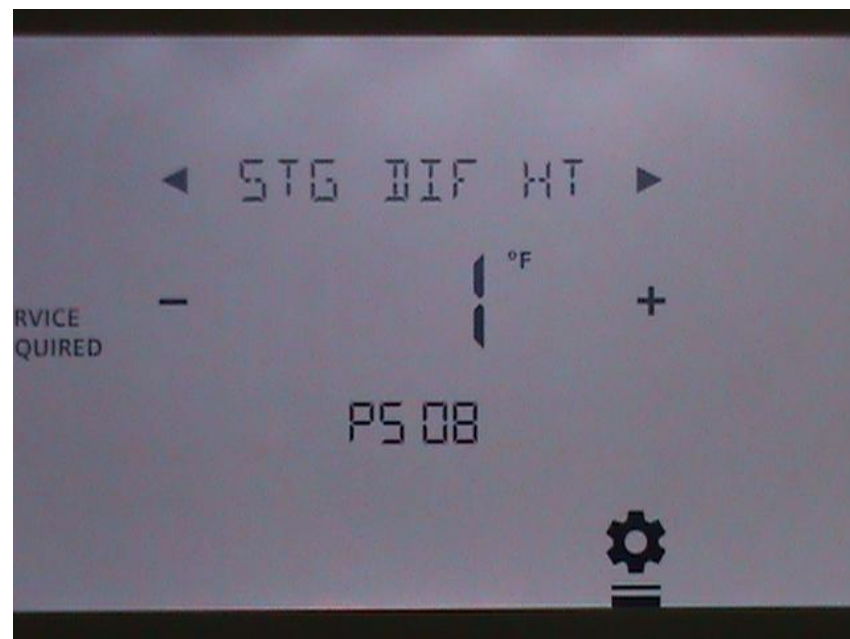
Interstage Delay -- Heating

Time delay before next stage of heating is activated. Range is 1 to 10 minutes and default is 5 minutes.



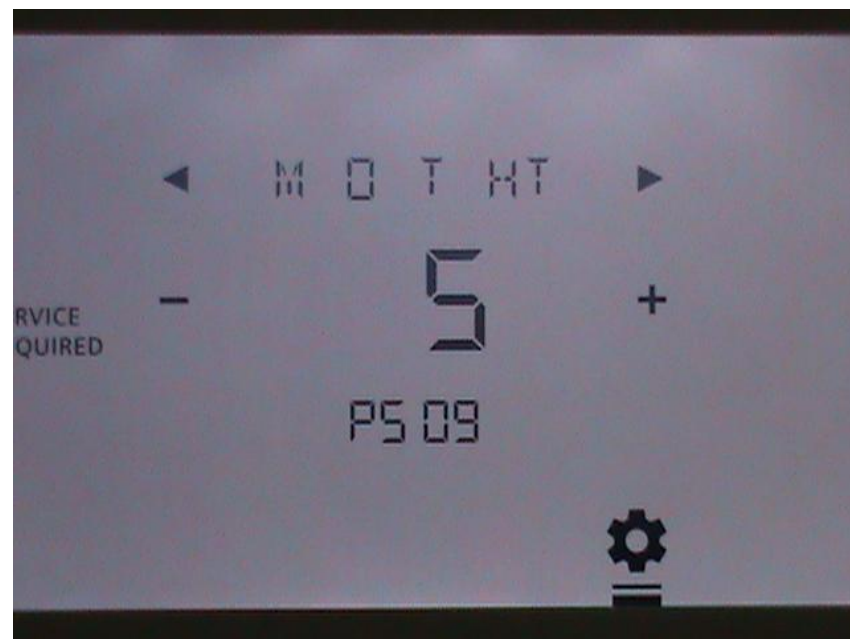
Interstage Differential -- Heating

Degrees below heating deadband before Interstage Delay Timer is initiated. Range is 1 to 10 deg F and default is 1 deg F.



Minimum Off Time Heating

Minimum time between heater starts.
Range is 1 to 10 minutes and default is
5 minutes.



Minimum Run Time Heating

Configures the minimum running time for any stage of heating. Range is 1 to 10 minutes and default is 3 minutes for conventional and 10 minutes for heat pump.

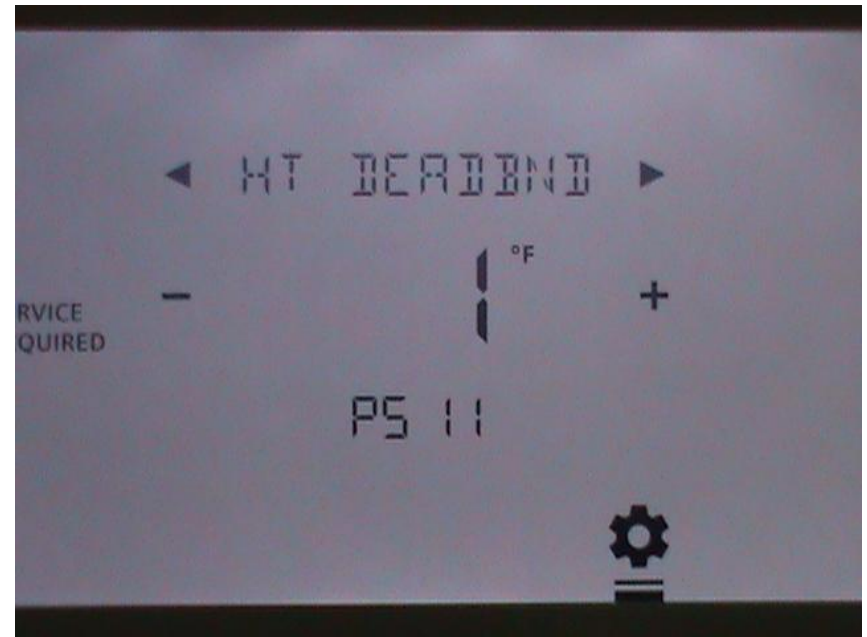


Heating Deadband

Configures the Heating Deadband.

When temperature falls below set point minus half the deadband, heating will initiate. When temperature reaches set point plus half the deadband, heating will stop.

Range is 1 to 5 deg F with default is at 1 deg F.



BACnet MS/TP MAC Address

The following few screens depicts how to configure the BACnet parameters for proper communications.

This configures the MAC address of the RDY2000BN on any particular MS/TP network. While the normal range is 0 – 255, many BMS, such as the Siemens branded ones, require the unit to be configured as a Master node. To be a master node, it needs to be set to between 1 and 127.



Baud Rate

This configures the baud rate that the RDY2000BN will communicate at. Auto value will match detected Baud Rate. In systems that support auto-discovery, such as the Siemens branded systems, leave the value at default "A".

A = Autobaud

9.6 = 9600

19.2 = 19200

38.4 = 38400

57.6 = 57600

76.8 = 76800

115.2 = 115200



Device ID or Instance

The device ID or Instance ranges from 0 to 4194303. For systems that support Auto Discovery, like Siemens branded BMS, leave it at default of 4194303. Otherwise, the left arrow or right arrow can be used to advance (wrap around to zero) or decrement from the default.



Max Master

This parameter has a range of 1 – 127 but is usually left at 127 to ensure discovery of new devices.



Serial Number

This is a read only parameter. When the SER NR icon is tapped, the factory programmed, unique serial number for the unit is displayed.



Max Info Frame

This parameter has a range of 1 – 10 and has a default of 1.



Firmware Version

This is a read only screen displaying the firmware version that is currently running on the unit.



Testing Individual Outputs

This provides the expert installer a means to individually toggle each digital outputs between the OFF state to ON state to check for wiring or operational issues. Please note that when this screen is entered, all running control logic is suspended and all outputs are turned OFF until this test mode has completed. Use the upper left and right arrow to choose between Y1, Y2, O/B, G, W1, W2, OUT1, OUT2 & OUT3.



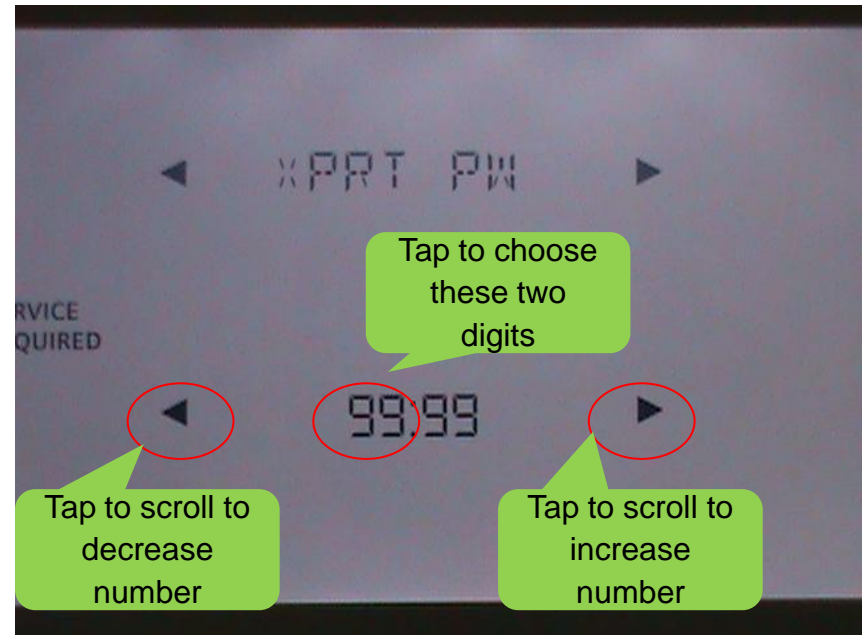
Set Expert Password

Set password to restrict access to the EXPERT menu.

Set password by tapping on the first 2 digits, which will be underlined. Then use the left or right arrow to scroll through numerical value to set desired.

Repeat for the other 2 digits. The range of number is from 5000 to 9999.

Then tap XPRT PW to indicate finish.



RESTORE ?

This screen allows the EXPERT user to reset the thermostat to its original factory state. All parameters will be lost and the unit will re-start from the Wizard mode as if it had just been programmed by the factory.

To do so, change the display to YES and then tap the RESTORE icon to effect the reset.

