SER8150RxB1194

User Interface Guide

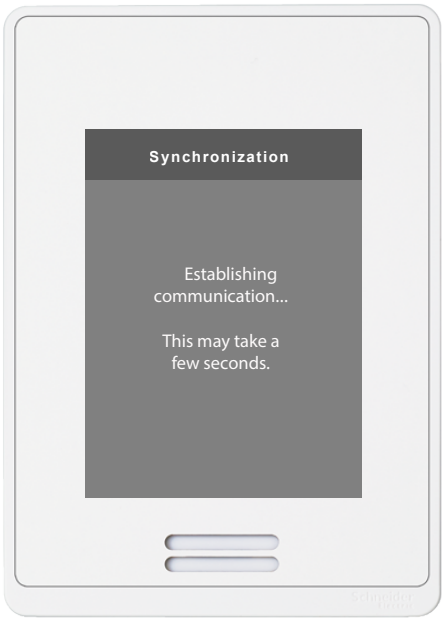
Remote Controller for Panasonic VRF Systems

Release 1

Power up Remote Controller

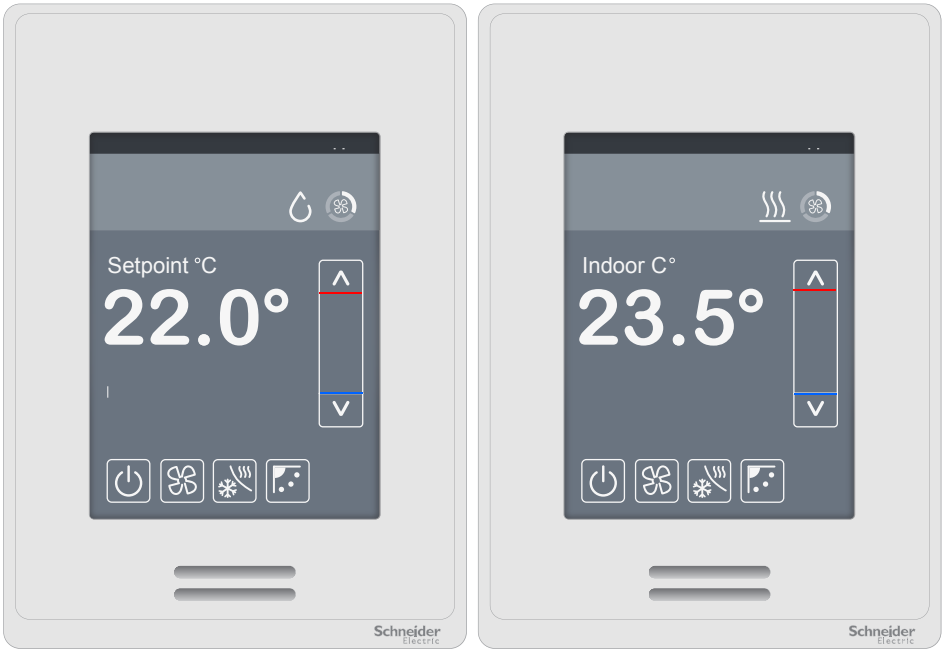
INITIAL POWER UP

When powering up the Remote Controller for the first time or if power to the Remote Controller is cut and restored, the device must establish communication with Panasonic indoor unit equipment. The synchronization between the Remote Controller and Panasonic indoor unit equipment normally takes a few seconds. When synchronization is completed, normal communication is established and the user interface screen is shown.



USER INTERFACE SCREEN MODES

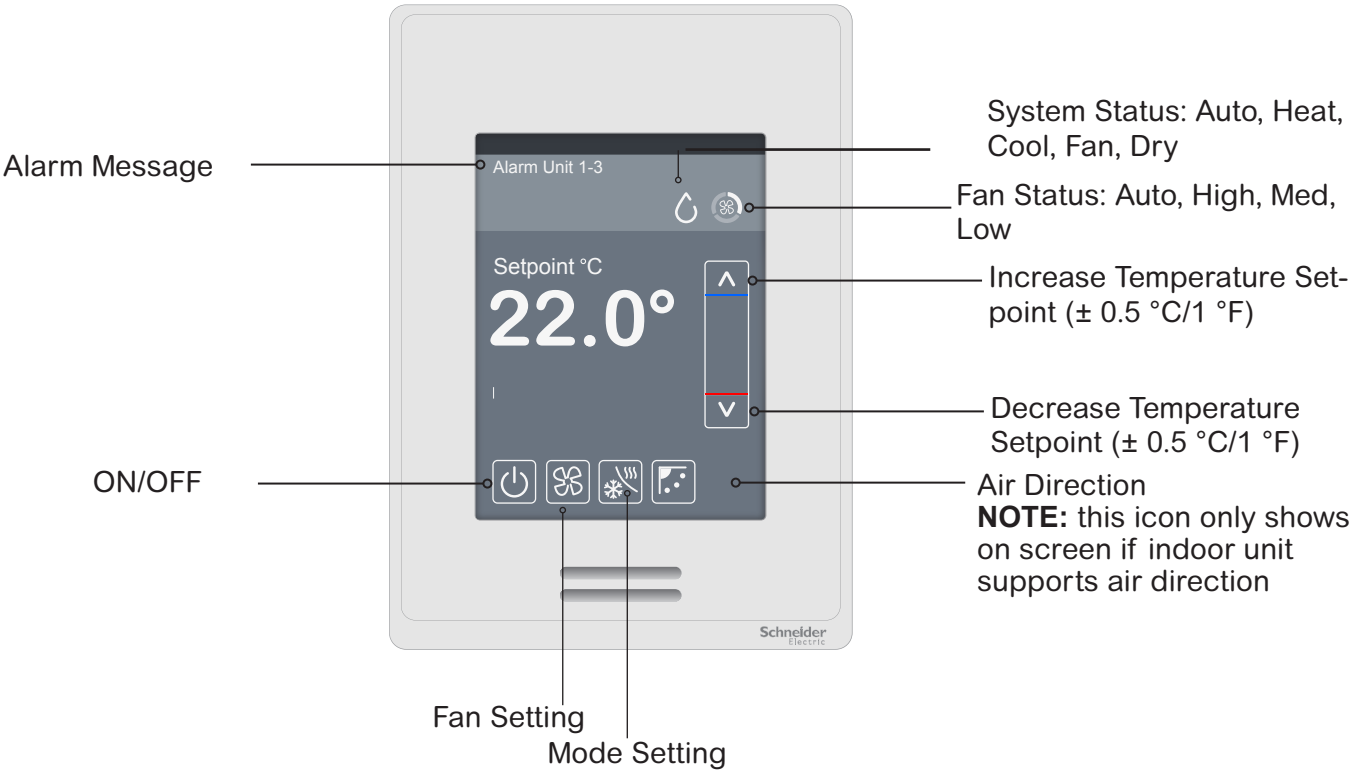
User Interface screens can be dependent on User Settings and the master indoor unit type connected to the Remote Controller. Users can set the HMI screen to show Indoor Temperature or Setpoints.



Setpoint **Temperature**

USER INTERFACE SCREEN - TYPICAL

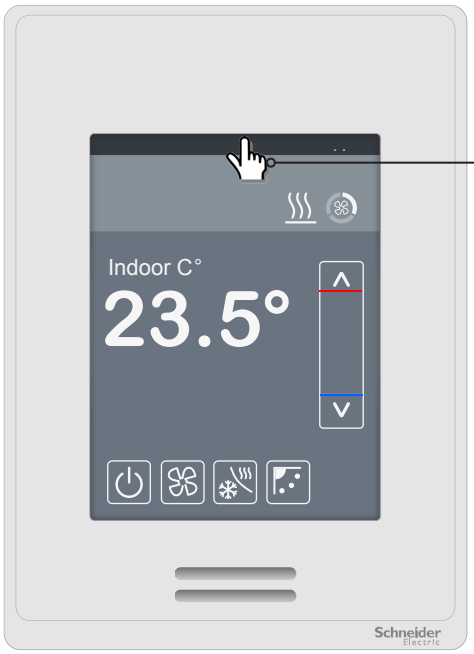
The below shows a typical HMI screen when set to Indoor Temperature



Access Remote Controller

ENTER SET UP MODE

The user or the installer can access the parameter settings for the Remote Controller. A password can be set for parameters that can be accessed by the user or the installer. Refer to the below illustration to access Remote Controller.

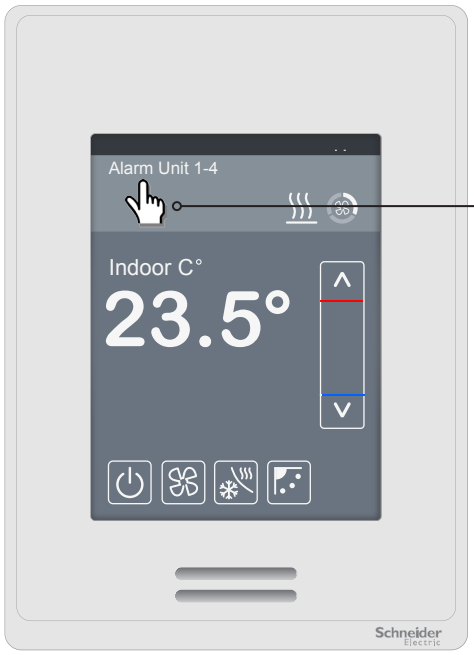


Touch and hold this point
for 3 seconds to enter setup mode

Note: hold finger tip close to top edge of screen.

ALARM UNIT

The Alarm Unit message shows on the standby screen if there is an alarm associated with any Indoor Unit.

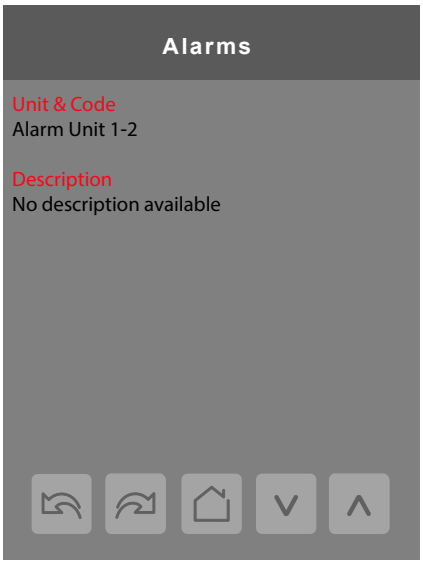


Touch and hold Alarm Unit to enter Alarms screens.

Short alarm message on HMI includes two parts: Alarm Unit number and Alarm code. Example: Alarm Unit 1-4: E09

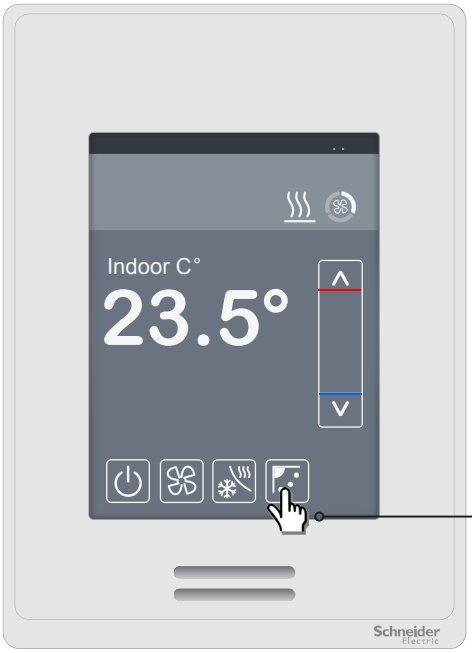
ALARM UNIT MESSAGE

The below shows an example Alarm message on the Remote Controller.



AIR DIRECTION

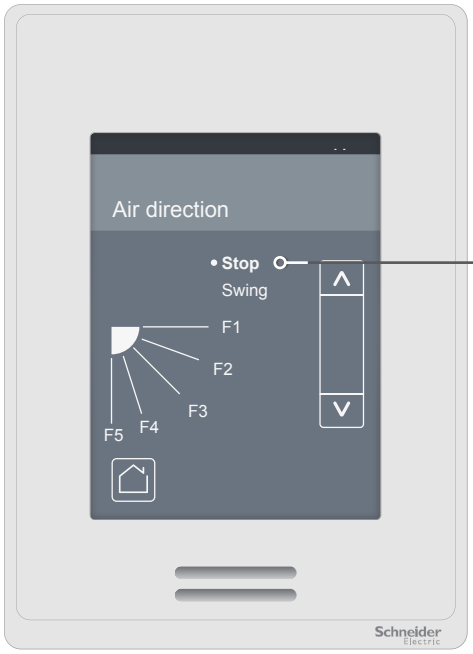
The Remote Controller has five individual (F1 - F5) states of air direction for Heat, Cool, Fan and Auto modes. Available Air Direction states are dependant on the type of Panasonic equipment connected to the Remote Controller.



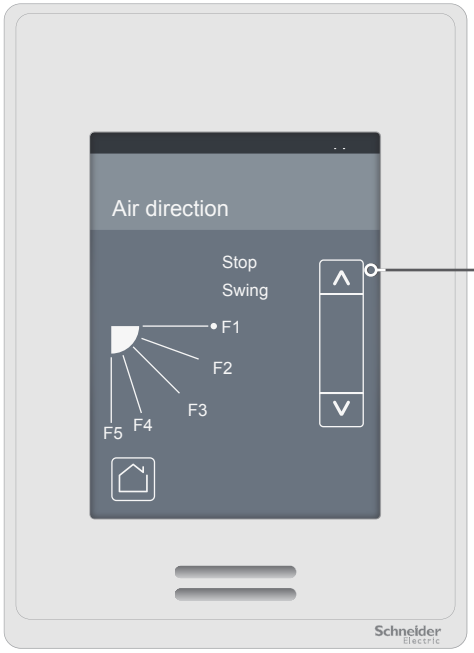
NOTE: F1-F5: supports Heat, Cool, Fan, Dry and Auto for Heat and Fan

F1 - F3: supports Cool and Auto(Cool)

Touch icon to access Air Direction screen
NOTE: this icon only shows on screen if IDU supports air direction



Stop
No air direction

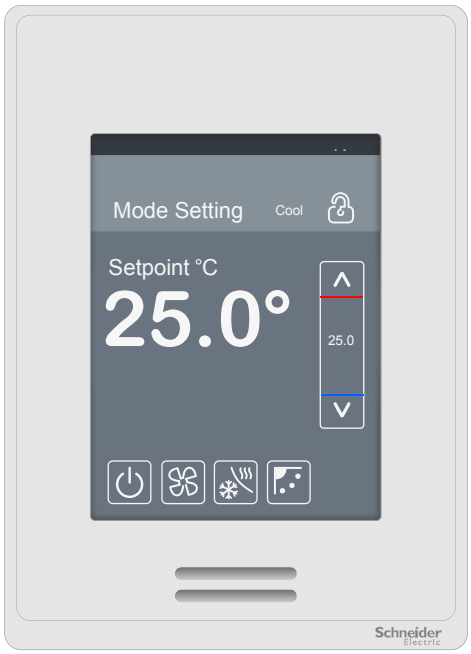


State
Use Up/ Down arrows to set air direction state

LOCKOUT

The mode lockout is set according to Panasonic unit requirements as follows.

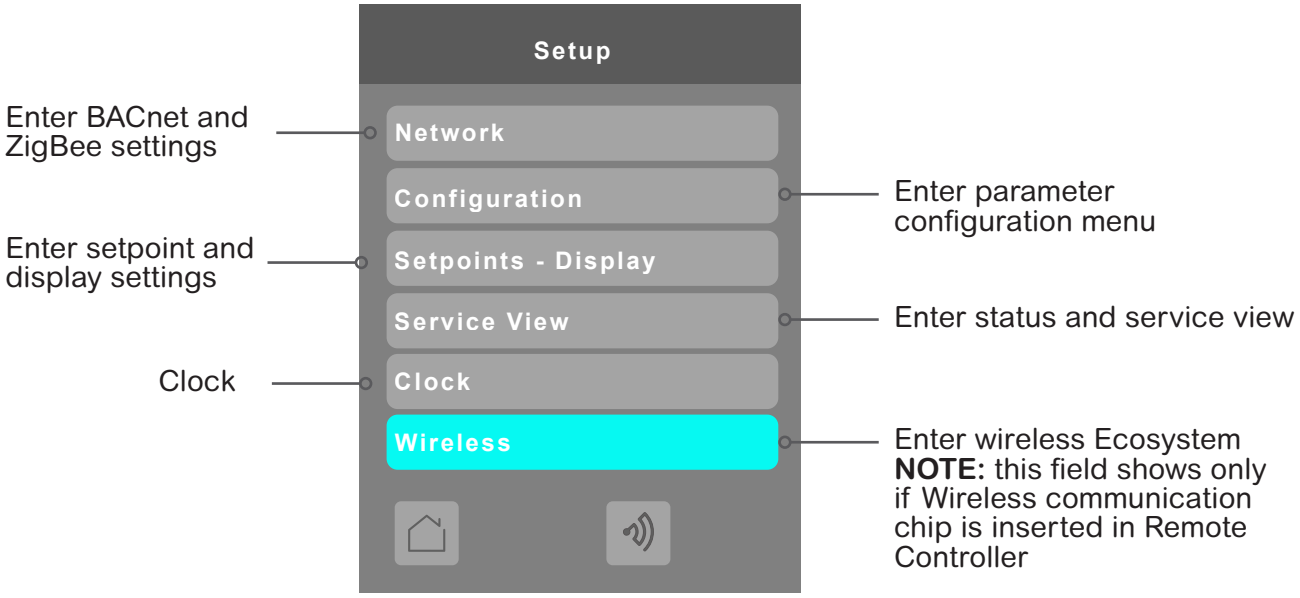
- **Case 1:** lock Auto mode when indoor unit does not support Auto mode.
- **Case 2**: lock Heat mode when indoor unit prohibits Heat mode.
- **Case 3**: lock Cool and Dry mode when indoor unit prohibits Cool and Dry mode.

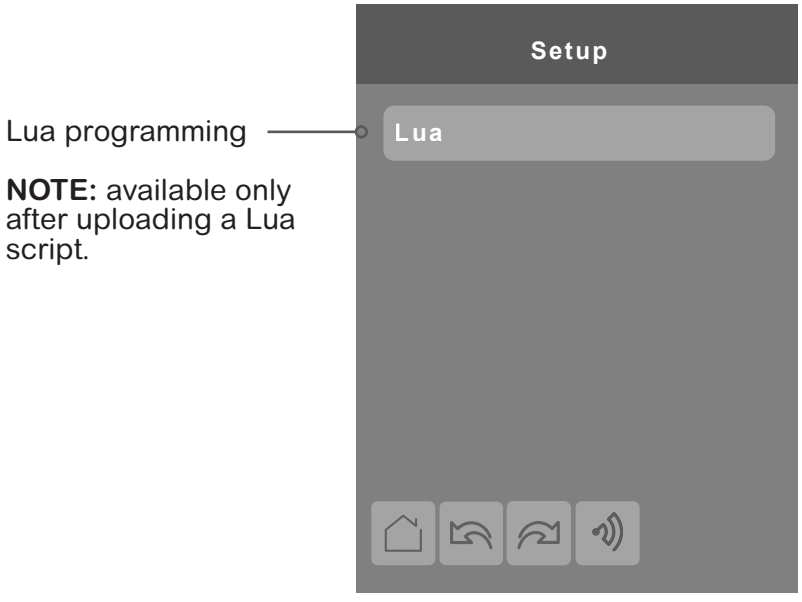


Remote Controller Parameters

SETUP

The Setup screen allows the User to access, change, and edit the parameters on the Remote Controller.



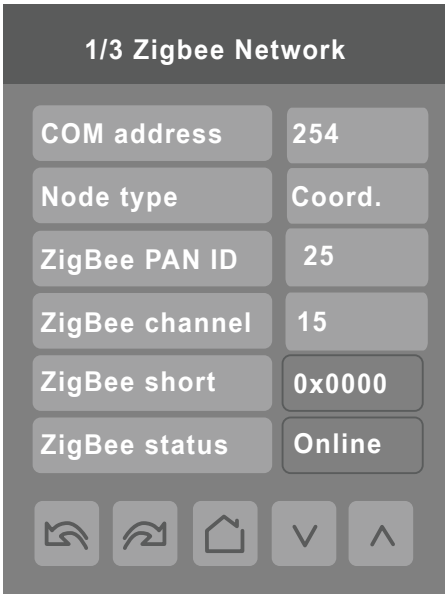


NETWORK

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Optional prot. **READ ONLY**	**Optional Protocol** **None:** No ZigBee card detected **ZigBee:** ZigBee card detected
Wire protocol Default value: **BACnet**	**Wired Protocol** **None:** No wired protocol configured **BACnet:** Enable BACnet network protocol **Modbus:** Enable Modbus network protocol **Choices**: None, BACnet or Modbus

ZIGBEE NETWORK SCREEN 1/3



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
COM address Default value: **254**	**COM Address** Remote Controller networking address. For wireless models, the use of the COM address is not mandatory. The COM address is an optional way to identify a device on the network and is recommended if used with an MPM. It is mandatory for BACnet. **Range**: 0 to 254
Node type Default: **Router**	**Node type** Select Coordinator for stand-alone installation and for use of wireless door and window switches. Router cannot be used at this time. This is a future option. **Choices:** Coordinator or Router
ZigBee Pan ID Default value: **0**	**ZigBee® Pan ID** Personal Area Network Identification that links specific Remote Controllers to specific ZigBee® coordinators. For every Coordinator, use a different PAN ID. **NOTE:** The default value of 0 is NOT a valid PAN ID. **Range**: 1 to FFFE

ZigBee channel Default value: **10**	**ZigBee Channel** The default value of 10 is **NOT** a valid channel. The valid range of available channel is from 11 to 25. **Using channels 15 and 25 is recommended.** **Range**: 10 to 25
ZigBee short Default value: **0** **READ ONLY**	**ZigBee Short Address** ZigBee short address. The unique address is generated once a router device joins a ZigBee network. This feature is for diagnostic purposes and not used when "Node type" is set to Coordinator.
ZigBee status **READ ONLY**	**ZigBee Status** **Not det**: ZigBee module not detected **Pwr on:** ZigBee module detected but not configured **No NWK**: ZigBee configured but no network joined **Joined**: ZigBee network joined **Online**: Communicating

ZIGBEE NETWORK SCREEN 2/3

PARAMETER DETAILS

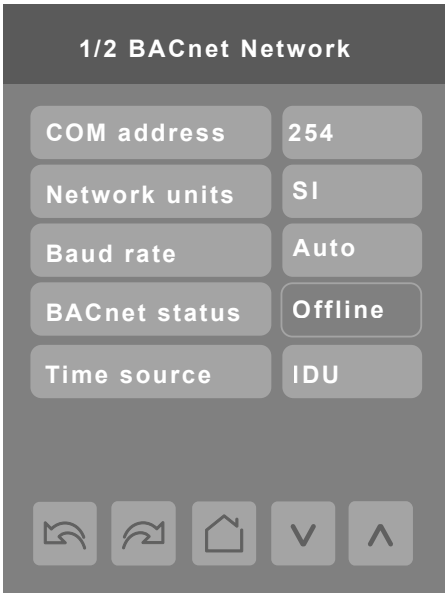
Configuration Parameters Default Value	Significance and Adjustments
Door installed **READ ONLY**	**Door Sensor Installed** Not used. Future option.
Win. installed **READ ONLY**	**Window Sensor Installed** Not used. Future option.
Low bat. alarm **READ ONLY**	**Low Battery Alarm** Shows an alert when one or more sensors has a low battery alarm. **Status**: Off or On
Permit join Default value: **Off**	**Permit Join** **Coordinator:** When permit join shows Off, no new ZigBee devices can join the network. **Router:** Must set to **On** to join a coordinator network. **Important:** Set to off after joining process is completed to prevent and new devices from joining. The permit join automatically goes back to "Off" after 3 hours. **Status**: Off or On

ZIGBEE NETWORK SCREEN 3/3

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
IEEE address **READ ONLY**	**IEEE Address** The extended IEEE ZigBee node address identifies the device on the network.

BACNET NETWORK SCREEN 1/2



PARAMETER DETAILS

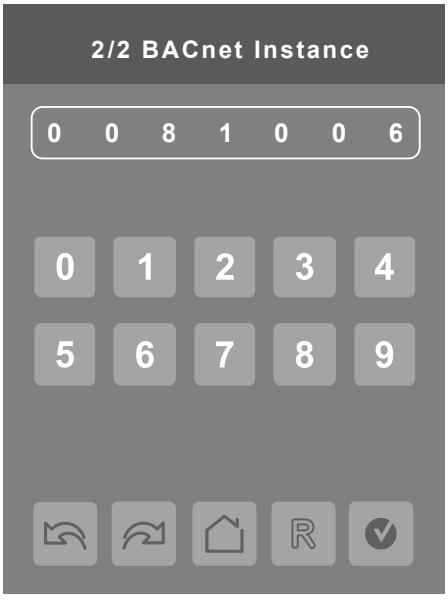
Configuration Parameters Default Value	Significance and Adjustments
Comm address Default value: **254**	**Communication Address** Remote Controller networking address. For BACnet® MS-TP models, the valid range is from 1 to 127. Default value of 254 disables BACnet® communication for the Remote Controller. **Range**: 0 to 254
Network units Default value: **SI**	**Measurement Units** **Imperial**: network units shown as Imperial units. **SI**: network units shown as International Metric units. **Choices**: Imperial or SI
Baud rate Default value: **Auto**	**BACnet Baud Rate** Leave the value at **Auto** unless instructed otherwise as this automatically detects BACnet® MS/TP baud rate. **Choices**: Auto, 115200, 76800, 57600, 38400, 19200, and 9600
BACnet status **READ ONLY**	**BACnet Status** Read only value showing if a BACnet Network is detected or not. **Status**: Online or Offline
Time source Default value: **IDU**	**Time Source** Determines if Remote Controller receives time source information from BACnet Automation Server or from Panasonic indoor unit. The Panasonic indoor unit does not require any time to perform the action. When Time source is set to indoor unit, the Remote Controller receives the time from either the Panasonic Room Controller or from another Room Controller installed in another group connected to the same outdoor unit. **Status**: IDU or BACnet

BACNET INSTANCE NUMBER

The default BACnet® instance number is generated by the model number and COM address of the Remote Controller.

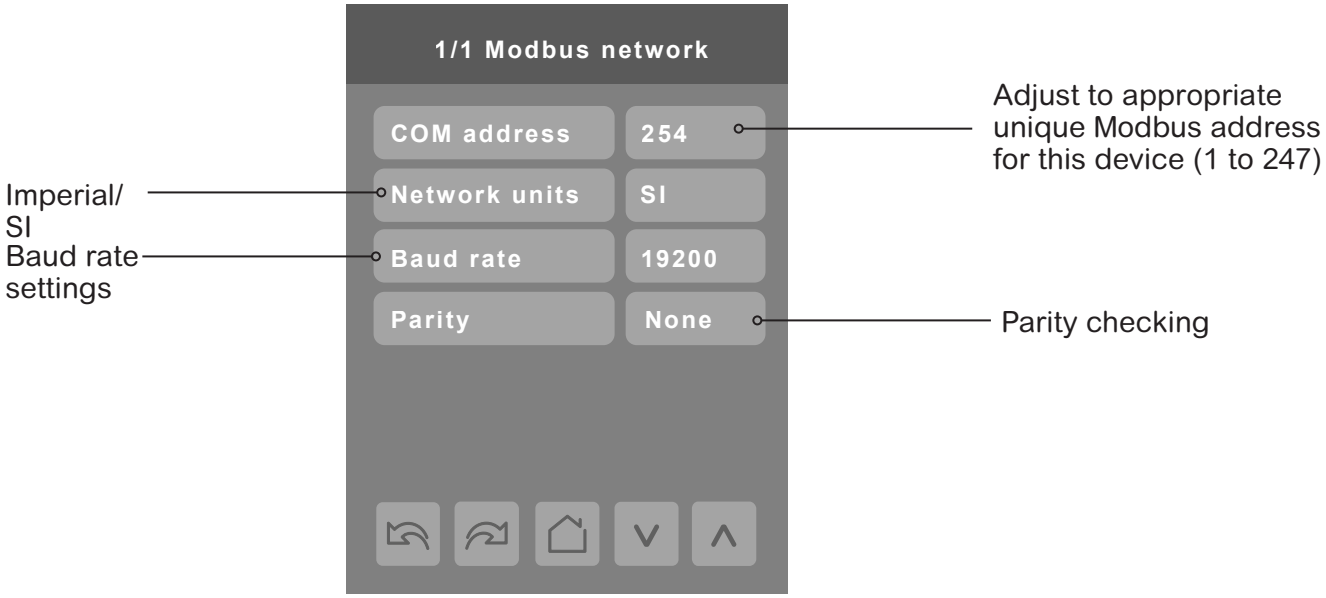
The default instance number appears first. To change the instance number, use number pad and press Accept and save.

Press **R** to reset to automatic instance addressing. Each device over a large BACnet network must have a unique instance number. This number is shown on most SCADA systems, to properly identify end devices.



MODBUS NETWORK SETTINGS

Modbus network set-up screen shows when Modbus is detected in model. Select desired parameter and use up or down arrow to set parameter to desired value.



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Comm address Default value: **254**	**Communication Address** Valid address range is set at 1 to 247 and each Modbus device must have a unique address. Other values not recommended for Modbus. **Range**: 0 to 254
Network units Default value: **SI**	**Measurement Units** **Imperial**: network units shown as Imperial units. **SI**: network units shown as International Metric units. **Choices**: Imperial or SI
Baud rate Default value: **19200**	**Modbus Baud Rate** Leave the value as is unless instructed otherwise as this automatically detects Modbus baud rate. **Choices**: 4800, 9600, 19200, 38400, 57600
Parity Default value: **Even**	**Parity** Parity checking of the data character frame. **Choices**: None, Odd and Even

CONFIGURATION PARAMETERS SCREEN 1/3

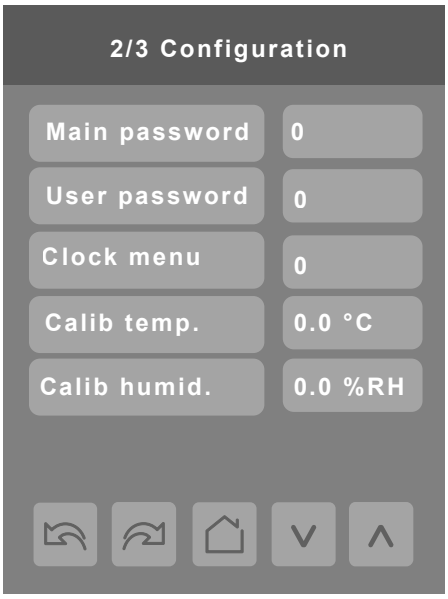
The values on Configuration 1/3 screen are read only on the HMI. The values can only be changed via BACnet or the Panasonic Unit.

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
ON/OFF Default value: **Allowed** **READ ONLY**	**Allowed**: makes icon visible on user screen **Prohibited**: removes icon on user screen **Status:** Allowed or Prohibited
Fan mode Default value: **Allowed** **READ ONLY**	**Fan Mode** **Prohibited**: removes icon on user screen **Allowed**: makes icon visible on user screen **Status:** Allowed or Prohibited
Mode prohib. Default value: **Allowed** **READ ONLY**	**Mode** **Prohibited**: removes icon on user screen **Allowed**: makes icon visible on user screen **Status:** Allowed or Prohibited
Air dir. prohib. Default value: **Allowed** **READ ONLY**	**Air Direction** **Prohibited**: removes icon on user screen **Allowed**: makes icon visible on user screen **Status:** Allowed or Prohibited

Setpoint Default value: **Allowed** **READ ONLY**	**Setpoint** **Prohibited**: removes icon on user screen **Allowed**: makes icon visible on user screen **Status:** Allowed or Prohibited
Sensor ctrl Default value: **IDU**	**Sensor Control Source** **IDU:** System control is from the temperature reading from the suction side of the indoor unit **Local:** System control is from the Remote Controller embedded temperature sensor (on the wall) **Choices:** IDU or Local

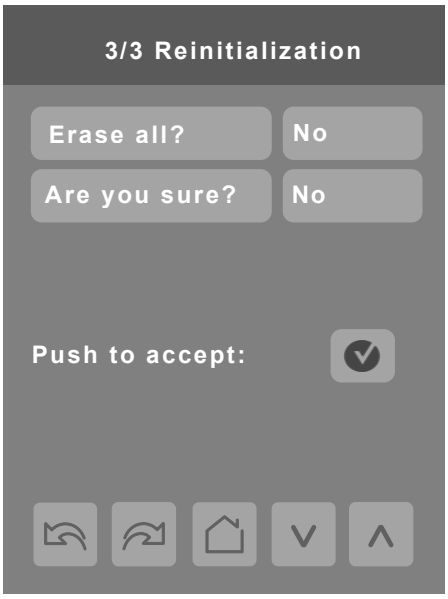
CONFIGURATION PARAMETERS SCREEN 2/3



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Main password Default value: **0**	**Main Password** Installer password. This parameter sets a protective access password to prevent unauthorized access to configuration menu parameters. Default value of 0 does not lock access configuration menu. **Range:** 0 - 9999.
User Password Default value: **0**	**User Password** This parameter sets a protective access password to prevent user unauthorized access to main screen adjustments. Default value of 0 does not prompt a password. **Range: 0 - 9999.**
Clock menu Default value: **Enabled**	**Clock Menu** Toggles activation of clock menu direct access **Enabled:** Clock Menu is directly accessible from the main screen via a touch in the upper corner. **Disabled**: Clock Menu can only be accessed through the Setup Menu screens. **En. no. clk:** Clock Menu is directly accessible from the main screen via a touch in the upper corner. Clock does not show. **Dis. no. clk**: Clock Menu can only be accessed through the Setup Menu screens. Clock does not show. **Choices:** Disabled, Enabled, Disabled no Clock, Enabled no Clock
Calib. temp. Default value: **°C**	**Calibration Temperature** Room temperature sensor calibration. Offset can be added or subtracted to actual displayed room temperature. **Range: ± 5.0 °F, 1.0 °F increments (± 2.5 °C, 0.5 °C increments)** **Note:** dependant on type of Panasonic equipment connected to the Remote Controller.
Calib. humid. Default value: **0.0 %RH** **Models with humidity sensor only.**	**Humidity Sensor calibration** Offset that can be added/subtracted to actual displayed humidity. **Range is : ± 15.0 %RH.**

CONFIGURATION PARAMETERS SCREEN 3/3

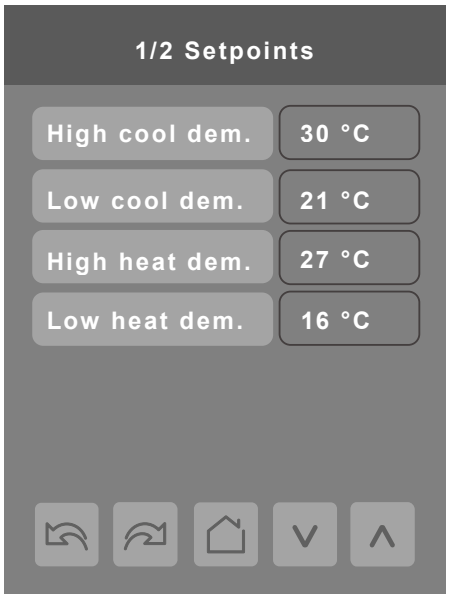


PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Erase all? Default value: **No**	Erase All Answering Yes on both and pressing the Accept button erases all values and sets the values to factory default values with exception of the following: COM address ZigBee® Pro Pan ID ZigBee® Pro channel Network units Network language Baud rate BACnet® instance Device name Screen Contrast
Are you sure? Default value: **No**	

SETPOINTS SCREEN 1/2

READ ONLY →

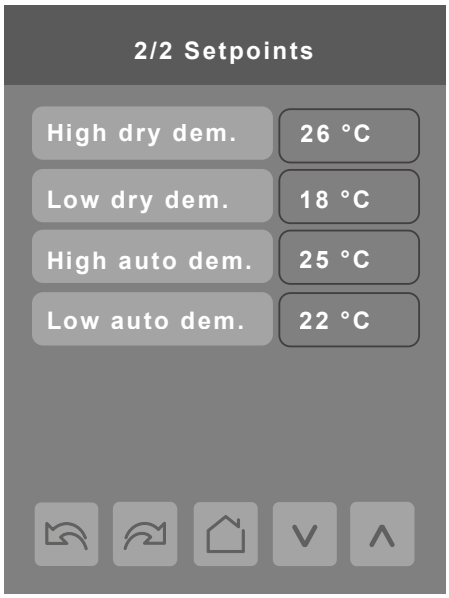


PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
High cool dem. Default value: **retrieved from IDU** **READ ONLY**	**High Cool Demand** **Range:** 16-30 °C (61 °- 86 °F)
Low cool dem. Default value: **retrieved from IDU** **READ ONLY**	**Low Cool Demand** **Range:** 16-30 °C (61 °- 86 °F)
High heat dem. Default value: **retrieved from IDU** **READ ONLY**	**High Heat Demand** **Range:** 16-30 °C (61 °- 86 °F)
Low heat dem. Default value: **retrieved from IDU** **READ ONLY**	**Low Heat Demand** **Range:**16-30 °C (61 °- 86 °F)

SETPOINTS SCREEN 2/2

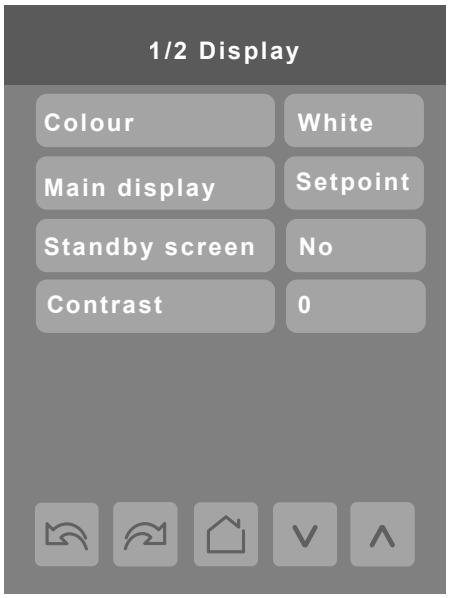
READ ONLY →



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
High dry dem. Default value: **retrieved from IDU** **READ ONLY**	**High Dry Demand** **Range:** 16-30 °C (61 °- 86 °F)
Low dry dem. Default value: **retrieved from IDU** **READ ONLY**	**Low Dry Demand** **Range:** 16-30 °C (61 °- 86 °F)
High auto dem. Default value: **retrieved from IDU** **READ ONLY**	**High Automatic Demand** **Range:** 16-30 °C (61 °- 86 °F)
Low auto dem. Default value: **retrieved from IDU** **READ ONLY**	**Low Automatic Demand** **Range:** 16-30 °C (61 °- 86 °F)

DISPLAY SCREEN 1/2



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Colour Default value: **White**	**Screen Colour** Change background colour **Choices:** White, Green, Blue, Grey, Dark Grey
Main display Default value: **Setpoint**	**Main Display** Toggle between what shows on the main screen between the temperature or setpoint. **Choices:** Temperature or Setpoint
Standby screen Default value: **No**	**Standby Screen*** When the device is left unattended for 2 minutes background backlight dims. Installers can load a custom image for brand identification. **Choices:** No, Yes, Occupied Only **NOTE:** Screen Saver. Screen saver is recommended. See disclaimer on following page.
Contrast Default value: **0**	**Contrast** Control screen contrast and brightness: 0 is least bright, most contrast; 5 is most bright, least contrast. **Range:** -5 to 5

*Disclaimer

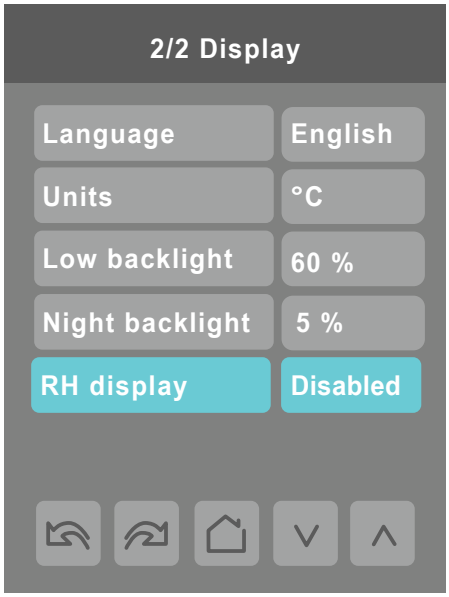
Standby screen: The Remote Controller incorporates TFT-type LCD technology, and therefore, necessary precautions are required to prevent the phenomenon of image retention (residual image) from occurring.

Image retention may occur when a static image is displayed on the screen for a prolonged period of time. This can cause a faint outline of the image to remain visible on the screen when the screen is changed via the user menu, or a different image is uploaded and selected to be displayed. To minimize and prevent image retention, it is recommended to select the **Screen Sav** setting on the **Standby screen** selection from the setup menu **Setpoints - Display' on screen 1/2 Display**. This setting switches the display during periods of inactivity from the Home Screen.

It is recommended to use a black or medium gray image, or one with light color contrasts as the screen saver to prevent this phenomenon from occurring. If the display still exhibits this phenomenon, loading an all-black or all-medium gray image as the screen saver and displaying it for upwards of 5 hours continuously minimizes this effect.

NOTE: Avoid placing the Remote Controller in poorly ventilated areas, or in areas that may create excess heat around the display.

DISPLAY SCREEN 2/2

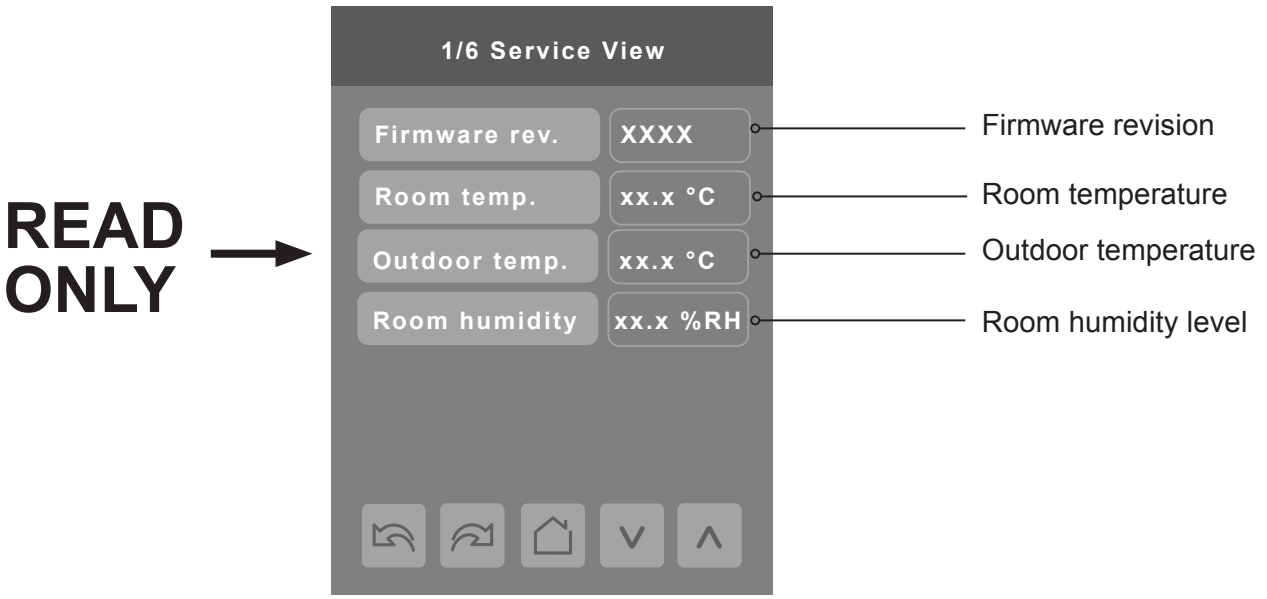


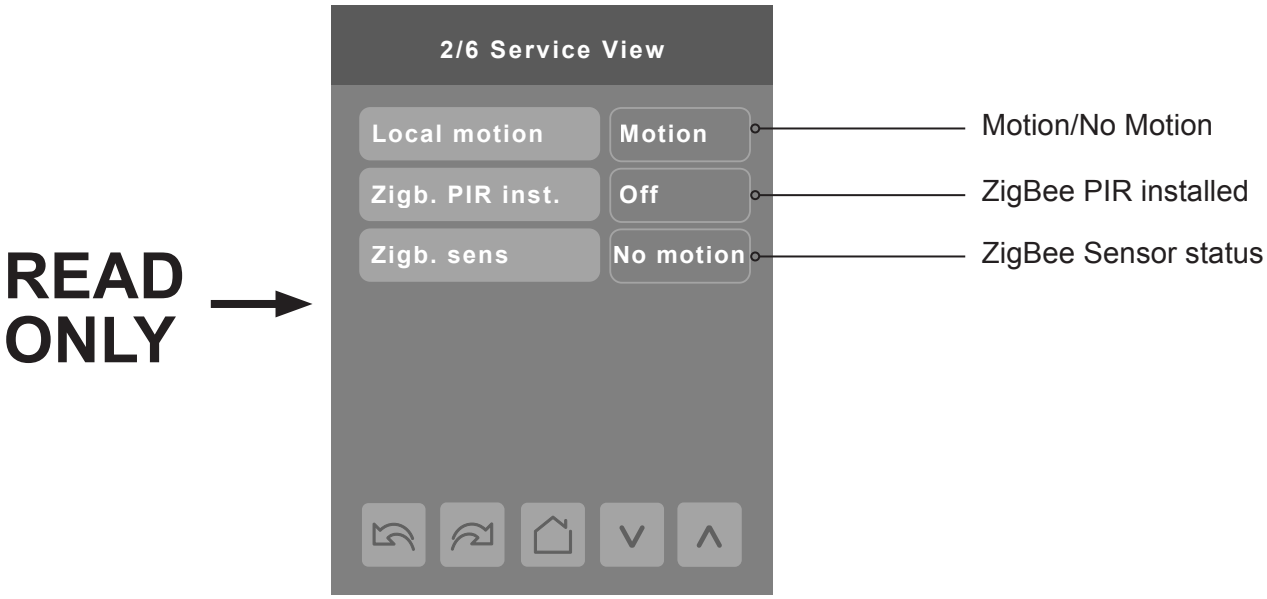
Only for models with Humidity sensor

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Language Default value: English	**Display Language** Select language for main display. **Choices:** English, French, Spanish, German, Italian, Polish
Units Default value: **°C**	**Network Units** Sets temperature value units. **Choices:** °C for Celsius, °F for Fahrenheit.
Low backlight Default value: **60%**	**Low Backlight** Set display backlight intensity after 2 minutes of keyboard inactivity. **Adjustable**: 0 to 100%.
Night backlight Default value: **5%**	**Night Backlight** Set display backlight intensity after 2 minutes of keyboard inactivity. Parameter only available for models with motion/light detectors. The screen backlight progressively decreases down to this setting when room is dark. This feature is used mostly in hospitality applications when a darker non obtrusive lighting level is desired when room is dark. **Adjustable:** 0 to 100%.
RH display Default value: **Disabled/Enabled** **Models with humidity sensor only**	**Relative Humidity** Shows humidity level in room in %RH **On**: Displays %RH on HMI screen **Off**: Does not display %RH on HMI screen **Status**: Enabled, Disabled

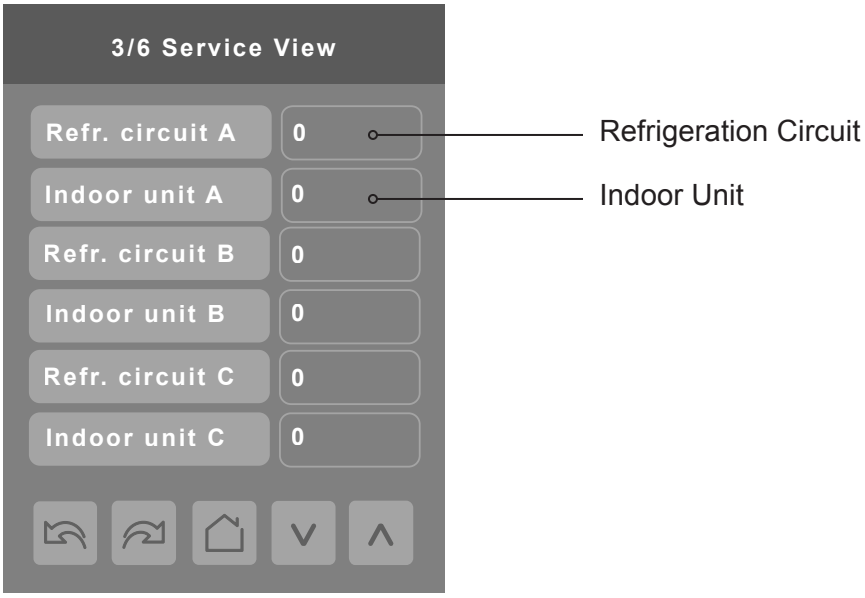
SERVICE VIEW SCREENS



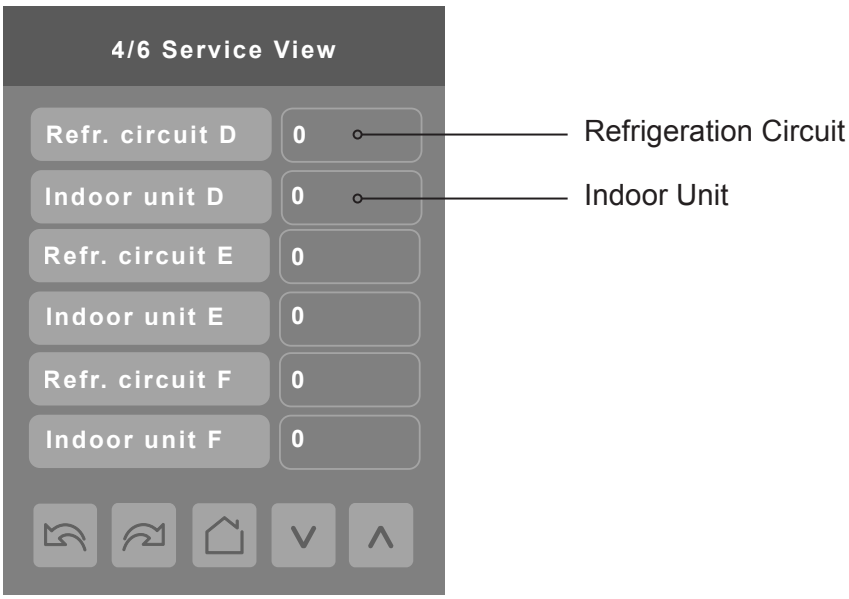


SERVICE VIEW SCREENS

READ ONLY

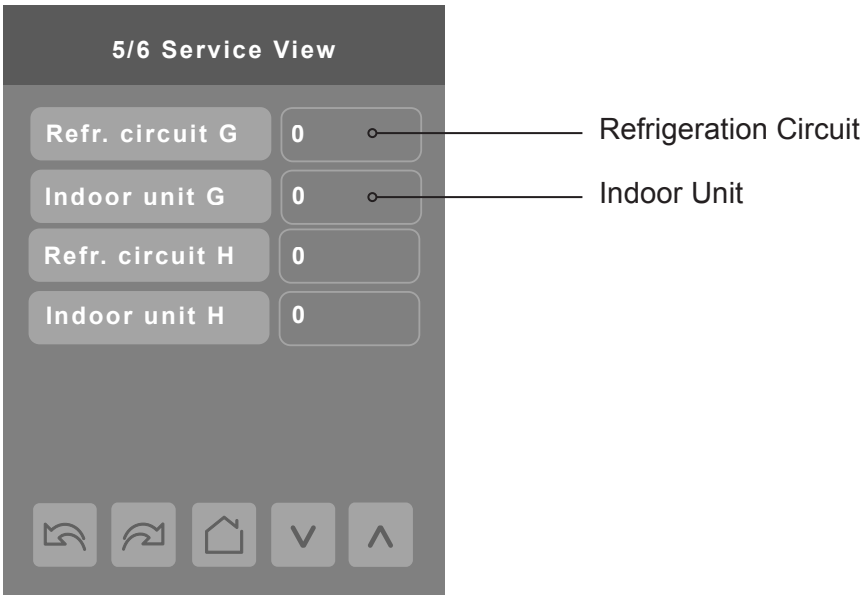


READ ONLY



SERVICE VIEW SCREENS

READ ONLY →



READ ONLY →

The Model number is the BACnet® device name automatically assigned from factory and is automatically combined with live BACnet instance number. This name can be modified from the BACnet **dev** Object.

CLOCK FUNCTIONS

The Clock time depends on whether any Room Controllers or BACnet Server (through BACnet) acts as the time source. For a Stand-alone system the Time Source is determined either by BACnet or the indoor unit. The Remote Controller never acts as the time source.

Stand-alone System

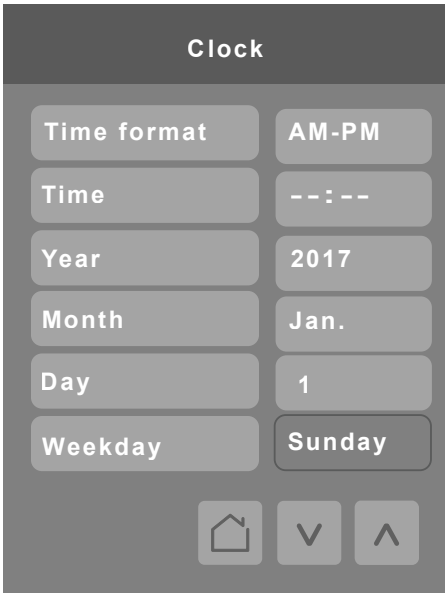
For a stand-alone system the indoor unit acts as the time source and the Remote Controller does not poll any time from the indoor unit. The Remote Controller only receives the broadcasted time set by another Remote Controller in the same group or other groups connected with its group by U1/U2.

BACnet Integrated System

The Remote Controllers connected to BACnet (BACnet as their time source) will have their time set through the BACnet network. In this condition, no time data is sent to indoor unit through broadcasting, and the Remote Controller will not update from any received broadcasting time when time source is set as BACnet. Also, if the user manually changes the time on Remote Controller, the time does not get sent out.

CLOCK

The Clock settings screen allows the device's internal time settings to be changed (current time, standard day, month, year and weekday options), as well as to choose between a 12 hour AM/PM display or 24 hour display.

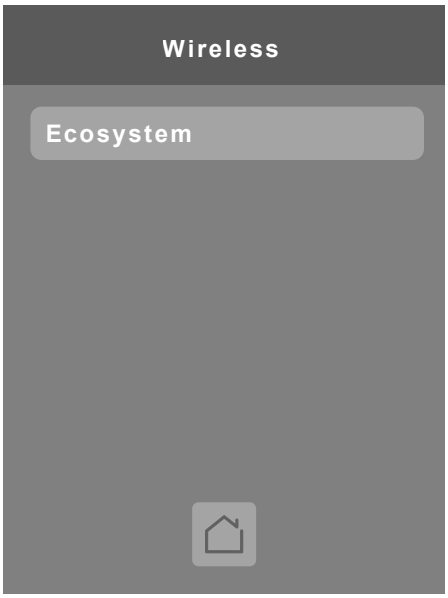


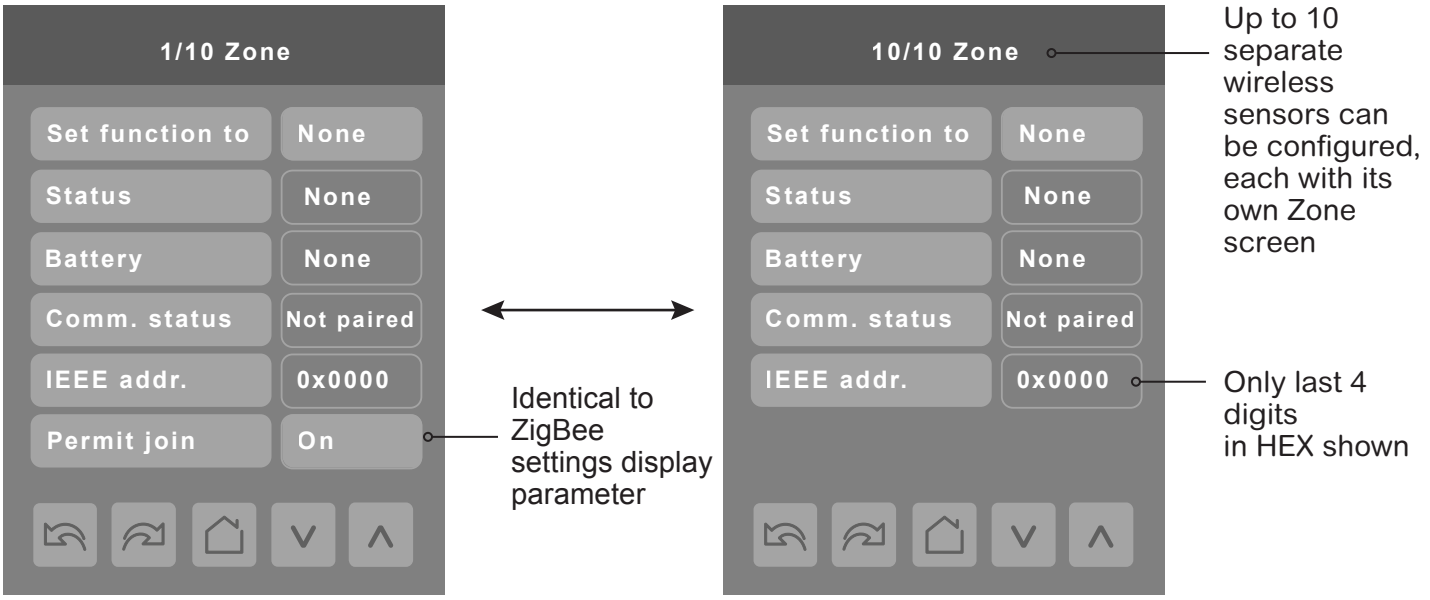
PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Time Format Default value: **AM-PM**	**Time Format** Current time display format. Choice between 12 hour (AM - PM) time format or 24 hour time format. Note: Changing the value of this parameter automatically changes the format of the displayed value of the time parameter. **Choices**: AM-PM or 24 Hours
Time Default value: **current time at power up**	**Time** Standard time display, 12 hour AM-PM or 24 hour format determined by the **Time Format** parameter value.
Year Default value: **2014**	**Year** Current year **Range**: 2000 - 2099
Month Default value: **Jan.**	**Month** Current month **Range**: Jan. - Dec.
Day Default value: **1**	**Date** Current date **Range**: 1 - 31
Weekday Default value: **Monday** **READ ONLY**	**Day** Current day. Day is set automatically when year, month and date are set. **Range**: Monday - Sunday

WIRELESS

When wireless sensors are set up to communicate with a Remote Controller, the function of each such sensor is described in a separate Zone screen, up to a maximum of 10 Zones. Refer to next page for details.





IMPORTANT: For current software release, NO embedded sequence of operation is provided to manage Remote Controller behavior according to ZigBee sensors status. It is the responsibility of the Integrator to write and upload a Lua script that provides expected behavior according to sensor status. It is also their responsibility to verify complete operation compliance according to specific project requirements.

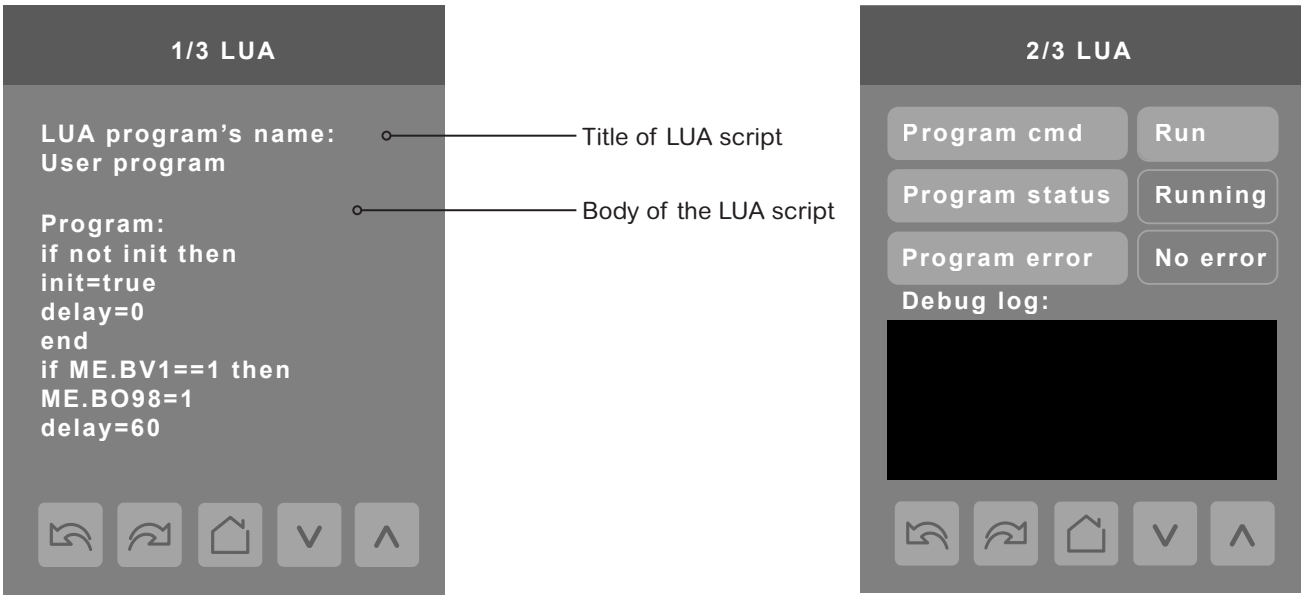
PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Set function to Default value: **None**	**Wireless Zone Set Function** Describe function of specified wireless sensor. **None**: No sensor function for this zone **Door**: Sensor is a door contact switch **Window**: Sensor is a window contact switch **Motion**: Sensor is a motion sensor **Status**: Updates the BACnet status of the sensor. No action is taken by Remote Controller. **Remove**: Clears zone of all settings for the attached sensor. However, the sensor will automatically try to reconnect with the Remote Controller unless it is manually reset as well. **Choices**: None, Window, Door, Motion, Status, Remove
Status **READ ONLY**	**Wireless Zone Status** Current status of information received from the sensor **Close**: Sensor in closed state (door/window only) **Open**: Sensor in opened state (door/window only) **No motion**: Sensor detects no motion (motion sensor only) **Motion**: Sensor detects motion (motion sensor only) **None**: No status information received from sensor.

Battery **READ ONLY**	**Wireless Zone Battery** Current status of sensor battery **Low**: Replacement or recharge required soon **Normal**: Normal range. Replacement or recharge not currently needed. **None**: Sensor does not use a battery
Comm. Status **READ ONLY**	**Comm. Status** Sensor pairing state. **Status**: Not paired, Online, Invalid, Offline
IEEE addr. **READ ONLY**	**IEEE Address** Shows network address of the sensor after successful pairing.
Permit join **READ ONLY**	**Permit Join** Allows Remote Controller to bind with sensor **Choices**: On or Off

LUA SETTINGS

The LUA settings screens show information about any custom LUA script uploaded to the Remote Controller. LUA scripts are not programmable on the Remote Controller. The Uploader Tool is required to load a Lua script to the Remote Controller. Use up/down arrow to scroll through scripts (maximum 10 - requires A/S Server).

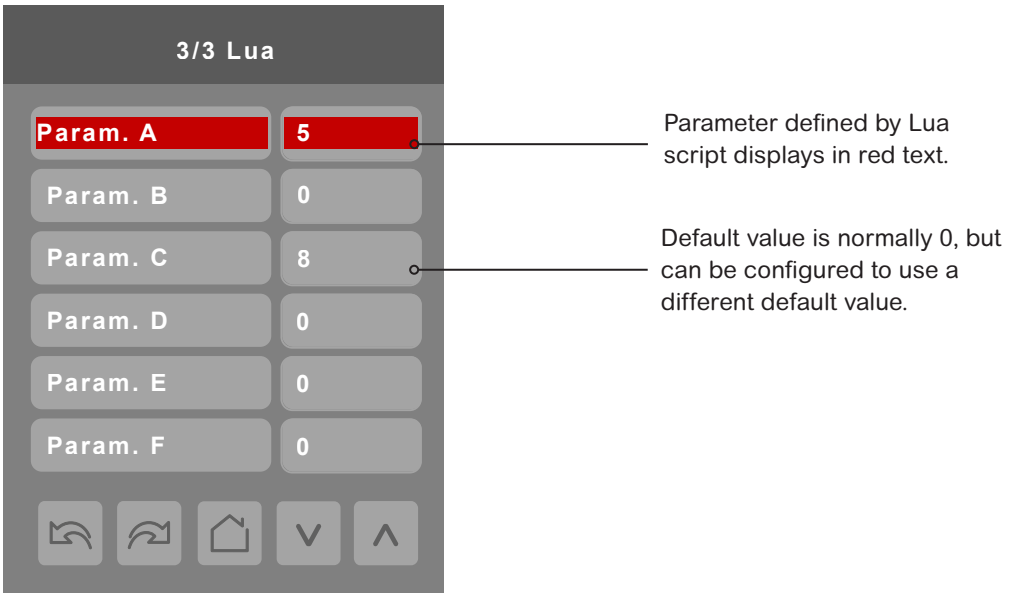


PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Program cmd Default value: **Run**	**Program Command** **Run**: LUA script activated and runs continuously **Stop**: LUA script deactivated **Choices**: Stop or Run
Program status Default value: **Idle** **READ ONLY**	**Program Status** **Running**: LUA script active **Halted**: LUA script stopped and not active **Idle**: LUA script is running but not currently performing any actions **Waiting**: LUA script running and waiting for a response **Uploading**: LUA script currently unloading from Room Controller **Loading**: LUA script currently loading to Room Controller **Choices**: Idle, Loading, Running, Waiting, Halted, Unloading
Program error Default value: **No error** **READ ONLY**	**Program Error** **No error**: No errors in LUA script **Syntax**: Syntax error in LUA script detected **Runtime**: Runtime error occurred while running LUA script **Memory**: Device has run out of memory for the script **Choices**: No error, Syntax, Runtime, Memory, Yield, Double err.

LUA GENERIC PARAMETERS

The Lua settings include six generic parameters that do not have predefined values. These can be used to represent Lua script variables. They are user configurable in their default state, but when assigned a value by a Lua script they become read only, and the display color of the parameter changes to red. These parameters can be modified through BACnet as Analog Values (AVs). These parameters can also be configured to receive information from ZigBee sensors.



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Parameter A Default value: **0**	**Parameter A** Default value can be changed by user The value(s) of this parameter depends on what is assigned to it using the LUA script function
Parameter B Default value: **0**	**Parameter B** Default value can be changed by user The value(s) of this parameter depends on what is assigned to it using the LUA script function
Parameter C Default value: **0**	**Parameter C** Default value can be changed by user The value(s) of this parameter depends on what is assigned to it using the LUA script function
Parameter D Default value: **0**	**Parameter D** Default value can be changed by user The value(s) of this parameter depends on what is assigned to it using the LUA script function
Parameter E Default value: **0**	**Parameter E** Default value can be changed by user The value(s) of this parameter depends on what is assigned to it using the LUA script function
Parameter F Default value: **0**	**Parameter F** The value(s) of this parameter depends on what is assigned to it using the LUA script function