

SE8600 SERIES USER INTERFACE GUIDE

Rooftop Unit, Heat Pump and Indoor Air Quality Controller



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SECTION 1

Introduction

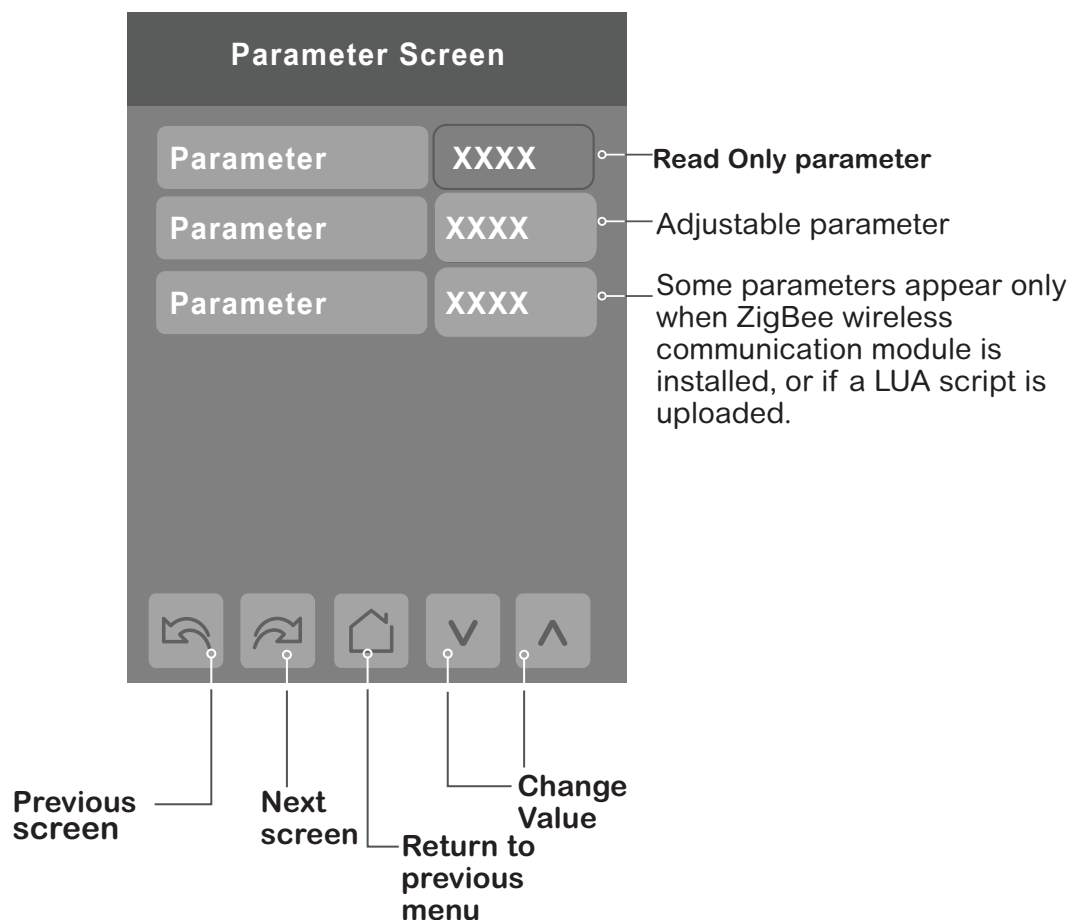
Introduction

This guide shows the User Interface instructions for the SE8600 Series Room Controller (Firmware Release version 1.7) for User and Integrators.

User and Integrator Screens

The SE8600 Room Controller has dynamic screens and parameters that only appear on certain models or based on the presence of a communication module (VCM). The LUA tab on the second menu screen, will also only show if a LUA script is uploaded to the Room Controller.

See below legend screen details.



1. When any change is made to a parameter, the value is permanently saved in the database when the next parameter is selected or another screen is opened. This event is true only if a parameter was changed locally on the Room Controller. Making changes through BACnet will not have the same outcome. If permanent changes need to be done remotely through BACnet, use priority 1, 2 or 3, or write to relinquish default (priority 17)
2. The ZigBee Pro communication module must be Revision 10 (R10) or later to support newly introduced devices such as water leak sensor and the ZigBee Green Power environmental sensor.
3. The Room Controller must be running Firmware version 1.7 or later to enable the Automatic Demand Response (ADR) feature.

Disclaimer

*Disclaimer

Standby screen: The Room 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 Save** setting on the **Standby screen** selection from the setup menu **Display 1/2**. This setting switches the display during periods of inactivity from the Home Screen.

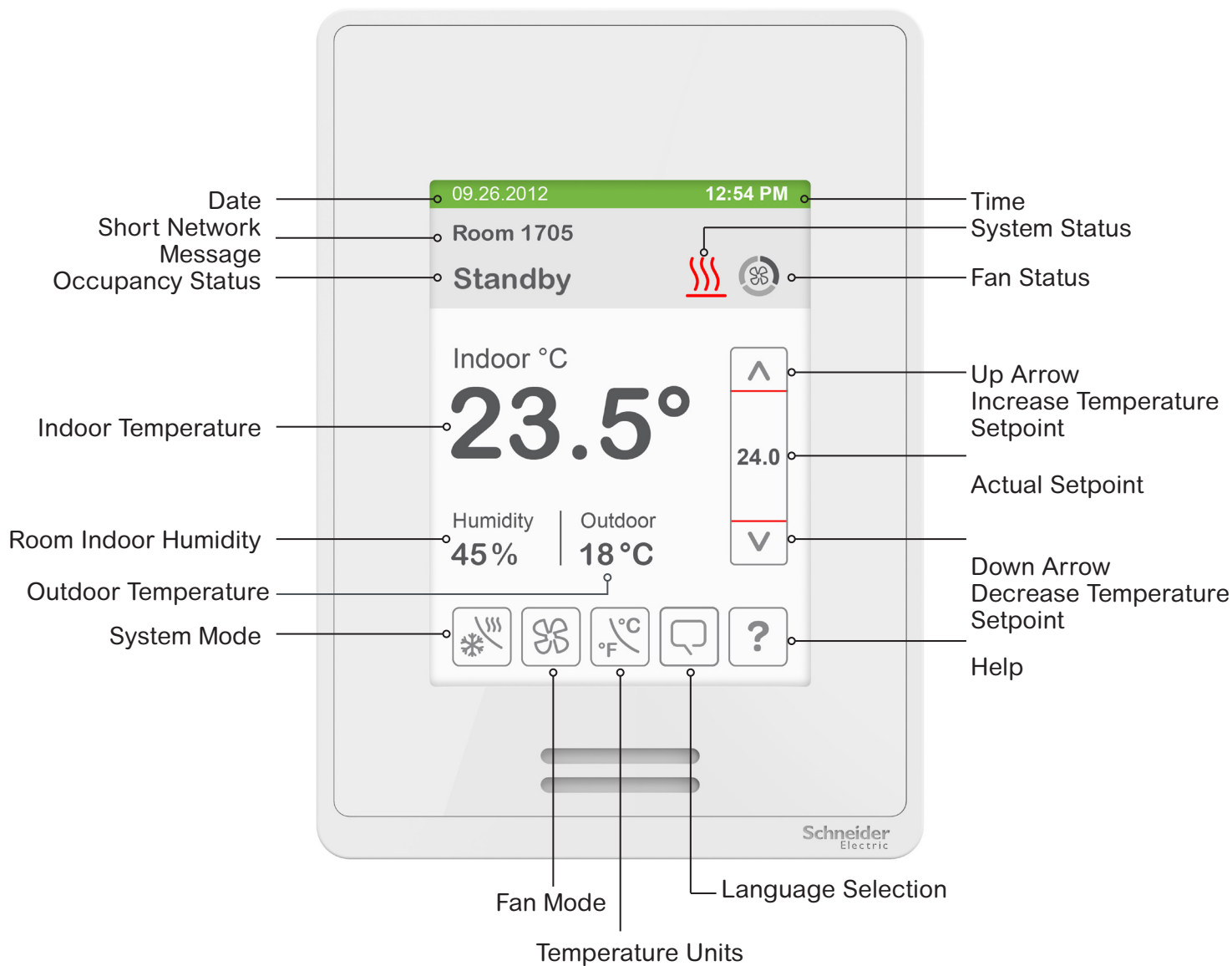
It is recommended to use a black or medium gray image, or one with light color contrasts as the screen saver to prevent this phenomenon from occurring. If the display still exhibits this phenomenon, loading an all-black or all-medium gray image as the screen saver and displaying it for upwards of 5 hours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

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

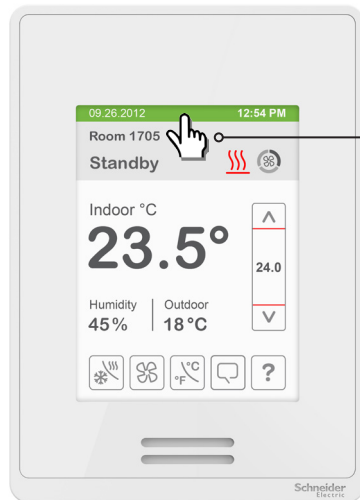
HMI Display and Set-up

HMI Display

The User HMI is configurable and allows display functions such as Date, Time, Outdoor Temperature, CO₂ levels, Humidity and Setpoint to be enabled or disabled by setting various parameters.



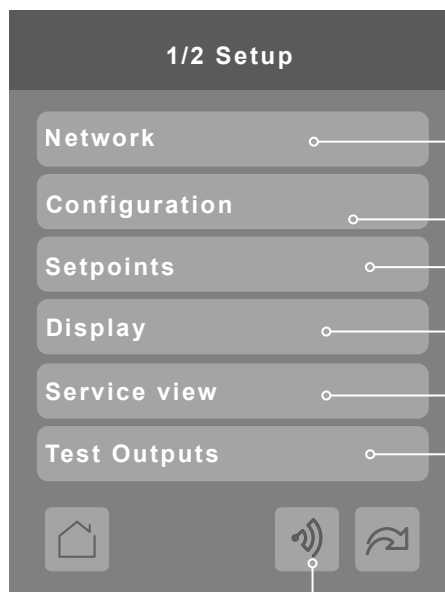
Enter Set-up Screen



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

Note: If a configuration/installer password is activated to prevent unauthorised access to the configuration menu parameters, a password entry prompt shows to prevent access to device configuration components.

SET UP 1/2



Network — BACnet MS/TP, Modbus and ZigBee network settings (ZigBee network settings appear only if a communication module is installed)

Configuration — Parameter configuration menu

Setpoints — Setpoint settings

Display — Display settings

Service view — Status display (Read Only)

Test Outputs — Test outputs settings

Return to previous menu

Discover Mode shows wireless ZigBee network. Icon not shown if ZigBee communication module not installed

SET UP 2/2

2/2 Setup

Language Selection

Clock - Schedule

ADR

Wireless

LUA

Select language

Set clock, schedule and occupancy

Automatic Demand Response

Wireless Ecosystem settings (shows only if ZigBee communication module installed)

LUA scripting (shows only if LUA script uploaded)

SECTION 2

Customized Screens

User HMI for Hospitality

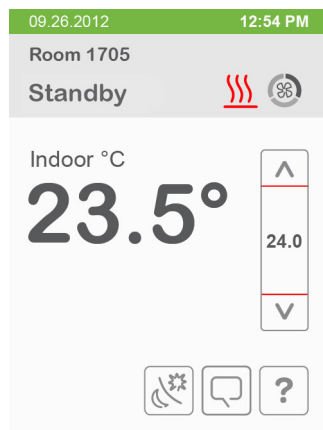
Hospitality 0	Hospitality 1	Hospitality 2	Hospitality 3
• Setpoint adjustment • System mode setting • Fan mode setting • Local unit scale adjustment • Local user language • User help menu	• Setpoint adjustment • System mode setting • Fan mode setting • User help menu	• Local unit scale adjustment • Local user language • User help menu	• Setpoint adjustment • User help menu

NOTE: Parameters are model dependent and may not appear on certain. models.

Hospitality 4	Hospitality 5	Hospitality 6	Commercial 7
• Fully locked interface with no user settings	• Setpoint adjustment • System mode setting • User help menu	• Setpoint adjustment • System mode setting • Fan mode setting • Local unit scale adjustment • User help menu	• Setpoint adjustment • System mode setting • Fan mode setting • unoccupied mode overdrive • User help menu

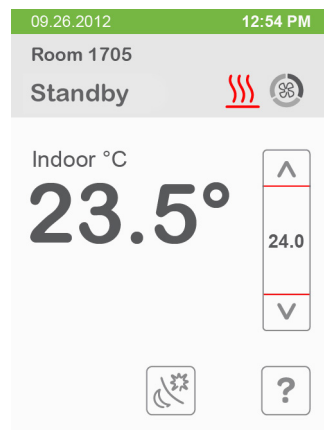
Commercial User HMI

Commercial 8



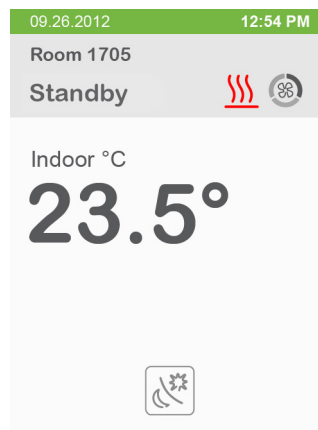
- Setpoint adjustment
- Unoccupied mode override
- Local user language
- User help menu

Commercial 9



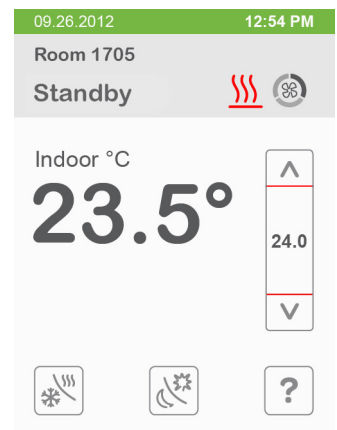
- Setpoint adjustment
- Unoccupied mode override
- User help menu

Commercial 10



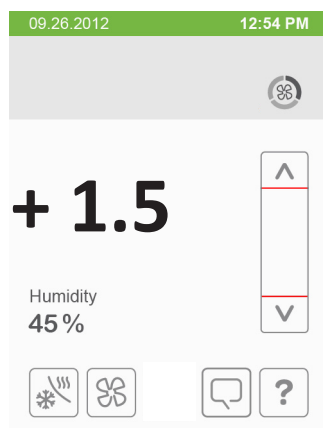
- Unoccupied mode override

Commercial 11



- Setpoint adjustment
- System mode setting
- Unoccupied mode override
- User help menu

Commercial 12



- Offset setpoints adjustment
- System mode setting
- User help menu

NOTE: The day/night setback button appears only in unoccupied mode in the Commercial HMIs 7 to 11. If UI17 input is configured as “override”, the day/night setback button does not show.

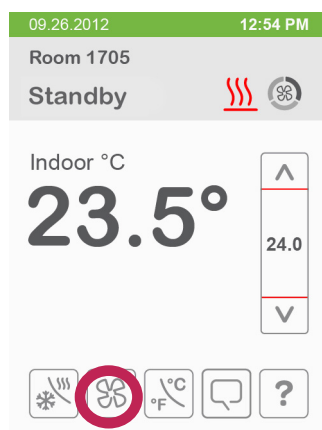
NOTE: Parameters are model dependent and may not appear on certain models.

System Mode

The following apply in System Mode.

Mode	Significance and Adjustments
System mode Off	Off Heating, Cooling and Dehumidification demands are ignored
System mode Auto	Auto Room Controller automatically toggles between Heating and Cooling modes to satisfy both Heating and Cooling demands. Dehumidification is allowed
System mode Cool	Cool Room Controller only satisfies Cooling demands, Heating demands are ignored. Dehumidification is allowed
System mode Heat	Heat Room Controller only satisfies Heating demands, Cooling demands are ignored. Dehumidification is allowed

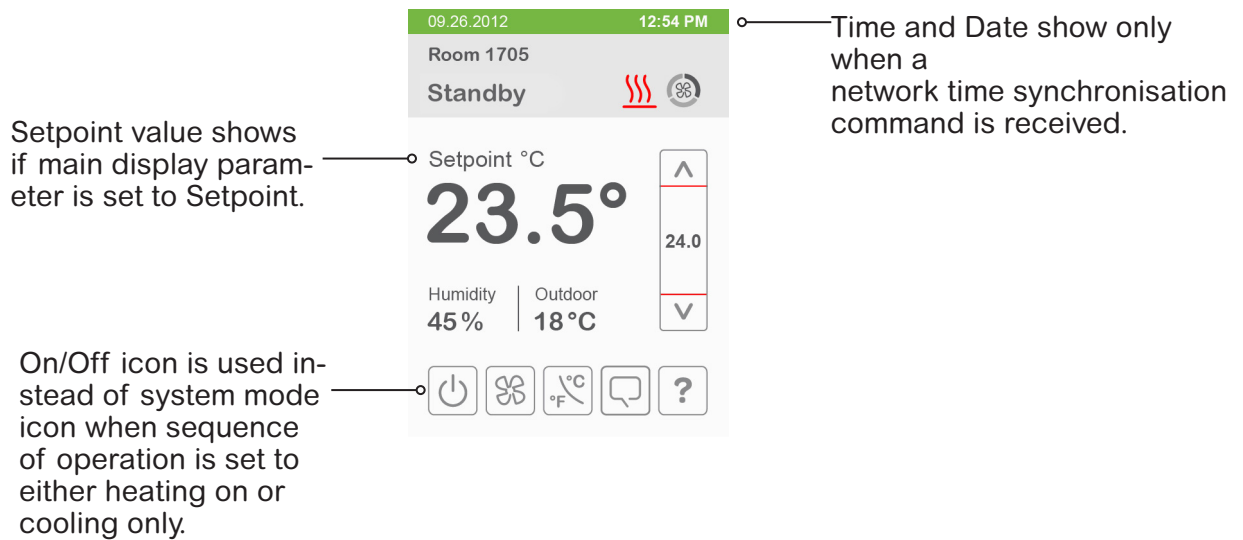
Fan Mode Settings



Fan Mode Setting

Mode	Significance and Adjustments
Fan mode ON	On Fan is on continuously, even when system mode is OFF.
Fan mode Auto	Auto Fan cycles on a call for heating or cooling for both occupied & unoccupied periods.
Fan mode Smart	Smart During occupied periods, fan is on continuously. In unoccupied mode, fan cycles on a call for heating or cooling.

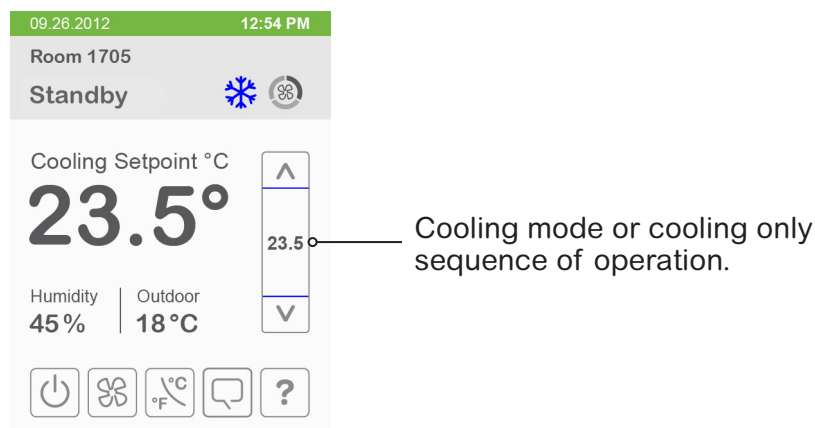
Heating Only Configuration



Setpoint Adjustment for Cooling Mode

In Cooling mode, the setpoint displayed in the bar is the current occupied cooling setpoint. During occupied setpoint adjustment, the large digits are temporarily used to show occupied cooling setpoint while it is adjusted.

Normal temperature display resumes after setpoint is adjusted and actual occupied cooling setpoint shows in setpoint bar.

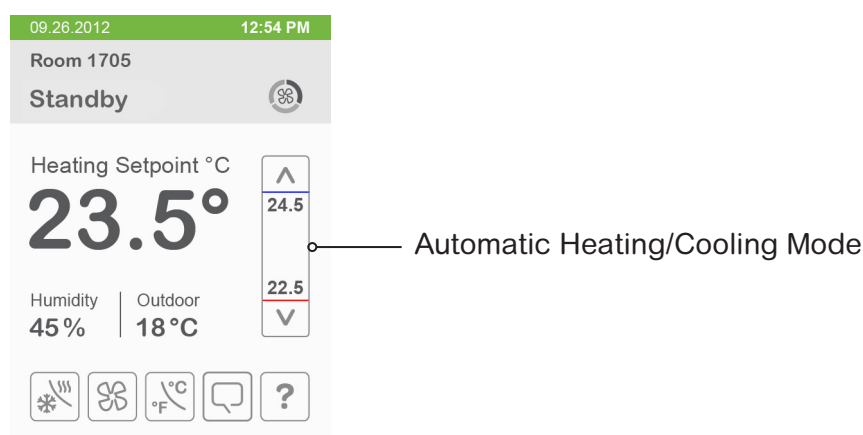


Setpoint Adjustment for Heating Mode

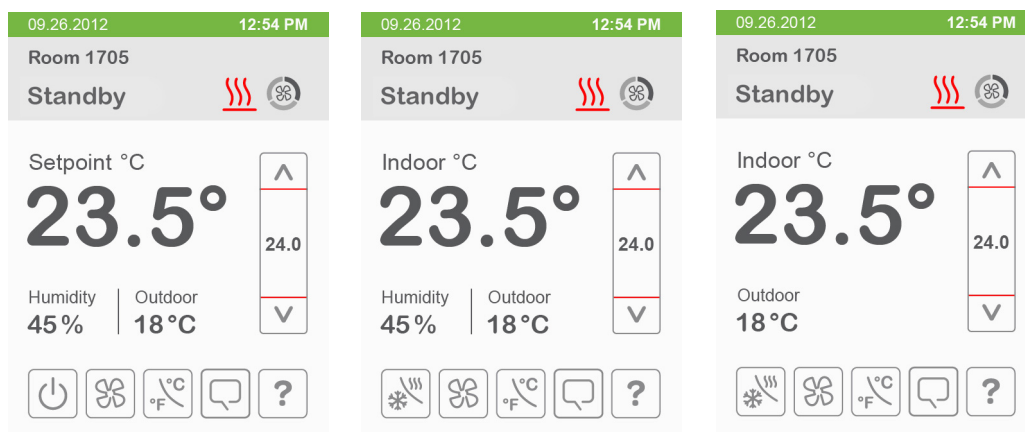
In automatic mode, setpoint showing at the top of the set point bar located directly under the blue line represents the actual occupied cooling setpoint.

During occupied setpoints adjustment, large digits are temporarily used to display the occupied Cooling Setpoint or occupied Heating Setpoint. The actual setpoint is dependent on the last effective demand (heating or cooling). The setpoint on top of the red line represents the actual occupied heating setpoint. The differential between the occupied heating and cooling setpoint is defined by the minimum deadband configuration parameter.

Normal temperature display resumes after setpoints are adjusted and the actual occupied heating and cooling setpoints show in the setpoint bar.

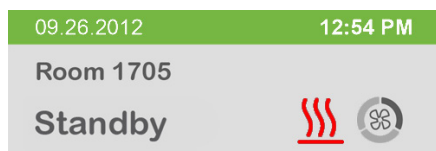


Other Functions

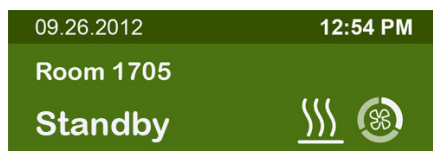


Local humidity only shows when enabled by configuration property RH Display and on models with the humidity sensor present or a Remote humidity sensor is paired with the Room Controller and is selected in the RH Sensor configuration page. Outdoor temperature display is dependent on receiving a valid networked outdoor temperature value or a temperature sensor connected to UI23.

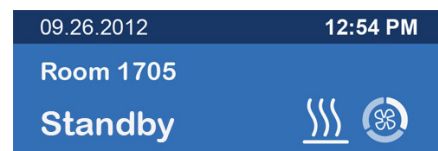
Customizable Color Options



White



Green



Blue



Dark Grey

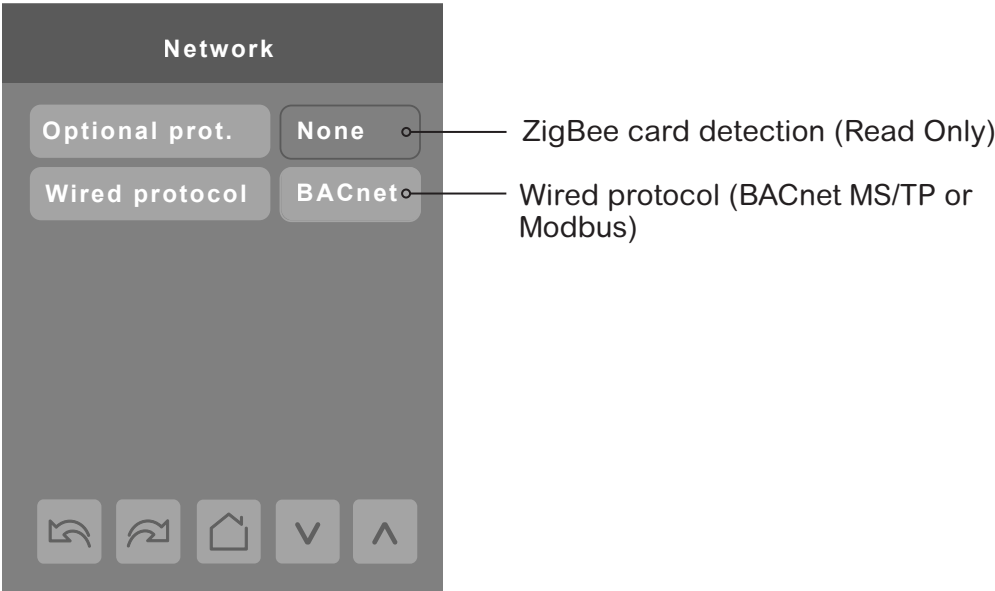


Grey

Network Screens

Network Settings

User can select wired BACnet / Modbus / ZigBee wireless protocol (requires optional communication module).



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Optional prot. Read Only	Optional Protocol Requires installation of optional ZigBee Pro communication module. None: No ZigBee card detected ZigBee: ZigBee card detected Display Readings: None or ZigBee
Wired protocol Default value: BACnet	Wired Protocol None: No wired protocol configured BACnet: BACnet MS/TP network protocol Modbus: Modbus network protocol Choices: None, BACnet or Modbus

ZIGBEE NETWORK 1/2

The ZigBee Pro Network screen shows only when the optional ZigBee Pro communication module is detected in the device. When setting up a ZigBee network to bind with multiple devices, there must first be a Coordinator to manage the initial binding between the Router and the end devices. After successful binding, the Router becomes the parent to the end devices.

NOTE: Before binding any ZigBee devices, the network must first be created by the Coordinator.

1/2 ZigBee Network

COM address	254
Node type	Router
PAN ID	25
Channel	15
Network status	No NWK
Permit join	Off

Navigation icons: Back, Refresh, Home, Down Arrow, Up Arrow

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
COM address Default value: 254	COM Address Room 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 Sets device to act as Router or Coordinator in a network. Coordinator: Creates the network and manages the binding of wireless devices. Router: Joins a network created by a coordinator (permit join must be set to 'ON'). Choices: Coordinator or Router
Pan ID Default value: 0	ZigBee Pan ID Personal Area Network Identification that links specific Room Controllers to specific ZigBee coordinators. For every Room Controller reporting to a coordinator, set the SAME PAN ID value both on the coordinator and the Room Controller. NOTE: The default value of 0 is NOT a valid PAN ID. NOTE: For Room Controllers running Firmware version 1.3 and earlier, the PAN ID must be set to 501-1000 for the Room Controller to act as a coordinator. Range: 1 to 65535

Channel Default value: 10	ZigBee Channel The frequency or channel on which the ZigBee network transmits and receives data. The channel of the Coordinator must match that of the routers to exchange data. 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
Network status Read Only	ZigBee Network Status Shows the current status of the ZigBee network. No NWK: ZigBee configured but no network joined Joined: ZigBee network joined Online: Communicating (Exchanging data) Display Readings: No NWK, Joined, Online
Permit join Default value: On	Permit Join Changing this value to “Off” on the Coordinator prevents any new ZigBee devices from joining the network. Permit join can be On/Off when the Room Controller is a Coordinator, however the parameter is read only when the Room Controller is a router. If not set to off manually the Permit join will stay On for 3 hours. Choices: On or Off

ZIGBEE NETWORK 2/2

2/2 ZigBee Network

IEEE address	0x0000
Short address	0x0000
ZigBee rev.	X

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
IEEE address Read Only	IEEE Address The extended IEEE address (MAC address) is a unique worldwide identifier of the VCM Module.
Short address Default value: 0 Read Only	ZigBee Short Address ZigBee Pro short address. The unique address is generated once device joins a ZigBee network
ZigBee rev. Read Only	Communication Module Revision Number Shows the revision number of the communication module (if installed).

BACnet Network Settings

BACnet network screen shows when BACnet is selected in wired protocol parameter.



PARAMETER DETAILS

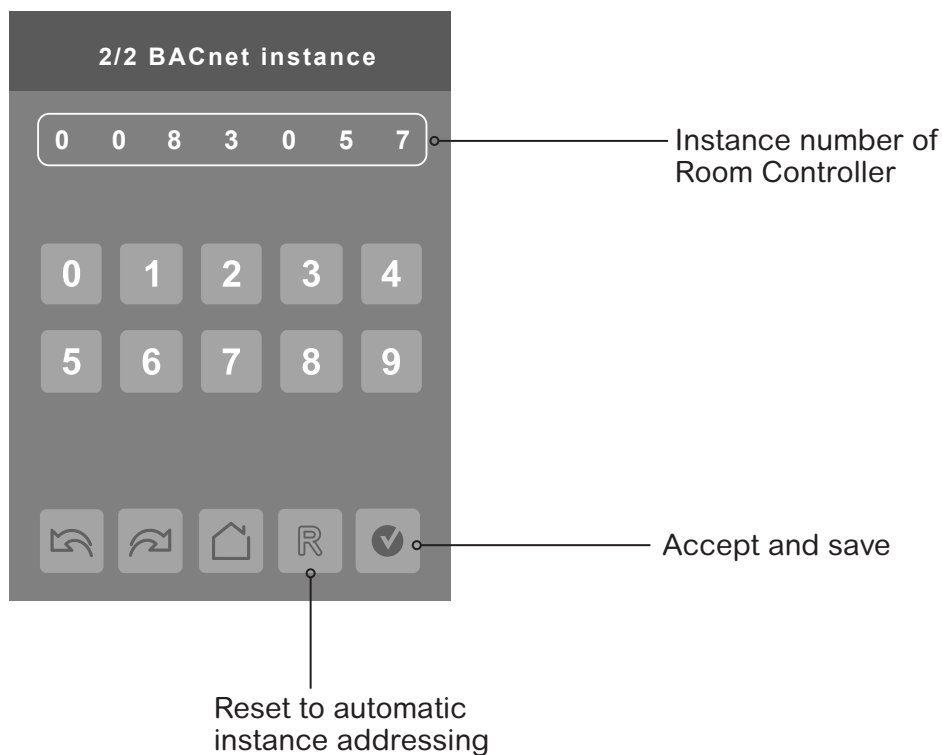
Configuration Parameters Default Value	Significance and Adjustments
Comm address Default value: 254	Communication Address Room Controller networking address. Default value of 254 disables BACnet communication for the Room Controller. Range: 0 to 254
Network units Default value: SI	Measurement Units Network units transmitted over the BACnet network. NOTE: Use the Temperature scale parameter to change the display units locally on the Room Controller. Imperial: Network units shown as Imperial units. SI: Network units shown as International Metric units. Choices: Imperial or SI
Network lang Default value: English	Network Language Network language/object names transmitted over network. Choices: English, French or Spanish
Baud rate Default value: Auto	BACnet Baud Rate Leave the value at Auto unless instructed otherwise as this automatically detects BACnet baud rate. Choices: Auto, 115200, 76800, 57600, 38400, 19200, and 9600
BACnet status Read Only	BACnet Status Read Only value shows if a BACnet Network is detected or not. Display Readings: Online or Offline

BACnet Instance Number

The default BACnet instance number is generated by the model number and COM address of the Room Controller. For example, the instance number of a SE8600U5B00 with a COM address of 57 is generated as “86057”.

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

Tap “R” icon to reset to automatic instance addressing.



Modbus Network Settings

Modbus network screen shows when Modbus is selected in wired protocol parameter.



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. Default value of 254 disables Modbus communication for the Room Controller. Range: 0 to 254
Network units Default value: SI	Measurement Units Network units transmitted over the BACnet network. NOTE: Use the Temperature scale parameter to change the display units locally on the Room Controller. 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 Automatically detects Modbus baud rate. Choices: 57600, 38400, 19200, 9600, and 4800
Parity Default value: Even	Parity Determines how the parity bit of the character's data frame is set to detect any errors in the sent/receives frame. Choices: None, Odd and Even

Configuration Screens

CONFIGURATION 1/11

1/11 Configuration

UI16 config	None
UI17 config	None
UI19 config	None
Smart recovery	Off
Setpoint func.	Attach SP
Mode button	Normal

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
UI16 config Default value: None	Universal Input Configuration No. 1 None: No function will be associated with the input. Input can be used for remote network monitoring. Rem NSB: Remote night setback (NSB) timer clock input. The scheduling gets set as per the binary input and provides low cost setback operation via a dry contact Motion NO and Motion NC: Advanced PIR occupancy functions using a Normally Open (NO) or Normally Closed (NC) remote PIR motion sensor. Window: Forces system to disable any current heating or cooling action by Room Controller when window is open. Fan lock: When (G) Fan output is activated, if this input is not activated after 10 seconds, the Room Controller disables Heat and Cool outputs and display "Fan Lock" alarm. Open contact = No airflow alarm Closed contact = Airflow present, normal operation Choices: None, Rem NSB, Motion NO, Motion NC, Window and Fan lock
UI17 config Default value: None	Universal Input Configuration No. 2 None: No function associated with input Door Dry: Room Controller goes to standby mode when door is opened then closed followed by no presence detection for the next 10 seconds if the local PIR is used in this application. The "Occupancy command" must be set to "Local Occupancy" and "Occupancy Source" must be set to "Motion". Override: A closed contact forces the Room Controller to go in occupied mode. An open contact keeps the current occupancy mode. Filter: backlit flashing filter alarm shows on the Room Controller screen when input is energized Service: backlit flashing Service alarm shows on Room Controller screen when input is energized. Choices: None, Door Dry, Override, Filter and Service

UI19 config Default value: None	Universal Input Configuration No. 3 This input is used for a wired CO ₂ sensor None: No function associated with input, however input can be used for remote network monitoring CO₂: Using the CO ₂ level measured by a wired CO ₂ sensor (0~2000 ppm = 0~10 Vdc), the Outside Air damper (Econo) will modulate between “Econo min pos” to “Econo max pos” following the “Min CO ₂ ” and “Max CO ₂ ” setpoints. Choices: None or CO ₂
Smart recovery Default value: Off	Enable Smart Recovery Off: No smart recovery. The occupied schedule time is the time at which the system will restart. On: Smart recovery active. The occupied schedule time is the time at which the desired occupied temperature will be attained. The Room Controller automatically optimizes the equipment start time. In any case, the latest a system will restart is 10 minutes prior to the occupied period time. Smart recovery is automatically disabled if BI16 is configured to remote NSB. Choices: Off or On
Setpoint func. Default value: Dual SP	Setpoint Function Local setpoint settings to set the local setpoint interface for the User. Dual SP: “Minimum” Deadband, Heat and Cool Setpoints can be adjusted independently. Attach SP: “Fixed” Deadband, Heat and Cool setpoints always follow each other, separated by Deadband value (acts like a single setpoint). Choices: Dual SP or Attach SP
Mode button Default value: Normal	Mode Button Changes the behavior of the system mode button functionality and hides/shows temperature setpoints on main screen. Normal: System mode button switches between ‘Off’, ‘Auto’, ‘Cool’ and ‘Heat’. Also displays temperature Setpoints on main screen. Off-Auto: System mode button switches between ‘Off’ and ‘Auto’. Hides temperature Setpoints on main screen. NOTE: Setting ‘Mode button’ to ‘Off-Auto’ forces the ‘Setpoint func.’ parameter to ‘Attach SP’. Choices: Normal or Off-Auto

CONFIGURATION 2/11

2/11 Configuration

Fan cont. heat	On
Fan delay	On
Standby mode	Absolute
Standby diff.	2.0 °F
Power-up delay	10 Sec.
Occupancy src	Motion

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PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Fan cont. heat Default value: On	Fan Control in Heating Mode On: Room Controller always controls the fan (terminal G). Valid for On or Auto fan mode. Off: Fan (terminal G), when heating stages (terminals W1 & W2) are solicited, will not be energized. The fan is controlled by the equipment fan limit control. Valid only for Auto fan mode. On fan mode leaves the fan always on. For multi-stage models, fan control applies to W1 & W2. Choices: On or Off
Fan delay Default value: On	Fan Delay On: fan mode will leave the fan always on and extends fan operation by 60 seconds after the call for heating or cooling ends. Valid only for Auto fan mode. Off: fan delay not operational Choices: On or Off
Standby mode Default value: Absolute	Standby Mode Configuration Standby setpoints used for control. Absolute: Standby entered values are used for standby mode. Offset: Occupied setpoints +/- Standby diff. used for standby mode. Choices: Absolute or Offset
Standby diff. Default value: 4°F (2°C)	Standby Temperature Differential When Standby mode is set to 'offset', standby setpoints are calculated as follows: Standby cool: Cool setpoint + Standby diff. Standby heat: Heat setpoint - Standby diff. Range: 1 to 5°F (0.5 to 2.5°C)

Power-up delay Default value: 10 seconds	Power up Delay On initial power up of the Room Controller there is a delay before any operation is authorized (fan, cooling or heating). This can be used to sequence the start up of multiple Room Controllers in one location. Range: 10 to 120 seconds
Occupancy src Default value: Motion	Occupancy Source Motion: occupancy status is received from a motion sensor from a wired, wireless or local PIR sensor Schedule: occupancy status is determined by the schedule Choices: Motion or Schedule

CONFIGURATION 3/11

3/11 Configuration

Standby time	0.5 hrs
Unocc. time	0.0 hrs
Temp. occ. time	2.0 hrs
Temp. sensor	Wired
Deh. hysteresis	5 %RH
Deh. lockout	Disabled

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PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Standby time Default: 0.5 hours	Standby Time Time between the moment where the PIR cover detects last movement in the area, and the time which the Room Controller stand-by setpoints become active. Note: This parameter is not active when the “Door” function is used (wired or wireless). Range: 0.5 to 24.0 hours (0.5 hour increments)
Unocc. time Default: 0.0 hours	Unoccupied Time Time between the moment where the Room Controller toggles to stand-by mode, and the time which the Room Controller unoccupied mode and setpoints become active. Note: Default value of 0.0 hours disables the unoccupied timer. This prevents the Room Controller from being able to switch from stand-by mode to unoccupied mode when PIR functions are used. Range: 0.0 to 24.0 hours (0.5 hour increments)
Temp. occ. time Default value: 2 hours	Temporary Occupancy Time The time the Room Controller stays in override mode before reverting back to unoccupied mode. When the Room Controller is in unoccupied mode, pressing the on-screen Override icon or closing the contact on UI17, configured as “Remote Override”, sets the Room Controller to Override mode for defined time period, and uses the Occupied Cooling and Heating setpoints. Range: 0.0 to 24.0 hours

Temp. sensor Default value: Wired	Room Temperature Sensor Sets the source of the indoor room temperature. This parameter allows the user to designate either the Room Controller or any of the bound wireless devices that support temperature to act as the source for the room temperature. Wired: sets the thermistor connected to UI20 (RS) as the source to report room temperature. Internal: sets the Room Controller as the source for the room temperature. WL 1 to WL 10: sets the selected wireless ZigBee Pro device as the source for the room temperature. Only one device can be selected. WL GP: sets the selected ZigBee Green Power device as the source for the room temperature. Note: The Room Controller uses the internal temperature sensor only if UI20 (RS) terminal is empty. If a valid temperature sensor is connected to UI20 terminal, the Room Controller will automatically disable its internal sensors (Internal, WL1 to WL10, WL GP) and use the remote sensor as the control point. Disconnecting the sensor, or if the sensor is faulty, the Room Controller will automatically re-enable its internal temperature sensor. Choices: Internal, Wired, WL1 to WL10, and WL GP
Deh. hysteresis Default value: 5% RH	Humidity Control Hysteresis Used only if dehumidification sequence is enabled. Range: 2 to 20% RH
Deh. lockout Default value: Disabled	Dehumidification Lockout Enables or disables dehumidification based on central network requirements from the BAS front end. Enabled: Dehumidification Authorized Disabled: Dehumidification Not Authorized Choices: Enabled or Disabled

CONFIGURATION 4/11

4/11 Configuration

Cooling CPH	4
Heating CPH	4
Frost protec.	Off
BO1 aux. config	NO
Anti short cycle	2 min
Min sup. heat	64 °F

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PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Cooling CPH Default value: 4 CPH	Cooling Output Cycles Per Hour CPH is used to “modulate” On/Off outputs controlling equipment such as compressors. When the Room Temperature is within the Proportional Band, the output performs 3 or 4 CPH. A higher CPH represents a higher accuracy of control at the expense of wearing mechanical components faster. Note: The CPH does not limit the number of Cycles Per Hour. It is limited by the “Anti short cycle” parameter. 4 CPH is typical for Rooftop applications. Range: 3 to 4 CPH
Heating CPH Default value: 4 CPH	Heating Stages Cycles per Hour CPH is used to “modulate” On/Off outputs controlling equipment such as compressors. When the Room Temperature is within the Proportional Band, the output performs 3 to 8 CPH. A higher CPH represents a higher accuracy of control at the expense of wearing mechanical components faster. For multi-stage models, heat cph applies to W1 & W2. A CPH value between 6 - 8 is recommended for applications with electric heating. For gas applications set CPH to 4 and for oil applications set CPH to 3. Range: 3 to 8 CPH
Frost protec Default value: Off	Frost Protection Stops the ventilation of the rooftop unit when room temperature reaches 42°F (5.6°C) and resumes automatically when room temperature exceeds 15°F (-9°C). Off: No room frost protection On: Room frost protection enabled in all system modes at 42°F (5.6°C). Frost protection is enabled even if System mode is ‘Off’. Choices: Off or On

BO1 aux config Default value: NO	Binary Auxiliary Output Configuration Output to directly follow the main Occupancy and Fan On commands. 1. NO: Occ or St-By = Contact Closed / Unoccupied = Contact Opened 2. NC: Occ or St-By = Contact Opened / Unoccupied = Contact Closed. Choices: NO or NC
Anti short cycle Default value: 2 minutes	Anti Short Cycle Time Minimum On time and minimum Off time of operation time for stages. IMPORTANT: anti-short cycling can be set to 0 minutes for equipment that possess their own anti cycling timer. Do not use this value unless the equipment is equipped with an internal timer. Failure to do so can damage the equipment. Range: 0 to 5 minutes
Min. sup. heat Default value: 64°F (18°C)	Minimum Supply Heat Controls the modulating heating output to maintain the supply air temperature setpoint (min. sup. heat). Apply if "Heat Stages" parameter is set to 0 (Analog Heat on UO11). In Occupied or Override mode, the output will modulate to maintain a minimum Supply Air temperature. Conditional to SAT sensor installed, System Mode = Heat or Auto and OAT < SH Lockout. Range: 50°F to 72°F (10°C to 22°C)

CONFIGURATION 5/11

5/11 Configuration

Prop. band

3.0

Heat stages

2

Cool stages

2

Econo. config

Off

Changeover SP

55 °F

Mech. cooling

Off











PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments																														
Prop. band Default value: 3	Proportional Band Setting Adjusts proportional band used by Room Controller PI control loop. Note: Default value of 3 gives satisfactory operation in most normal installation cases. The use of a superior proportional band different than the factory value is normally warranted in applications where Room Controller location is problematic and leads to unwanted cycling of the unit. A typical example is a wall mounted Room Controller installed between return and supply air feeds and is directly influenced by the supply air stream of unit. Range: 3 to 10																														
	<table><tr><th rowspan="2">Value</th><th colspan="2">Effective Proportional Band</th></tr><tr><th>Fahrenheit</th><th>Celsius</th></tr><tr><td>3</td><td>3</td><td>1.2</td></tr><tr><td>4</td><td>4</td><td>1.7</td></tr><tr><td>5</td><td>5</td><td>2.2</td></tr><tr><td>6</td><td>6</td><td>2.8</td></tr><tr><td>7</td><td>7</td><td>3.3</td></tr><tr><td>8</td><td>8</td><td>3.9</td></tr><tr><td>9</td><td>9</td><td>5.0</td></tr><tr><td>10</td><td>10</td><td>5.6</td></tr></table>	Value	Effective Proportional Band		Fahrenheit	Celsius	3	3	1.2	4	4	1.7	5	5	2.2	6	6	2.8	7	7	3.3	8	8	3.9	9	9	5.0	10	10	5.6	
Value	Effective Proportional Band																														
	Fahrenheit	Celsius																													
3	3	1.2																													
4	4	1.7																													
5	5	2.2																													
6	6	2.8																													
7	7	3.3																													
8	8	3.9																													
9	9	5.0																													
10	10	5.6																													

Heat stages Default value: 2 stages	Number of Heating Stages Sets number of Heating Stages applicable to 2 stage models only. 0 Stages: Only (UO11) modulating 0-10Vdc output is used for Heating. W1 & W2 are disabled. 1 Stage: Only W1 (BO8) terminal is used. W2 is disabled. 2 Stages: Both W1 (BO8) and W2 (UO9) terminals are used in sequence. Choices: 0, 1 or 2 stages
Cool stages Default value: 2 stages	Number of Cooling Stages Sets number of Cooling Stages. 1 Stage: Only Y1 (BO3) terminal is used. Y2 is disabled. 2 Stages: Both Y1 (BO3) and Y2 (BO2) terminals are used in sequence. Choices: 1 or 2 stages
Econo. config Default value: Off	Economizer Configuration Enables or disables the economizer functionality. On: Economizer activated Off: Economizer deactivated Choices: On or Off
Changeover SP Default value: 55°F (13°C)	Changeover Setpoint In Cooling mode, the outside air temperature value at which the cooling gets switched over from mechanical (compressor) to free cooling (economizer). Range: 14°F to 70°F (-10°C to 21°C)
Mech. cooling Default value: Off	Mechanical Cooling Allowed Allows operation of mechanical cooling if free cooling (economizer) cannot maintain the cooling setpoint. Off: Applies when the mixed air temperature sensor is installed after the mechanical cooling refrigeration coils. In this case, mechanical cooling never operates at the same time as free cooling. On: Applies when the mixed air temperature sensor is installed before the mechanical cooling refrigeration coils in the mixing plenum. In this case, mechanical cooling is allowed when the free cooling (economizer operation) cannot maintain the cooling setpoint. Range: Off or On

CONFIGURATION 6/11

6/11 Configuration

Heat lockout	120 °F
Cool lockout	-40.0 °F
Discharge HL	120 °F
Discharge LL	45 °F
SH lockout	32 °F
FA range	0 CFM

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PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Heat lockout Default value: 120°F (49°C)	Heating Lockout from Outside Air Temperature Disables mechanical heating operation when Outdoor Temperature is higher than the “Heating Lockout” value. The Outdoor Temperature value could be received from a sensor connected directly to the Room Controller (UI23) or via a BACnet front end (network). Range: -15°F to 120°F (-26°C to 49°C)
Cool lockout Default value: -40°F (-40°C)	Cooling Lockout from Outside Air Temperature Disables mechanical cooling operation when Outdoor Temperature is lower than the “Cool Lockout” value. The Outdoor Temperature value could be received from a sensor connected directly to the Room Controller (UI23) or via a BACnet front end (network). The Economizer functionality (Free-cooling) can still be enabled during the Cooling Lockout. Range: -40°F to 95°F (-40°C to 35°C)
Discharge HL Default value: 120°F (49°C)	Discharge High Limit Discharge air high temperature value at which the heating stages get locked out. Range: 70°F to 150°F (21°C to 65°C)
Discharge LL Default value: 45°F (7°C)	Discharge Low Limit Discharge air low temperature value at which the cooling stages get locked out. Range: 35°F to 65°F (2.0°C to 19.0°C)

SH lockout Default value = 32°F (0°C)	Supply Heat Lockout Disables heating operation if Outdoor Air Temperature (OAT) is higher than “SH Lockout” temperature. The Outdoor Temperature value could be received from a sensor connected directly to the Room Controller or via a BACnet front end (network). Note: valid only if “Heat Stages” parameter is set to 0 (Analog Heat on UO11). Range: -15°F to 120°F (-26°C to 49°C)
FA Range Default value: 0 CFM	Fresh Air Range Sets the upper limit (reading range) of the “airflow measuring station” (eg. for 0~1,000 CFM station, set “FA Range” to 1,000). If set to 0 CFM, this function is disabled, and the fresh air damper control will be based on the “Min/Max CO ₂ ” and “Econo Min/Max Pos” values if set to a value other than 0. Do not change Econo Min/Max Pos if FA range is set to a value greater than 0. Range: 0 to 20,000 CFM (±10 increments).

CONFIGURATION 7/11

7/11 Configuration	
Econo min pos	0 %
Econo max pos	100 %
Min fresh air	0 CFM
Max fresh air	0 CFM
Min CO2	800 ppm
Max CO2	1200 ppm

PARAMETER DETAILS

Configuration Parameters Default Value				Significance and Adjustments							
Econo min pos Default value: 0%				Economizer Minimum Position Minimum Outside Air damper position when Room Controller is in Occupied, Standby or Override mode and Fan status is ON. If Room Controller is Unoccupied mode and/or the Fan is Off, Outside Air damper position goes to 0%. Range: 0% to 100%							
Econo max pos Default value: 100%				Economizer Maximum Position Maximum Outside Air damper position when Room Controller is in Occupied, Standby or Override mode and Fan status is ON. This is valid only for Economizer, CO ₂ and Airflow functions. Range: 0% to 100%							
Note: The Room Controller air damper position and output signal is based on a 0-10Vdc analog actuator application. Many installations utilize 2-10 VDC actuators, which cannot be switched to 0-10 Vdc control logic. The following chart indicates the appropriate equivalent damper positions for use with 2-10Vdc actuators.											
Outside air percent-age	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
Setting for 0-10 Vdc Actuator	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%
Setting for 2-10 Vdc Actuator	20%	24%	28%	32%	36%	40%	44%	48%	52%	56%	60%

Outside air percent-age	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%
Setting for 0-10 Vdc Actuator	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%
Setting for 2-10 Vdc Actuator	64%	68%	72%	76%	80%	84%	88%	92%	96%	100%

Min fresh air Default value: 0 CFM	Minimum Fresh Air Minimum fresh air required (minimum outside airflow setpoint). Effective only in Occupied, Standby or Override mode and Fan status is ON. If FA Range is set to value other than 0 CFM, the fresh air damper position control will be based on the Min/Max CO ₂ and Min/Max Fresh Air values. If Room Controller is in Unoccupied mode and/or the Fan is Off, the damper position goes to 0%. Range: 0 to 20, 000 CFM (±10 increments). The value set cannot exceed the value of FA Range parameter.
Max fresh air Default value: 0 CFM	Maximum Fresh Air Maximum fresh air allowed (maximum outside airflow setpoint). Effective only in Occupied, Standby or Override mode and Fan status is ON. If FA Range is set to value other than 0 CFM, the fresh air damper position control will be based on the Min/Max CO ₂ and Min/Max Fresh Air values. Range: 0 to 20, 000 CFM (±10 increments). The value set cannot exceed the value of FA Range parameter.
Min CO₂ Default value: 800 ppm	Minimum CO₂ Minimum CO ₂ level setpoint. Effective only in Occupied, Standby or Override mode and Fan status is ON. The Outside Air damper modulates to maintain the CO ₂ level between “Min CO ₂ ” and “Max CO ₂ ”. If Room Controller is in Unoccupied mode and/or the Fan is Off, Outside Air damper position goes to 0%. Range: 0 to 2000 ppm
Max CO₂ Default value: 1200 ppm	Maximum CO₂ Maximum CO ₂ level setpoint. Effective only in Occupied, Standby or Override mode and Fan status is ON. The Outside Air damper modulates to maintain the CO ₂ level between “Min CO ₂ ” and “Max CO ₂ ”. Range: 0 to 2000 ppm

CONFIGURATION 8/11

8/11 Configuration

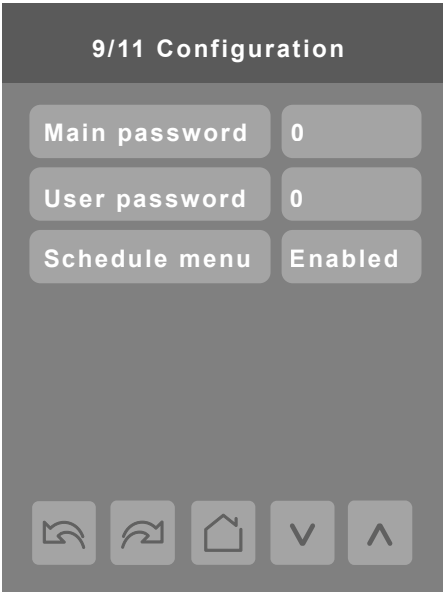
Application	Rooftop
High BP	90 °F
Low BP	-12 °F
Comf. or econ.	Comfort
Rev. valve	0
Comp. interlock	Off

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Application Default value: Rooftop	Application Sets Room Controller operating logic for either a Rooftop or a Heat Pump application. Note: if the Heat Pump Unit (HPU) does not have an O/B terminal (reversing valve), set this parameter to Rooftop. Choices: Rooftop or Heatpump
High BP Default value: 90°F	High Balance Point In Heating or Auto mode, it is the outside air temperature value at which the auxiliary heat is cut off. If the temperature exceeds this value, only the heat pump is used to maintain the heating setpoint. NOTE: Function enabled only if outside air temperature value is populated (not -40°F/°C). The Outdoor Temperature value could be received from a sensor connected directly to the Room Controller or via a BACnet front end (network). Range: 34°F to 90°F (1.0°C to 32.0°C)
Low BP Default value: -12 °F	Low Balance Point In Heating, Cooling or Auto mode, it represents the outside air temperature value at which the heat pump operation will be cut off. If the temperature falls below this value, only the auxiliary heat is used to maintain the heating setpoint. NOTE: Function enabled only if outside air temperature value is populated (not -40°F/°C). The Outdoor Temperature value could be received from a sensor connected directly to the Room Controller or via a BACnet front end (network). Range: -40°F to 30°F (-40°C to -1.0°C)

Comf. or econ. Default value: Comfort	Comfort or Economy Mode Sets the operation and interaction mode of the heat pump with the auxiliary heat. Comfort mode: In Heating mode, if the heat pump is not able to satisfy the heating setpoint, the auxiliary heat gets energized to satisfy the same heating setpoint. Economy mode: In Heating mode, if the heat pump is not able to satisfy the heating setpoint, the auxiliary heat gets energized to satisfy only when the temperature drops 2.0°F (1.1°C) below the heating setpoint. Selecting economy mode adds a deadband between the heat pump & auxiliary heat in heating mode. The actual temperature maintained will be lower than the true heating setpoint to maximize the heat pump operation. When the outdoor air temperature drops below the low balance point, the deadband gets eliminated and the auxiliary heat maintains the true heating setpoint alone. Choices: Comfort or Economy
Rev. valve Default value: O	Reversing Valve Operation Heat pump reversing valve operation O: energize valve in cooling operation B: energize valve in heating operation Choices: O or B
Comp. interlock Default value: Off	Compressor Auxiliary Interlock Sets the operation and interaction mode of the heat pump with the auxiliary heat. Off: In Heating mode, if the heat pump is not able to satisfy the heating setpoint, the auxiliary heat gets energized at the same time as the heat pump stage. Typically applies when the air handler heat pump coil is installed before the auxiliary heat (all electric systems). On: In Heating mode, if the heat pump is not able to satisfy the heating setpoint, the auxiliary heat gets energized and the heat pump is cut off. Typically applies when the air handler heat pump coil is installed after the auxiliary heat (add on systems) There is a 2 minute delay to restart the heat pump when the auxiliary heat is shut down. Choices: Off or On

CONFIGURATION 9/11



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Main password Default value: 0	Main Password Sets a protective access password to prevent unauthorized access to configuration menu parameters. A default value of “0” will not prompt for a password or lock access to the configuration menu. Range: 0 to 9999.
User password Default value: 0	User Password Sets a protective access password to prevent User unauthorized access to main screen adjustments. A default value of “0” will not prompt for a password. Range: 0 to 9999.
Schedule menu Default value: Enabled	Schedule Menu Toggles activation of schedule menu direct access. Enabled: Schedule Menu is directly accessible from the main screen via a touch in the upper corner. Disabled: Schedule Menu can only be accessed through the Setup Menu screens. En. no. clk: Schedule Menu is directly accessible from the main screen via a touch in the upper corner. Clock does not show. Dis. no. clk: Schedule Menu can only be accessed through the Setup Menu screens. Clock does not show. Choices: Disabled, Enabled, Disabled no Clock and Enabled no Clock

CONFIGURATION 10/11

10/11 Configuration

Calib. temp.	0.0 °F
Calib. OS temp.	0.0 °F
Calib. humid.	0.0 %RH
RH sensor	None

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★ Only for models with humidity sensor

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Calib. temp. Default value: 0°F	Calibration Room Temperature Sensor Room temperature sensor calibration. Offset can be added or subtracted to actual displayed room temperature. Range: ± 5.0°F (± 2.5°C)
Calib. OS temp. Default value: 0°F	Calibration Outside Temperature Sensor Outside air temperature sensor calibration. Offset that can be added or subtracted to the actual displayed outdoor temperature. Range: ± 5.0°F (± 2.5°C)
Calib. humid. Default value: 0.0 %RH	Calibrate Humidity Sensor Offset that can be added or subtracted to actual displayed humidity. Range: ± 15.0 %RH
RH sensor Default value: Internal	Relative Humidity Sensor Sets the source of the indoor room humidity. This parameter allows the user to designate either the Room Controller (only models supporting humidity) or any of the bound wireless devices that support humidity to act as the source for the room humidity. Internal: Sets the Room Controller as the source for the room humidity. WL 1 to WL 10: Sets the selected wireless ZigBee Pro device as the source for the room humidity. Only one device can be selected. WL GP: Sets the selected ZigBee Green Power device as the source for the room humidity. Choices: None, Internal, WL1 to WL10, and WL GP

CONFIGURATION 11/11



PARAMETER DETAILS

Configuration parameters default value	Significance and adjustments
Erase all? Default value: No	Erase All Accepting Yes for both and then tapping 'Push to accept' returns all values to the factory default settings with the exception of the following: • COM address • Network Units • Network Language • Baud Rate • BACnet Instance • Device Name • Screen Contrast • Lua Script Note: Node type in ZigBee Pro menu returns to default value (Router).
Are you sure? Default value: No	

Setpoints Screens

SETPOINTS 1/2

1/2 Setpoints

Unocc. cool	80 °F
Standby cool	78 °F
Occ. cool	75 °F
Occ. heat	72 °F
Standby heat	69 °F
Unocc. heat	62 °F

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Unocc. cool Default value: 80°F (27°C)	Unoccupied Cool Setpoint Cooling Temperature setpoint used by the Room Controller when in Unoccupied mode. Range: 54 to 100°F (12.0 to 37.5°C)
Standby cool Default value: 78°F (25.5°C)	Standby Cooling Setpoint Cooling Temperature setpoint used by the Room Controller when in Standby mode. Range: 54 to 100°F (12.0 to 37.5°C)
Occ. cool Default value: 75°F (24°C)	Occupied Cool Setpoint Cooling Temperature setpoint used by the Room Controller when in Occupied or Override mode. Range: 54 to 100°F (12.0 to 37.5°C)
Occ. heat Default value: 72°F (22°C)	Occupied Heating Setpoint Heating Temperature setpoint used by the Room Controller when in Occupied mode. Range: 40 to 90°F (4.5 to 32.0°C)
Standby heat Default value: 69°F (20.5°C)	Standby Heating Setpoint Heating Temperature setpoint used by the Room Controller when in Standby mode. Range: 40 to 90°F (4.5 to 32.0°C)
Unocc. heat Default value: 62°F (17°C)	Unoccupied Heating Heating Temperature setpoint used by the Room Controller when in Occupied or Override mode. Range: 40 to 90°F (4.5 to 32.0°C)

SETPOINTS 2/2

2/2 Setpoints

Default heat	72 °F
Min. deadband	3 °F
Max. heating	90 °F
Min. cooling	54 °F
Supply air SP	55 °F
Dehum. SP	50 %RH

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★ Parameter only displayed on models with built in humidity sensor.

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Default heat Default value: 72°F (22°C)	Default Heating Setpoint Used for hospitality applications in stand-alone mode only to reset the occupied setpoints when a new guest enters the room. When the Room Controller is in unoccupied mode, any movement detected by a wired, wireless or local PIR sensor changes the occupancy mode to occupied modes and uses the “Default Heating Setpoint” as the new occupied setpoints. NOTE: This functionality is only valid when Stand-by mode = Offset and “Setpoint Func” is set to “Attached”. Range: 65 to 80°F (18.5 to 26.5°C)
Min. deadband Default value: 3°F (1.5°C)	Minimum Deadband Temperature offset between the Cooling and Heating setpoints to ensure that Cooling setpoint is always warmer than the Heating setpoint Cooling setpoint ≥ (Heating setpoint + Deadband) Range: 2 to 5°F (1.0 to 2.5°C)
Max heating Default value: 90°F (32°C)	Heating Setpoint Limit Maximum Occupied, Unoccupied, Standby and Override Heating setpoints maximum limit. Range: 40 to 90°F (4.5 to 32.0°C)
Min. cooling Default value: 54°F (12°C)	Cooling Setpoint Limit Maximum Occupied, Unoccupied, Standby and Override Cooling setpoint adjustment. Range: 54 to 100°F (12.0 to 37.5°C)
Supply air SP Default value: 55°F (12°C)	Supply Air Setpoint Free cooling supply air setpoint when economizer mode is enabled. Range: 50 to 90°F (10.0 to 32.0°C)
Dehum. SP Default value: 50%RH	Dehumidification Setpoint Used only if dehumidification sequence is enabled. Range: 30 to 95% RH

Display Screens

DISPLAY 1/2

1/2 Display

User HMI	0
Color	White
Main display	Temp.
Standby screen	No
Lock screen	No
Contrast	0

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PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
User HMI Default value: 0	User HMI Sets layout of icons on the home screen for various applications. Refer to Customized screen for more information. Range: 0 to 12
Color Default value: White	HMI Color Change background color of the display screen. Choices: White, Green, Blue, Grey or Dark Grey
Main display Default value: Temp.	Main Display Shows temperature or setpoint on main display. Choices: Temperature or Setpoint
Standby screen Default value: No	Standby Screen When the device is left unattended for 150 seconds, the standby image will appear. A custom image can be uploaded using the Uploader Tool. No: No Stand by image (Screen dims when no motion is detected) Yes: Stand by Image is displayed after 150 seconds Occ. Only: Standby image displays after 150 seconds. Screen turns off after 30 minutes only in occupied or override mode. Screen saver: Standby image displays after 150 seconds. Screen turns off after 30 minutes only in unoccupied or standby mode Choices: No, Yes, Occupied Only or Screen Saver

Lock screen Default value: No	Lock Screen Prevents the user from accessing the Room Controller until a password is entered. Screen lockout starts 150 seconds after no activity on the Room Controller (when standby image appears). This functionality is enabled only if the below conditions are met: • Standby image loaded • Standby Screen = "Yes" or "Screen Saver" • User Password = not 0 Choices: No or Yes
Contrast Default value: 0	Contrast Control screen contrast and brightness. Range: -5 to 5

DISPLAY 2/2

2/2 Display

Language	English
Units	°C
Low backlight	60 %
Night backlight	5 %
RH display	Disabled
CO2 display	Disabled

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★ Only used on models with humidity sensor and CO₂ 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, Chinese, Russian, Arabic, Bulgarian (future option), Czech, Danish, Dutch, Finnish, German, Hungarian, Indonesian, Italian, Norwegian, Polish, Portuguese, Slovak, Swedish and Turkish
Units Default value: °C	Temperature Scale Changes the local display units. Refer to Network Units to change the network units broadcasted over the network. Choices: °C for SI or °F for Imperial.
Low backlight Default value: 60%	Low Backlight Sets display backlight intensity. This feature is activated (screen dims) 150 seconds after no activity on the Room Controller. Adjustable: 0 to 100%.
Night backlight Default value: 5%	Night Backlight Sets backlight display intensity. 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%.

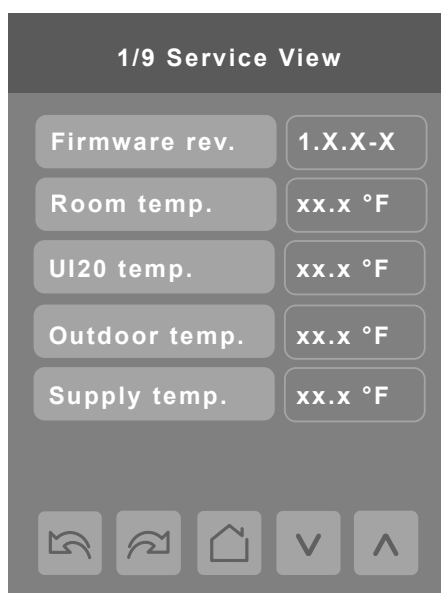
RH display Default value: Disabled	Relative Humidity Shows humidity level in room in %RH. On: Display %RH Off: Do not display %RH Choices: Enabled or Disabled
CO₂ display Default value: Disabled	CO₂ Levels Display Shows carbon dioxide level in room in ppm. On: Display CO ₂ level Off: Do not display % CO ₂ level Choices: Enabled or Disabled

Service View Screens

Service View Screens

The service view screens show the current status of certain points locally on the Room Controller. These points can also be viewed through the network. Service view values are **Read Only** values but allow a service contractor to visualize the status of key functionality to correctly diagnose operational system issues.

SERVICE VIEW 1/9



PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
Firmware rev. Read Only	Firmware Revision Shows Firmware version currently installed on Room Controller. Upgrading to a newer Firmware version deletes the previous Firmware version, however it is possible to set the Room Controller to an earlier Firmware version with the Uploader Tool.
Room temp. Read Only	Room Temperature Shows the current room temperature. The user can set one of the following temperature inputs to act as the source for the room temperature's present value: Wired: Sensor across UI20 (RS) and common Internal: Room Controller's internal temperature sensor WL 1 to WL 10: Wireless ZigBee end devices WL GP: Wireless ZigBee Green Power end devices Display Readings: Wired, Internal, WL1 to WL10 and WL GP
UI20 Temp Read Only	Room Temperature Sensor Shows the temperature of the sensor connected to UI20 (RS) terminal.
Outdoor temp. Read Only	Outdoor Temperature Shows the outdoor temperature on the main screen.
Supply temp. Read Only	Supply Temperature Shows supply air temperature as measured by the sensor.

SERVICE VIEW 2/9

2/9 Service View

Effective occ.	Occupied
PI cool demand	0%
PI heat demand	0%
Cool dem. limit	0.0%
Heat dem. limit	0.0%
Econo. demand	0.0%

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PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
Effective occ. Read Only	Effective Occupancy Shows as occupied, unoccupied, standby or override. Display Readings: Occupied, Unoccupied, Override and Standby
PI cool demand Read Only	Cooling Demand Display Readings: 0-100%
PI heat demand Read Only	Heat Demand Display Readings: 0-100%
Cool dem. limit Read Only	Outdoor Temperature Display Readings: 0-100%
Heat dem. limit Read Only	Supply Temperature Display Readings: 0-100%
Econo. demand Read Only	Supply Temperature Display Readings: 0-100%

SERVICE VIEW 3/9



★ Only for models with ZigBee Pro communication module

3/9 Service View

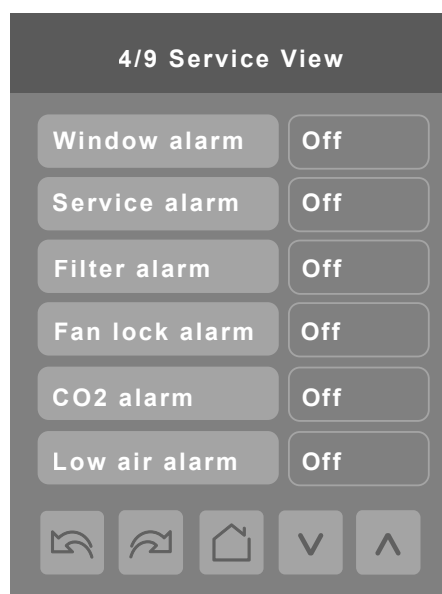
UI16 binary	Not activ.
UI17 binary	Not activ.
UI19 analog	0 %
Airflow level	0 CFM
Zigb. PIR inst.	Off
Zigb. sens. mot.	No motion

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PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
UI16 binary Read Only	Universal Input Configuration No. 1 Shows status of input. Display Readings: Activated or Not Activated
UI17 binary Read Only	Universal Input Configuration No. 2 Shows status of input. Display Readings: Activated or Not Activated
UI19 analog Read Only	Universal Input Configuration No. 3 Shows scaled percentage level of wired CO ₂ sensor. 0% = 0ppm, 100% = 2000ppm Display Readings: 0-100%
Airflow level Read Only	Airflow level Shows the amount of air (in cubic feet/minute) that flows through a particular device. Display Readings: 0-100%
Zigb. PIR inst. Read Only	ZigBee Passive Infrared Sensor Installed Shows if ZigBee motion sensor is paired to a Room Controller or not. NOTE: This parameter is for ZigBee Motion Sensors only. Display Readings: Off or On
Zigb. sens. mot. Read Only	ZigBee Sensor Motion Shows if motion is detected by any of the wireless ZigBee motion sensors. NOTE: This parameter is for ZigBee Motion Sensors only. Display Readings: Motion or No Motion

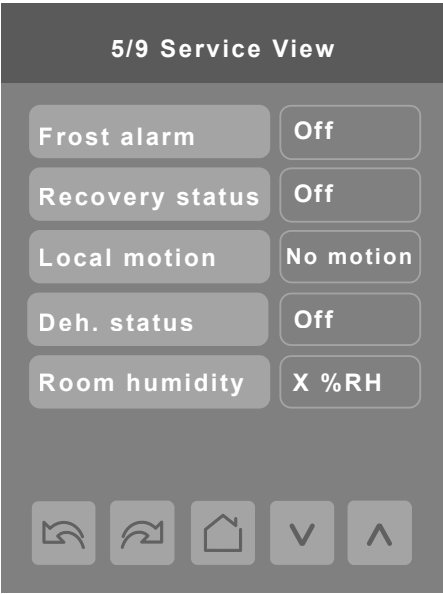
SERVICE VIEW 4/9



PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
Window alarm Read Only	Window Alarm Shows On if there is a Window alarm and shows Off if there is no Window alarm. This feature is for both wired and wireless sensors. Display Readings: On or Off
Service alarm Read Only	Service Alarm Shows On if there is a Service alarm and shows Off if there is no Service alarm. Display Readings: On or Off
Filter alarm Read Only	Filter Alarm Shows On if there is a Filter alarm and shows Off if there is no Filter alarm. Display Readings: On or Off
Fan lock alarm Read Only	Fan Lock Alarm Shows On if there is a problem detected on the Fan. Display Readings: On or Off
CO₂ alarm Read Only	CO₂ Alarm Shows On if the CO ₂ level (local, wired or wireless) is higher than the “Max CO ₂ ” setpoint. Display Readings: On or Off
Low air alarm Read Only	Low Air Alarm Shows if the fresh air flow is lower than the “min fresh air” setpoint. Display Readings: On or Off

SERVICE VIEW 5/9



PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
Frost alarm Read Only	Frost Alarm Shows if Frost Alarm active or not. Display Readings: On or Off
Recovery status Read Only	Recovery Status Shows if Frost Alarm active or not. Display Readings: On or Off
Local motion Read Only	Local Motion Shows if Frost Alarm active or not. Display Readings: Motion or No Motion
Deh. status Read Only	Dehumidification Status Shows if dehumidification is active or not. Display Readings: On or Off
Room humidity Read Only	Room Humidity Shows percentage of humidity in room from selected local or wireless devices. Refer to RH sensor parameter to select RH source. Display Readings: %RH

SERVICE VIEW 6/9



PARAMETER DETAILS

Configuration parameters Default Value	Significance and Adjustments
UO9 config Read Only	UO9 Configuration Shows Analog, Binary, Relay RC or Relay RH
UO10 config Read Only	UO10 Configuration Shows Analog, Binary or Relay RC
UO11 config Read Only	UO11 Configuration Shows Analog or Binary
UO12 config Read Only	UO12 Configuration Shows Analog or Binary

SERVICE VIEW 7/9



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
UI19 type Read Only	UI19 Input Type Shows Thermistor, Binary or Voltage
UI20 type Read Only	UI20 Input Type Shows Thermistor, Binary or Voltage
UI22 type Read Only	UI22 Input Type Shows Thermistor, Binary or Voltage
UI23 type Read Only	UI23 Input Type Shows Thermistor, Binary or Voltage
UI24 type Read Only	UI24 Input Type Shows Thermistor, Binary, Voltage or Reserved

SERVICE VIEW 8/9

8/9 Service View

CO2 module	None
CO2 err. code	0x0000
CO2 level	0 PPM
CO2 FW rev.	
CO2 S/N	

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PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
CO ₂ module Read Only	CO₂ Module Shows if CO ₂ value is being ready from internal sensor, wired sensor or CO ₂ sensor module. Display Readings: None, Local, Error and Wireless
CO ₂ err. code Read Only	CO₂ Error Code Error code 0x0001 shows if there is an error with the sensor.
CO ₂ level Read Only	CO₂ Level Shows CO ₂ level in ppm. Display Readings: 0 to 2000
CO ₂ FW rev. Read Only	CO₂ Firmware Revision Shows the Firmware version of the installed CO ₂ sensor module.
CO ₂ S/N Read Only	CO₂ Serial Number Shows the serial number of the installed CO ₂ sensor module.

SERVICE VIEW 9/9



The Device Name (BACnet name) consists of the model number followed by the COM address (MAC address). The BACnet name can be changed via the BACnet front end and the new name appears on the above screen.

For example, when a SE8600U5B00 Room Controller with a MAC address of 41 is connected to a network, its default Device Name is SE8600UxB00-41 and its default BACnet Device ID is 86041.

Test Outputs Screens

TEST OUTPUTS 1/2



Note 1: The Test Outputs screen allows manual override of specified outputs. After any output state is overridden, the command is cancelled after 1 minute of screen inactivity (auto exit to main screen) or when page is exited.

Note 2: Use high caution when manually enabling outputs so as to not cause damage to equipment. It is the responsibility of the Installer or Service Contractor to maintain a safe operation environment during usage.

Note 3: These parameters can also be changed via BACnet and the changed parameter background will turn red to indicate the parameter's value had been overridden. The overridden value remains even if the user exits the main screen

TEST OUTPUTS 2/2



Note: Test Outputs values are LIVE. Any output gets displayed immediately for any value change according to the following:

1. If any BACnet priority array (1 - 16) includes a value, the displayed state background shows in red.
2. When toggling a value on the screen, the output directly energizes according to the selected value.
3. After any output state gets modified, all overrides get cancelled after 1 minute of button inactivity, or if you scroll from one screen to another screen.

CASE A: screen 2/2 display is dependent on Control type configuration. If mode is set to On/Off, binary options show.

CASE B: screen 2/2 display is dependent on Control type configuration. If mode is set to Analog, analog options show.

Language Selection Screens

LANGUAGE SELECTION 1/4 TO 4/4



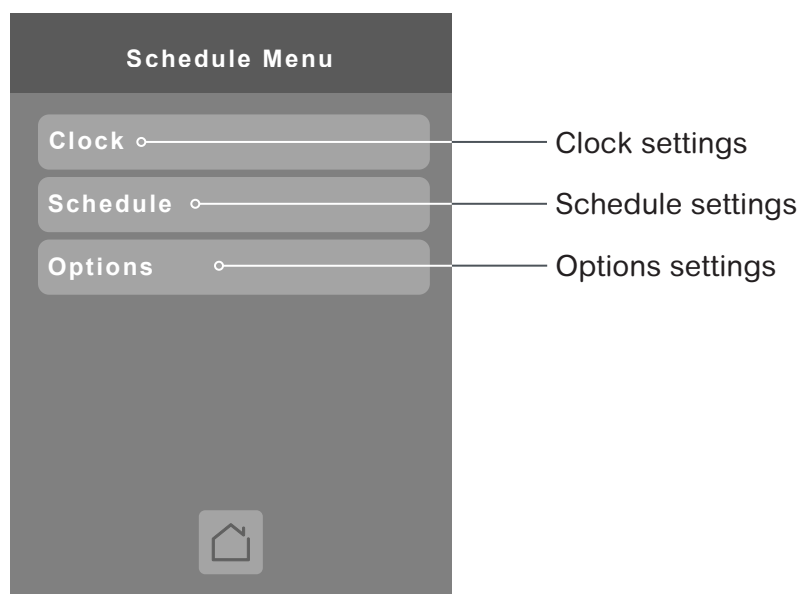
Only English, French, Spanish, Chinese, and Russian are enabled by default and are accessible to users cycling through languages on the display settings menu screen. To change the language selection settings, tap a language on the screen and then use the arrow buttons to disable or enable it.

NOTE: English is always enabled.

NOTE: Bulgarian is a future option.

Schedule Screens

Clock - Schedule Menu



Note: The Clock- Schedule Menu screen is directly accessible from the main set-up screen.

Clock

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

Clock	
Time format	AM-PM
Time	--:--
Year	2014
Month	Jan.
Day	01
Weekday	Sunday

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 - 2100
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	Current Day Automatically set based on data received from Year/Month parameters. Range: Monday - Sunday

Schedule

There are seven different schedule setting screens, one for each day of the week. Each day can have different scheduled events where the Room Controller is set to Occupied status or back to Unoccupied status. The Room Controller can use the appropriate setpoints (back and forth) up to three times per day.



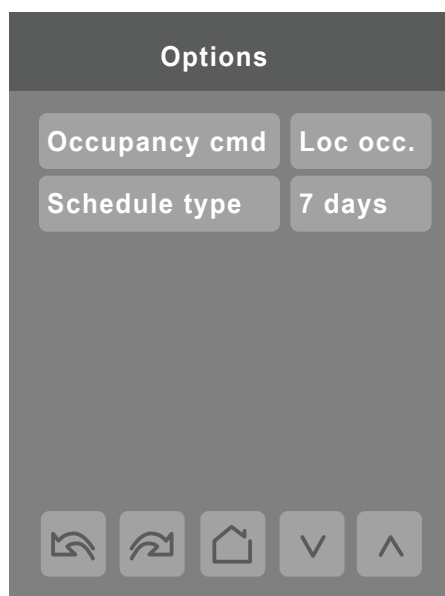
Identified by day of the week (Sunday through Saturday)

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Occupied 1 - 3 Default value: None	Occupied 1 - 3 Defines a time when the Room Controller is automatically set to use the Occupied setpoint. Note: There are 3 separate Occupied parameter entries Range: 00:00 - 24:00
Unoccupied 1 - 3 Default value: None	Unoccupied 1 - 3 Defines a time when the Room Controller is automatically set to use the Unoccupied setpoint. Note: There are 3 separate Occupied parameter entries Range: 00:00 - 24:00

Options

The options settings allow the Room Controller to function in Occupied or Unoccupied mode following a defined Schedule type set by the user.



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Occupancy cmd Default value: Local occ	Occupancy Command Loc occ: occupancy is determined by local sequences (either PIR or schedule, as configured under Occ. source). Occupied: force occupied mode. Unoccup: force unoccupied mode. Choices: Loc occ, Occupied or Unocc.
Schedule type Default value: 7 days	Schedule Type 7 days: Independent scheduling identified by day of the week (Sunday - Saturday) 5+1+1 days: Weekdays scheduling and Independent Weekend scheduling identified as Weekdays, Saturday and Sunday 5+2 days: Weekdays scheduling and Weekend scheduling identified as Weekdays and Weekend Choices: 7 days, 5+2 days or 5+1+1

ADR Screens

Automatic Demand Response (ADR)

Automatic Demand Response (ADR) feature is used to reduce energy load when electric grid contingencies threaten supply-demand balance.



PARAMETER DETAILS

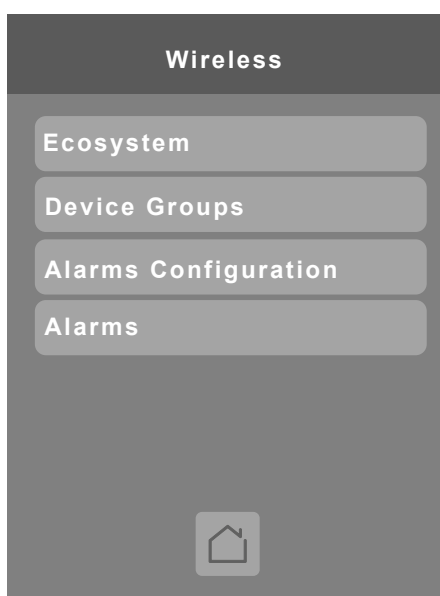
Configuration Parameters Default Value	Significance and Adjustments
Permission Default value: Off	Automatic Demand Response Permission Used to permit the ADR to be applicable or not to change the room controller setpoints setting or not. Off: The Load Shedding Demand will not be permitted. On: The Load Shedding Demand will be permitted. Choices: On or Off
Shed status Default value: Off Read Only	Load Shedding Status Displays the status of the Load Shedding Demand, whether it is active (On) or not (Off). The Load Shedding status is On when the Permission is On, Shed demand is On, and the Shed Override is Off. Off: Load Shedding Demand is not activated. On: Load Shedding Demand is activated. Display Readings: On or Off

Shed demand Default value: Off Read Only	Load Shedding Demand Sets the request to initiate Load Shedding. This demand can only be set through BACnet by the local Utility company. Off: No Load Shedding Demand is received or the Shedding demand is disabled. On: Received the Load Shedding Demand or received the signal to activate Load shedding. Display Readings: On or Off
Shed offset Default value: 4°F (2°C)	Load Shedding Offset Used to change the effective setpoints in occupied, standby and unoccupied modes. For example, when “Shed status” is On and Room Controller is in occupied mode: The cooling setpoint is calculated as follows: Occupied cooling setpoint = occupied cooling setpoint + Load shedding offset. The heating setpoint is calculated as follows: Occupied heating setpoint = occupied heating setpoint - Load shedding offset. Choices: 4°F to 10°F (2°C to 5.5°C)
Shed override Default value: Off Read Only	Load Shedding Override Displays whether the user disabled the ADR request by the utility company. When the demand shed is applied, the user can override the ADR settings from its original setpoints settings. On: Rejects or cancels shed load demand request from utility company (setpoints remain the same). Off: Allows shed load demand request from utility company (setpoint will change according to shed offset) Display Readings: On or Off

Wireless Screens

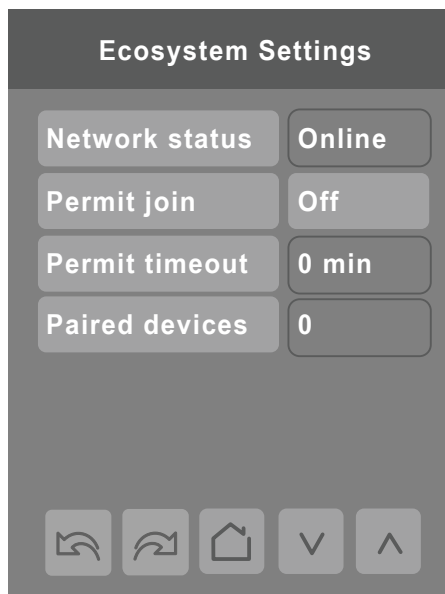
Wireless Menu Options

The Wireless screen shows only if the optional ZigBee communication module is installed. Up to 11 devices can be added to the Device Groups for each Room Controller.



Ecosystem Settings

The Ecosystem Settings screens show the network status, the number of paired devices as well as information for each paired device. A maximum of 11 devices (including 1 ZigBee Green Power device) can be paired to each Room Controller. Tap forward arrow to obtain information on each paired ZigBee device.



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Network status Default value: Not det. Read Only	ZigBee Network Status Shows current status of ZigBee network. Pwr on: ZigBee module detected but not configured No NWK: ZigBee configured but no network joined Joined: ZigBee network joined Online: Communicating Display Readings: Pwr on, No NWK, Joined and Online
Permit join Default value: Off	Permit Join Setting to 'On' allows the Room Controller to pair with a ZigBee device. Value must be set to 'On' to pair with initial device and then set to 'Off' if user wants to prevent additional ZigBee devices from joining the network. Changing this value to "Off" on the Coordinator prevents any new ZigBee devices from joining the network. Permit join can be On/Off when the Room Controller is a coordinator, however the parameter is read only when the Room Controller is a router. Permit join stays On for 3 hours. On: Allows Room Controller to pair with wireless ZigBee device Off: Prevents Room Controller from pairing with wireless ZigBee device, or prevent any additional ZigBee devices from joining network. Choices: On or Off

Permit timeout Default value: 0 Read Only	Permit Join Timeout Allows devices to join the Coordinator Room Controller for 180 minutes from the moment it is set to ON. Once the timer elapse, no devices will be able to join the network. NOTE: Permit Join parameter must be set to 'On' to enable this feature. Range: 0 or 180 minutes
Paired devices Default value: 0 Read Only	Paired ZigBee Devices Shows the number of Zigbee devices currently paired with the Room Controller. A maximum of 10 ZigBee Pro devices and 1 ZigBee Green Power device can be paired with each Room Controller (total of 11 paired devices per Room Controller). Display Readings: 0 to 11 devices

Device X

This screen is a subset of the Ecosystems screen and shows data for each paired Zigbee device. The temperature parameter is only visible for ZigBee devices capable of measuring temperature readings. Up to 11 Device screens can show.

NOTE: Device X pages will only show up once devices have been paired.

The screenshot shows a screen titled "Device X" with a list of parameters and their current values. At the bottom, there are five navigation icons: a back arrow, a refresh/circular arrow, a house icon, a down arrow, and an up arrow.

Device X	
Function	None
Comm. status	Online
Battery	None
Address	0XXXXX
Status	No motion
Temperature	XX °F

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Function Default value: None	ZigBee Device Function Shows status of installed ZigBee device. None: No status reported to Room Controller Window: Window sensor installed Door: Door sensor installed Motion: Device set to detect motion Status: Updates the BACnet status of the sensor. No action is taken by the Room Controller. Remove: Removes device from Device list Water: Water Leak sensor installed Choices: None, Window, Door, Motion, Status, Remove and Water
Comm. status Default value: Offline Read Only	Communication Status Shows if device is communicating with Room Controller Not paired: Device not paired Online: Device paired and online Offline: Device paired but offline Invalid: Device was paired and Room controller detected a communication error (selected function does not match paired sensor functionality). Display Readings: Nor paired, Online, Offline and Invalid
Battery Default value: None Read Only	Wireless Device Battery Shows current status of battery in wireless device. Display Readings: None, Normal or Low

Address Read Only	Wireless Device Address Shows short address of ZigBee Pro end device
Status Read Only	Wireless Device Status Shows the following status of ZigBee end device: • None: N/A • Closed: Door and Window Sensors • Opened: Door and Window Sensors • No Motion: Motion Sensor only • Motion: Motion Sensor only • Normal: Water Leak Sensor only • Leak: Water Leak Sensor only
Temperature Read Only	Wireless Device Temperature Displays the temperature value received from the wireless device. If the wireless device does not support temperature measurement, this object is not displayed .

Device Green Power

This screen is a subset of the Ecosystems screen and shows data for a paired ZigBee Green Power device. The temperature parameter is only visible for ZigBee devices capable of measuring temperature readings.

NOTE: This screen is only visible when the Room Controller is paired with a ZigBee Green Power device.

The screenshot shows a screen titled "Device Green Power". It contains five rows of configuration parameters, each with a label and a value:

- Function: None
- Comm. status: Off
- Battery: None
- Address: 0XXXXX
- Temperature: XX °F

At the bottom of the screen, there are five navigation icons: a left arrow, a right arrow, a home icon, a down arrow, and an up arrow.

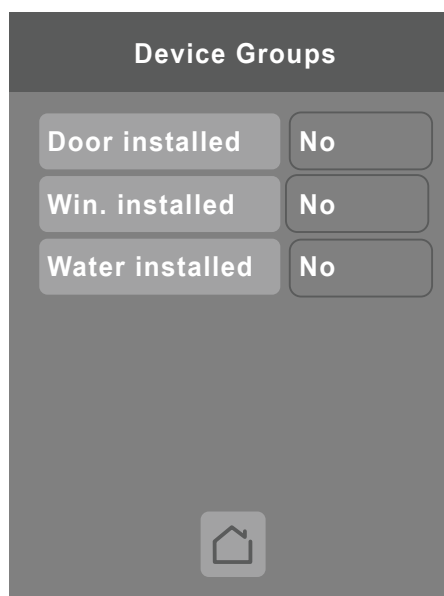
PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Function Default value: None	ZigBee Device Function Shows presence of installed ZigBee Green Power device. Only 1 ZigBee Green Power device can be paired to each Room Controller. None: No device paired to Room Controller Remove: Removes device from Device Green Power group T, rH: Temperature and Humidity sensor paired to Room Controller T, rH, CO₂: CO ₂ sensor paired to Room Controller Choices: None, Remove, T, rH or T, rH, CO ₂
Comm. status Default value: Off Read only	Communication Status Shows communication statuses between Room Controller and ZigBee Green Power device. Not paired: Room Controller is not paired with any wireless ZigBee Green Power device. Online: Shows Room Controller is communicating with wireless ZigBee Green Power device. Invalid: Room Controller is communicating with device not using ZigBee Green Power protocol. Offline: Shows Room Controller is not communicating with wireless ZigBee Green Power device. Paired: Room Controller is paired with wireless ZigBee Green Power device but there is no wireless communication between the Room Controller of the device. Display Status: Not paired, Online, Invalid, Offline and Paired

Battery Default value: None Read only	Wireless Device Battery Shows current status of battery in wireless device. Display Readings: None, Normal or Low
Address Read only	Wireless Device Address Shows unique address of ZigBee end device
Temperature Read only	Wireless Device Temperature Shows current temperature on Room Controller display screen as detected by device.

Device Groups

This screen is a subset of the Ecosystems screen and shows if a particular sensor is paired with the Room Controller.



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Door installed Default value: No Read Only	Door Contact Installed Shows if Door sensor installed. Display Readings: Yes or No
Win. installed Default value: No Read Only	Window Contact Installed Shows if Window sensor installed. Display Readings: Yes or No
Water installed Default value: No Read Only	Water Leak Sensor Installed Shows if Water Leak sensor installed. Display Readings: Yes or No

Temperature Alarm Configuration

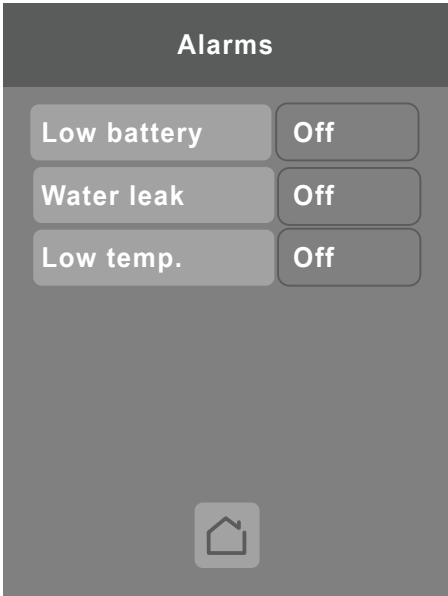
This screen is a subset of the Ecosystems screen and triggers an alarm only for the Water sensors with temperature measurement.

PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Enable Default value: No	Temperature Alarm Enabled Enables wireless device to alert Room Controller if temperature value reaches defined value in a particular zone. Choices: Yes or No
Threshold Default value: 40 °F (4.5 °C)	Temperature Alarm Threshold Sets alarm threshold for system temperature sensors. Range: 32 to 45 °F (0 °to 7 °C)
Hysteresis Default value: 4°F (2°C)	Temperature Alarm Hysteresis Choices: 0 to 10°F (0 to 5.5 °C)

Alarms

This screen is a subset of the Ecosystems screen and shows data for each paired Zigbee device.

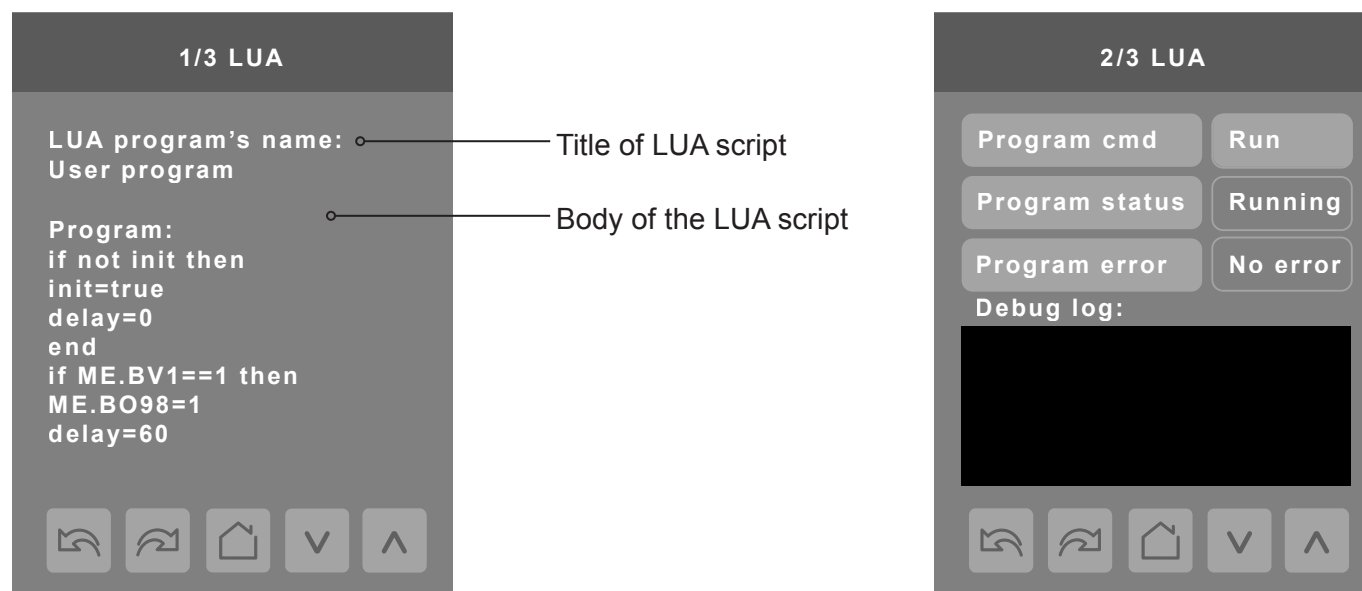


PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Low battery Read Only	Low Battery Alarm Shows if any wireless paired device has a low battery status (On) or no paired device has low battery (Off). Choices: On or Off
Water leak Read Only	Water Leak Sensor Status Shows if any water sensor paired device has detected a water leak (On) or no leak detected in any of the water sensor paired devices (Off). Choices: On or Off
Low temp. Read Only	Low Temperature Alarm Shows if any water sensor paired device has detected a low temperature (On) or no low temperature detected in any of the water sensor paired devices (Off). Choices: On or Off

Lua Settings

The LUA settings screens show information about any custom LUA script uploaded to the Room Controller. LUA scripts are not programmable on the Room Controllers. LUA scripts can be uploaded to the Room Controller via the Uploader Tool or via BACnet.

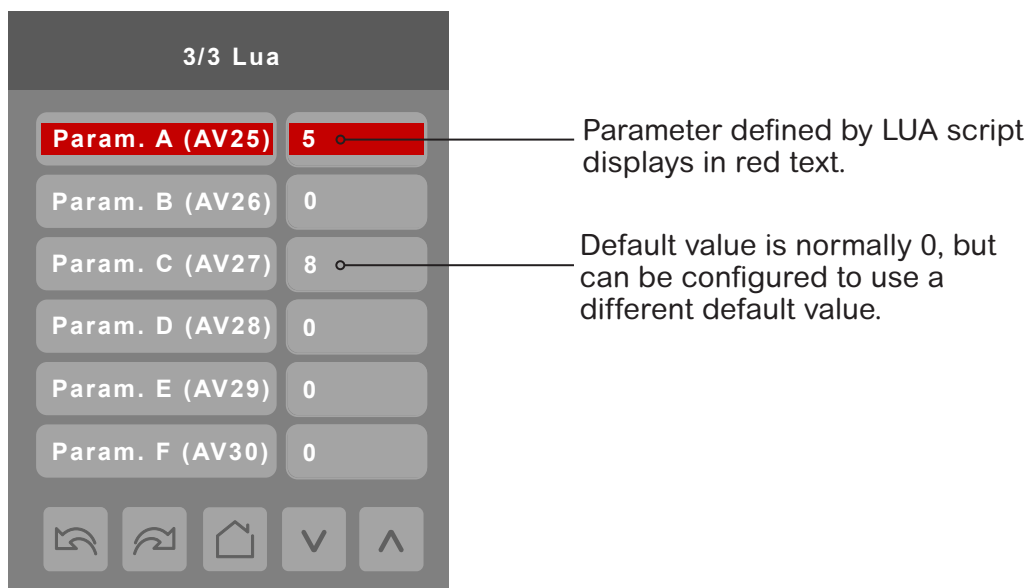


PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Program cmd Default value: Run	Program Command Run: LUA script activated and runs continuously until deactivated 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 Display Readings: 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 Display Readings No error, Syntax, Runtime, Memory

LUA Generic Parameters

The LUA settings include six generic parameters that do not have a specific function or pre-configured functions. These parameters can be used in custom Lua scripts to store a value. They are also user configurable in their default state, but when assigned a value via a LUA script or via BACnet (Priority 1-16), they become read only (not configurable locally by the user) and the display color of the parameter changes to red. These parameters can also be configured via ZigBee, however they can still be modified locally by the user.



PARAMETER DETAILS

Configuration Parameters Default Value	Significance and Adjustments
Parameter A Default value: 0	AV25 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	AV26 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	AV27 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	AV28 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	AV29 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	AV30 The value(s) of this parameter depends on what is assigned to it using the LUA script function

SECTION 3

Appendix

Appendix A: Terminal Correspondence

The terminals of an SE8600 are identified differently and have a wider range of possible functions compared to those of any of the SE7600 series Room Controllers. Nonetheless, there is a direct correspondence of functions between the terminals of the SE7600 series and the SE8600 series. Consult the table below to verify the appropriate terminal when replacing a SE7600 Room Controller with a SE8600 Room Controller.

SE7600		SE8600	
Terminal name	Terminal ID	Terminal name	Terminal ID
Binary Input 1	DI1	Universal Input 16	UI16
Binary Input 2	DI2	Universal Input 17	UI17
Sensor Common	Scom	Terminal 18 Common	COM
Remote Sensor	RS	Universal Input 20	UI20 - RS
Sensor Common	Scom	Terminal 21 Common	COM
Mix/Supply Sensor	MS	Universal Input 22	UI22 - SS

Technical Support



For any issues with SmartStruxure Solution or SmartStruxure Lite, contact Schneider Electric Technical Support according to your region.

North America (NAM) Product Support

- Building Management Systems (BMS): www.nampss.com

Global Product Support

- Building Management Systems (BMS): productsupport.BMS@schneider-electric.com

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