



VT7200 Series User Interface Guide

For Commercial HVAC Applications
November 2015

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CONFIGURING AND STATUS DISPLAY INSTRUCTIONS

Status display

The Room Controller features a two-line, eight-character display. There is a low level backlight level that is always active and can only be seen at night.

When left unattended, the Room Controller has an auto scrolling display that shows the actual status of the system. There is an option in the configuration menu to lockout the scrolling display and to only present the room temperature and conditional outdoor temperature to the user. With this option enabled, no local status is given of mode, occupancy and relative humidity.

Each item is scrolled one by one with the back lighting in low level mode. Pressing any key will cause the back light to come on to high level. When left unattended for 10 seconds after changes are made, the display will resume automatic status display scrolling.

To turn on the back light to high level, press any key on the front panel. The back lit display will return to low level when the Room Controller is left unattended for 45 seconds

Sequence of auto-scroll status display:

ROOM & HUMIDITY	SYSTEM MODE	SCHEDULE STATUS	OUTDOOR TEMPERATURE	ALARMS
x.x °C or °F XX % RH	Sys mode	Occupied	Outdoor	Service
	Auto		x.x °C or° F	Filter
	Sys mode Cool	Stand-By		Window
	Sys mode heat	Unoccup		

Outdoor air temperature

- Display is only enabled when outdoor air temperature network variable is received.

Occupancy Status

- Occupied, Stand-By, Unoccupied and Override status are displayed on the scrolling display.





Alarms

- If alarms are detected, they will automatically be displayed at the end of the status display scroll.
- During an alarm message display, the back lit screen will light up at the same time as the message and shut off during the rest of the status display.
- Two alarms maximum can appear at any given time. The priority for the alarms is as follows:

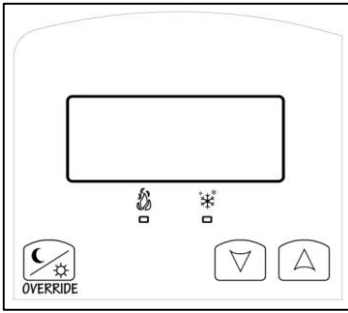
Service	Indicates that there is a service alarm as per one of the configured binary inputs (B12)
Filter	Indicates that the filters are dirty as per one of the configured binary inputs (B12)
Window	Indicates that the outside window or door is opened and that the Room Controller has cancelled any cooling or heating action (B11)

Two status LED's on the Room Control cover are used to indicate a call for heat or a call for cooling.

Zoning Models

When heating & reheat is ON , the HEAT LED will illuminate	 
When cooling is ON , the COOL LED will illuminate	 




USER INTERFACE



Unoccupied mode override

An Override can be made during an unoccupied period. If the Override option is enabled in the lockout configuration pressing the Override button will resume occupied setpoints for a time specified by parameter ToccTime

Local keypad interface

	<ul style="list-style-type: none">An Override can be made during an unoccupied period. If the Override option is enabled in the lockout configuration pressing the override key will resume occupied setpoints for a time specified by parameter ToccTime
	<ul style="list-style-type: none">In cooling mode only the cooling setpoint is displayed,In heating mode only the heating setpoint is displayedIn auto mode, (See below)
	<ul style="list-style-type: none">In cooling mode only the cooling setpoint is displayed,In heating mode only the heating setpoint is displayedIn auto mode, (See below)

- Any setpoint change can be permanent or temporary based on configuration parameter (Setpoint Type)
- Any setpoint written through the network, will be permanent and cancel any active temporary setpoints
- Lockouts of access to certain functions is made with configuration parameter (lockout)

Occupied setpoints adjustments

COOLING MODE	HEATING MODE	OFF MODE	AUTO MODE <ul style="list-style-type: none"> ▪ Setpoint presented to user is the setpoint from the last action taken by the Room Controller or the one currently in use. ▪ Both heating and cooling setpoints are changed simultaneously while respecting the minimum configured deadband
Cool XX.X °F or °C	Heat XX.X °F or °C	No access to setpoint	Cool XX.X °F or °C and Heat XX.X °F or °C Both heating & cooling setpoints change simultaneously

Unoccupied and stand-by setpoints adjustments

Setting of the stand-by and unoccupied setpoints is done through the network or through configuration setup only.

Mode button menu sequence

Modes presented to the user are dependent on the sequence of operation selected. Default mode is shown in bold when sequence of operation parameter is changed.

System mode function

PLEASE NOTE THAT: Default system mode of operation is dependent on sequence of operation selected

Default mode is in bold when sequence of operation parameter is changed

The available mode can only be changed through the network since there is no local mode access

SEQUENCE SELECTED	MODE MENU
0 = Cooling Only	Off - Cool
1 = Heating Only	Off - Heat
2 = Cooling With Electric Reheat	Off – Auto – Heat – Cool
3 = Heating With Electric Reheat	Off - Heat
4 = Cooling and Heating (2 modulating outputs)	Off – Auto – Heat – Cool
5 = Cooling / Heating (2 modulating outputs) with reheat	Off – Auto – Heat – Cool

INSTALLER CONFIGURATION PARAMETER MENU




Configuration can be done through the network or locally at the Room Controller.

- To enter configuration, press and hold the middle button (°C/°F or Override) for 8 seconds.

If a password lockout is active, “*Password*” is prompted. Enter password value using the “*up*” and “*down*” arrows and press the middle button again to gain access to all configuration properties of the Room Controller. Entering a wrong password will prevent local access to the configuration menu.

- Press the same middle button repetitively to scroll between all the available parameters.
- Use the up and down key to change the parameter to the desired value.
- To acknowledge and save the new value, press the middle button again.
- The next parameter will now be displayed.

Configuration interface

	Pressing repetitively will individually scroll all the available parameters
	Adjust / rotate parameter value down
	Adjust / rotate parameter value up

CONFIGURATION PARAMETERS DEFAULT VALUE	SIGNIFICANCE AND ADJUSTMENTS
<p>PswrdSet Configuration parameters menu access password Default value = 0 Range is: 0 to 1000</p>	<p>This parameter sets a password access to prevent unauthorized access to the configuration menu parameters. A default value of "0" will not prompt a password or lock the access to the configuration menu. Range is: 0 to 1000</p>
<p>Com Addr Room Room Controller networking address Default value = 254 Range is: 0 to 254</p>	<p>Conditional parameter to BACnet™ MS-TP models VT7200X5x00B</p> <p>Conditional parameter to Wireless models VT7200X5x00W</p> <ul style="list-style-type: none"> ▪ For BACnet™ MS-TP models, the valid range is from 1 to 127. Default value of 254 disables BACnet™ communication for the Room Controller. For wireless models, the valid range is 0 to 254 with a maximum of 30 Room Controller per VWG
<p>PAN ID Personal Area Network Identification Default value = 0 Range is: 0 to 500</p>	<p>Conditional parameter to Wireless models VT7200X5x00W</p> <p>This parameter will only appear when a wireless network adapter is present. If the Room Controller is installed as a stand-alone (Network Ready) unit or with a BACnet™ or Echelon™ adapter, this parameter will not be used or displayed.</p> <p>This parameter (Personal Area Network Identification) is used to link specific Room Controllers to a single specific Viconics wireless gateway (VWG). For every Room Controller reporting to a gateway (maximum of 30 Room Controllers per gateway), be sure you set the <i>SAME</i> PAN ID value both on the gateway and the Room Controller(s).</p> <p>The default value of 0 is <i>NOT</i> a valid PAN ID. The valid range of available PAN ID is from 1 to 500.</p> <p>Range 1 to 250 for centralized networked applications using a VWG or a Jace with the wireless stat driver</p> <p>Range 251 to 500 is for stand-alone (Network Ready) applications where no VWG or Jace with the wireless stat driver is used.</p>

Channel

Channel selection
Default value = **10**
Range is: 10 to 26

**Conditional parameter to Wireless models
VT7200X5x00W**

This parameter will only appear when a wireless network adapter is present. If the Room Controller is installed as a stand-alone (Network Ready) unit or with a BACnet™ or Echelon™ adapter, this parameter will not be used or displayed.

This parameter (Channel) is used to link specific Room Controllers to specific Viconics wireless gateway(s) (VWG). For every Room Controller reporting to a gateway (maximum of 30 Room Controllers per gateway), be sure you set the *SAME* channel value both on the gateway and the Room Controller(s).

Viconics recommends using only the usage of channels 15 and 25 only.

The default value of 10 is *NOT* a valid channel. The valid range of available channel is from 11 to 26


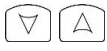








<p>Get From Room Controller Get From another device configuration utility Default value = 0 Range is: 0 to 254</p>	<p>Conditional parameter to Wireless models (VT7200X5x00W)</p> <p>Entering a MAC address enables an automatic routine that automatically fetches all the required configuration properties of the current device from another already configured device and copies the same required configured property values. If a value other than the default value of 255 is entered, user will then be prompted to exit the Configuration Menu thus leaving all other parameter configuration to be copied from the referenced Room Controller MAC address.</p> <p>Ex.: If you are currently configuring MAC12 and the settings <u>matches exactly</u> the settings of ZN MAC5, then enter 5 as the current parameter value.</p> <ul style="list-style-type: none">▪ If the process is successful and all required configuration properties have been copied, the value will revert back to 255▪ If the process is <i>NOT</i> successful and all required configuration properties have <i>NOT</i> been copied (either the reference device is <i>NOT</i> the same model number or is offline or does not exists) the value will revert back to 254 to indicate the failure of the process <p>Leaving the Get From parameter to 255 means that every configuration parameters will be set manually.</p>
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<p>BI 1 Binary input no.1 configuration Default value = None</p>	<p>(None): No function will be associated with the input. Input can be used for remote network monitoring.</p> <p>(Rem NSB): remote NSB timer clock input. The scheduling will now be set as per the binary input. It provides low cost setback operation via a dry contact</p> <ul style="list-style-type: none"> ▪ Contact opened = Occupied ▪ Contact closed = Unoccupied <p>(Motion NO) or (Motion NC): Advanced PIR occupancy functions using a Normally Open (NO) or Normally Closed (NC) remote PIR motion sensor. Occupancy mode is now set as per applied PIR function and configuration. Application information and examples are available in document: <i>APP-PIR-Guide-Exx</i>. This document will provide the installers and system designers with detailed examples on applications, parameter configuration information, sequence of operation, troubleshooting and diagnostic help required for the proper usage of the PIR accessory covers</p> <p>(Window) EMS: Forces the system to disable any current heating or cooling action by the Room Controller. The mode stays the same and the current setpoints are the same Occupied setpoints. Only the outputs are disabled. There is a Door/Window alarm displayed on the Room Controller to indicate to the local tenant that the door/window needs to be closed for cooling or heating to resume.</p> <p>* These settings will disable the local override function on the Room Controller.</p>
<p>BI 2 Binary input no.2 configuration Default value = None</p>	<ul style="list-style-type: none"> ▪ (None): No function will be associated with the input ▪ (Door Dry) Door contact & Motion detector: This configuration is only functional if binary input #1 is set to Motion NO or Motion NC or a PIR accessory cover is used. ▪ With this sequence enabled, the occupancy is now dictated through those 2 inputs. Any motion detected will set the zone to occupied status. The zone will remain permanently in occupied mode until the door contact switch opens momentarily. The Room Controller will then go in stand-by mode. If more movements are detected, the occupied mode will resume. While the door is opened, any movements detected by the remote PIR sensor or the PIR accessory cover will be ignored. Use a Normally Closed contact switching device. <ul style="list-style-type: none"> ▪ Contact opened = Door opened ▪ Contact closed = Door closed ▪ (RemOVR): temporary occupancy remote override contact. This function disables the central button override function on the Room Controller. The override function is now controlled by a manual remote momentarily closed contact. When configured in this mode, the input operates in a toggle mode. ▪ It is now possible to toggle between unoccupied & occupied setpoints for the amount of time set by parameter (TOccTime) temporary occupancy time.

	<ul style="list-style-type: none"> ▪ (Filter): a backlit flashing Filter alarm will be displayed on the Room Controller LCD screen when the input is energized. It can be tied to a differential pressure switch that monitor filters ▪ Contact opened = No alarm ▪ Contact closed = Alarm displayed ▪ (Service): a backlit flashing Service alarm will be displayed on the Room Controller LCD screen when the input is energized. It can be tied in to the AC unit control card, which provides an alarm in case of malfunction. ▪ Contact opened = No alarm ▪ Contact closed = Alarm displayed
<p>UI3 Universal input no.3 configuration Default value = None</p>	<p>(None): No function will be associated with the input</p> <p>(COC/NH) Change over dry contact. Normally Heat: Used for hot / cold water or air change over switching in 2 pipe systems. Contact closed = Cold water or air present Contact opened = Hot water or air present Only used and valid if system is setup as 2 pipes. Parameter (Pipe No) set as 2 pipes.</p> <p>(COC/NC) Change over dry contact. Normally Cool: Used for hot / cold water or air change over switching in 2 pipe systems. Contact closed = Hot water present Contact opened = Cold water present Only used and valid if system is setup as 2 pipes. Parameter (Pipe No) set as 2 pipes.</p> <p>(COS) Change over analog sensor: Used for hot / cold water or air change over switching in 2 pipe systems. Only used and valid if system is setup as 2 pipes. Parameter (Pipe No) set as 2 pipes. If water temperature is > 78 °F = Hot water present If water temperature is < 75 °F = Cold water present</p> <p>(SS) Supply air sensor monitoring: Used for supply air temperature monitoring.</p> <p>Only used for network reporting of the supply air temperature. Has no internal function in the Room Controller.</p>
<p>MenuScro Menu scroll Default value = On = Scroll active</p>	<p>Removes the scrolling display and displays the room temperature/humidity to the user. With this option enabled, no mode, schedule and outdoor temperature status is given.</p> <ul style="list-style-type: none"> ▪ On = Scroll active ▪ Off = Scroll not active
<p>C or F Sets scale of the Room Controller Default value = °F</p>	<ul style="list-style-type: none"> ▪ °F for Fahrenheit scale ▪ °C for Celsius scale

Lockout Keypad lockout levels Default value = 0 No lock	
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USER KEY FUNCTIONS

LEVEL		
0		
1		
2	NOT USED	
3		
4		
5		

Out1Conf Output # 1 configuration Default is: 4.0 (2 control outputs, no changeover)	Defines the type of operation needed for Output #1 (BO1 & BO2) 2.0 , will limit the number of sequences of operation available from 0 to 3 Will enable heat/cool operation from the same output (refer to wiring diagram) 4.0 , can access all the sequences of operation from 0 to 5 Will enable heat/cool operation from different output (refer to wiring diagram)
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CntrlTyp Control type for Triac models Default is: Floating	Defines the type of control output for the type of valves installed VT7200C10xx only On/Off is for normally opened or normally closed 24 VAC 2 position valves Floating is for modulating 3 wires control of 24 VAC floating valves
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SeqOpera Sequence of operation Default is: Sequence #1	Single output application (Out1Conf) = 2.0	Dual output application (Out1Conf) = 4.0
0 = Cooling Only	Yes access	Yes access
1 = Heating only	Yes access	Yes access
2 = Cooling with Reheat	Yes access	Yes access
3 = Heating with Reheat	Yes access	Yes access
4 = Cool and Heat, 2 outputs	No access	Yes access
5 = Cool and Heat, 2 outputs with Reheat	No access	Yes access

For single output applications, the system access is also limited if UI3 is configured for local changeover COS, COC/NC or COC/NC.

<p>St-By TM Stand-by Timer value Default 0.5 hours</p>	<p>Time delay between the moment where the PIR cover detected the last movement in the area and the time which the Room Controller stand-by mode and setpoints become active. Range is: 0.5 to 24.0 hours in 0.5hr increments</p>
<p>Unocc TM Unoccupied Timer value Default 0.0 hours</p>	<p>Time delay 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. The factory value or 0.0 hours: Setting this parameter to its default value of 0.0 hours disables the unoccupied timer. This prevents the Room Controller to drift from stand-by mode to unoccupied mode when PIR functions are used Range is: 0.0 to 24.0 hours in 0.5hr increments</p>
<p>St-By HT Stand-by heating setpoint Default value = 69 °F</p>	<p>The value of this parameter should reside between the occupied and unoccupied heating setpoints and make sure that the difference between the stand-by and occupied value can be recovered in a timely fashion when movement is detected in the zone. Stand-by heating setpoint range is: 40 to 90 °F (4.5 to 32.0 °C)</p>
<p>St-By CL Stand-by cooling setpoint limit Default value = 78 °F</p>	<p>The value of this parameter should reside between the occupied and unoccupied cooling setpoints and make sure that the difference between the stand-by and occupied value can be recovered in a timely fashion when movement is detected in the zone. Stand-by cooling setpoint range is: 54 to 100 °F (12.0 to 37.5 °C)</p>
<p>Unocc HT Unoccupied heating setpoint Default value = 62 °F</p>	<p>Heating setpoint range is: 40 to 90 °F (4.5 to 32.0 °C)</p>
<p>Unocc CL Unoccupied cooling setpoint limit Default value = 80 °F</p>	<p>Cooling setpoint range is: 54 to 100 °F (12.0 to 37.5 °C)</p>
<p>heat max Maximum heating setpoint limit Default value = 90 °F (32 °C)</p>	<p>Maximum occupied & unoccupied heating setpoint adjustment. Heating setpoint range is: 40 to 90 °F (4.5 to 32.0 °C)</p>
<p>cool min Minimum cooling setpoint limit Default value = 54 °F (12 °C)</p>	<p>Minimum occupied & unoccupied cooling setpoint adjustment. Cooling setpoint range is: 54 to 100 °F (12.0 to 37.5 °C)</p>

Pband

Proportional band setting

Default is : **3**

Adjust the proportional band used by the Room Controller PI control loop.



Note that the default value of 3.0 °F (1.2 °C) gives satisfactory operation in most normal installation cases. The use of a proportional band different than the factory one is normally warranted in applications where the Room Controller location is problematic and leads to unwanted cycling of the unit. A typical example is a wall mounted unit where the Room Controller is installed between the return and supply air feeds and is directly influenced by the supply air stream of the unit.

VALUE	°F SCALE PBAND	°C SCALE PBAND
3	3 F	1.2 C
4	4 F	1.7 C
5	5 F	2.2 C
6	6 F	2.8 C
7	7 F	3.3 C
8	8 F	3.9 C
9	9 F	5.0 C
10	10 F	5.6 C

<p>Set Type Temporary setpoint enable Default is : Permnet</p> <p>Enables temporary setpoints feature to any change of occupied or unoccupied setpoint.</p>	<p>Temporar: (temporary) Local changes to the heating or cooling setpoints by the user are temporary. They will remain effective for the duration specified by “ToccTime”. Setpoints will then revert back to their default value after internal timer “ToccTime” expires.</p> <p>To change setpoints permanently, revert this variable to No or write setpoints through the network. Any setpoints written through the network will be permanent and saved to EEPROM.</p> <p>Permnet: (permanent) Any change of occupied or unoccupied setpoints through the keypad by the user are permanent and saved to & EEPROM</p>
<p>ToccTime Temporary occupancy time Default value = 2 hours</p>	<p>Temporary occupancy time with occupied mode setpoints when override function is enabled.</p> <p>When the Room Controller is in unoccupied mode, function is enabled with either the menu or UI2 configured as remote override input.</p> <p>Range is: 0,1, 2, 3, 4, 5, 6, 7, 8, 9, 10, & up to 24 hours</p>
<p>Deadband Minimum deadband Default value = 2.0 °F (1.0 °C)</p>	<p>The minimum deadband value between the heating and cooling setpoints. When modified, it will take effect only when any of the setpoints are modified again.</p> <p>Range is: 2, 3, 4 or 5 °F, 1.0 °F increments (1.0 to 2.5 °C, 0.5 °C increments)</p>
<p>Cal RS Room temperature sensor calibration Default value = 0.0 °F or °C</p>	<p>Offset that can be added/subtracted to the actual displayed room temperature</p> <p>Range is: ± 5.0 °F, 1.0 °F increments (± 2.5 °C, 0.5 °C increments)</p>

<p>aux cont Auxiliary contact function & configuration Default value = 0 Not Used</p>	<p>0 Aux contact function used for reheat <u>IF SEQUENCE IS SET TO REHEAT THROUGH NETWORK OR LOCAL</u>, Ignore this parameter</p> <p>The output will directly follow the occupancy of the Room Controller 1 Auxiliary NO, Occ or St-By = Contact Closed / Unoccupied = Contact Opened 2 Auxiliary NC, Occ or St-By = Contact Opened / Unoccupied = Contact Closed</p> <p>Output to follow directly main occupancy and Fan on command Typically used for 2 position fresh air damper applications. 3 Auxiliary NO, Occ or St-By & Fan On = Contact Closed / Unoccupied & Fan On or Off = Contact Opened 4 Auxiliary NC, Occ or St-By & Fan On = Contact Opened / Unoccupied & Fan On or Off = Contact Closed</p> <p>Output to follow secondary network occupancy command 5 Auxiliary On/Off Control through auxiliary network command. The output can be commanded through the network for any required auxiliary functions through a separate & dedicated network variable.</p>
<p>FL time Floating actuator timing VT7200C5x00(x) models only Default value: 1.5 minutes</p>	<p>Maximum stroke time of floating valve actuator. 0.5 to 9.0 in 0.5 minutes increment</p>
<p>cph On/Off devices cycles per hour VT7200C5x00(x) models only Default value = 4 C.P.H.</p>	<p>Will set the maximum number cycles per hour under normal control operation. It represents the maximum number of cycles that the equipment will turn ON and OFF in one hour. Note that a higher C.P.H will represent a higher accuracy of control at the expense of wearing mechanical components faster. 3, 4, 5, 6, 7 & 8 C.P.H.</p>

<p>RA/DA Reverse acting or Direct acting signal for Analog output signals VT72xxF5x00(x) models only Default value: DA signal</p>	<p>Changes the action of the analog outputs on the analog models. DA = Direct acting 0 to 100 % = 0 to 10 VDC RA = Reverse acting 0 to 10 % - 10 to 0 VDC</p>
<p>Reheat Sets the time base for the reheat output if used Default value: 0 = 15 minute</p>	<p>Sets the reheat output time base Valid only if reheat sequences are enabled 0 = 15 minutes 1 = 10 seconds for Solid state relays</p>
<p>UI3 dis Display supply or changeover temperature</p>	<p>Used as diagnostic / service help to troubleshoot and diagnose sensor operation Only when UI 3 is configured as an analog input (SS or COS)</p>



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