



PIR Ready VT7600W Series With & Without Local Schedule Water Source Heat Pump Terminal Equipment Controllers

Installation Guide

For Commercial HVAC Applications September 2019 / 028-0355-05

CONTENTS **Safety Information** 2 **Before You Begin** 3 Installation 5 **Theory of Operation** 6 Model Chart 8 Terminal, Identification and Function 9 **Typical Applications** 10 **Configuring and Status Display Instructions** 15 **User Interface** 16 **Installer Configuration Parameter Menu** 25 **Troubleshooting Guide** 35 **Specifications** 37 **Drawing & Dimensions** 38

NOTICE

IMPORTANT NOTICE RELATED TO PRODUCT PART NUMBERS

For the latest model and part numbers, please refer to "VT8000 and VT7000 Series Room Controllers Catalog, version 10" (028-6100-08), which can be found on http://www.viconics.com/.

This document contains information on active and retired products. The latter are no longer sold by Viconics Technologies or its partners.

For additional information on 7000 Series Room Controllers and a list of replacement part numbers, please visit http://www.viconics.com/.

Failure to follow these instructions can result in confusion or order delays.





SAFFTY INFORMATION

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

A DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

A WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

A CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury

NOTICE

NOTICE is used to address practices not related to physical injury. The safety alert symbol shall not be used with this signal word.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

Loss of Control

A WARNING

LOSS OF CONTROL

- Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- The designer of any control scheme must consider the potential failure modes of control
 paths and, for certain critical control functions, provide a means to achieve a safe state
 during and after a path failure. Examples of critical control functions are emergency stop
 and over travel stop.
- Separate or redundant control paths must be provided for critical control functions.
- System control paths may include communication links. Consideration must be given to the implications of anticipated transmission delays or failures of the link.¹
- Each implementation of equipment utilizing communication links must be individually and thoroughly tested for proper operation before being placed into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

California Proposition 65



CALIFORNIA PROPOSITION 65

This product can expose you to chemicals including Lead and Bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Failure to follow these instructions can result in birth defects or other reproductive harm.

Electrostatic Discharge

NOTICE

STATIC SENSITIVE COMPONENTS

Circuit boards and option cards can be damaged by static electricity. Observe the electrostatic precautions below when handling controller circuit boards or testing components.

Failure to follow these instructions can result in equipment damage.

Observe the following precautions for handling static-sensitive components:

- Keep static-producing material such as plastic, upholstery, and carpeting out of the immediate work area.
- Store static-sensitive components in protective packaging when they are not installed in the drive.
- When handling a static-sensitive component, wear a conductive wrist strap connected to the component or drive through a minimum of 1 megohm resistance.
- · Avoid touching exposed conductors and components leads with skin or clothing.

¹ For additional information about anticipated transmission delays or failures of the link, refer to NEMA ICS 1.1 (latest edition), Safety Guidelines for the Application, Installation and Maintenance of Solid State Control or its equivalent.

NOTICE

INSTALLATION

- The system must be installed correctly by a qualified technician.
- If replacing an existing Room Controller, label wires before removal of Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing Room Controller.
- A short circuit or wrong wiring may permanently damage Room Controller or equipment.
- All Room Controllers are designed for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verification prior to shipping to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user/installer/electrical system designer to incorporate safety devices (such as relays, flow switch, thermal protections, etc.) and/or an alarm system to protect the entire system against such catastrophic failures. Tampering with the devices or unintended application of the devices will result in a void of warranty.
- This device must be installed to provide a separation distance of at least 8in (20cm) from all
 persons and must not be located or operating in conjunction with any other antenna or
 transmitter.
- Refer to the Room Controller User Interface Guide for information on how to configure the Room Controller.

Failure to follow these instructions can result in equipment damage.

Location

NOTICE

LOCATION

- Do not install on an exterior wall.
- Do not install behind a door.
- Do not install in areas with direct heat source.
- Do not install near any air discharge grill.
- · Do not install in areas exposed to direct sunlight.
- Ensure Room Controller has sufficient natural air circulation.
- · Ensure wall surface is flat and clean.
- Ensure external thermal sensor wirings are away from noisy electrical sources.
- Install 1.3 to 1.5 meter (52 to 60 inches) above the floor.
- Perform preventive maintenance on the damper and Variable Air Volume (VAV) box, according to the supplier documentation.

Failure to follow these instructions can result in equipment damage.

Cleaning the Room Controller

NOTICE

CLEANING THE ROOM CONTROLLER

- Use a soft, pre-moistened lint-free cloth for cleaning.
- · Avoid getting moisture in openings.
- Do not spray anything directly on the Room Controller or use compressed air.
- Do not use caustic/corrosive products, ammonia, solvents or any cleaning product containing alcohol or grit.
- · Never use tools directly on the touchscreen.
- · Never use paint on the Room Controller.
- Do not drop or crush the Room Controller, or allow it to come into contact with liquids.
- Do not use a damaged device (such as one with a cracked screen).

Failure to comply with these recommendations will result in damage to the unit and void the manufacturer's warranty.

INSTALLATION

Remove the security screw on the bottom of Terminal Equipment Controller cover.

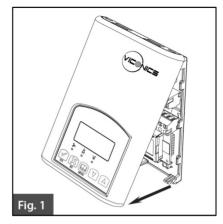
- Open unit by pulling on the bottom side of Terminal Equipment Controller (fig. 1).
- Remove wiring terminals from sticker.
- Please read the FCC ID and IC label installed in the cover upon removal of cover for the wireless products.

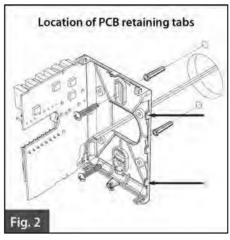
Location

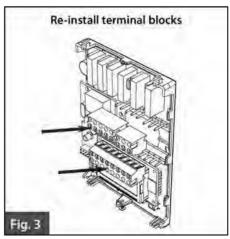
- Should not be installed on an outside wall.
- Must be installed away from any direct heat source.
- 3. Should not be installed near an air discharge grill.
- 4. Should not be affected by direct sun radiation.
- Nothing should restrict vertical air circulation to the Terminal Equipment Controller.

Installation

- Swing open the Terminal Equipment Controller PCB to the left by pressing the PCB locking tabs (fig. 2).
- Pull out cables 6" out from the wall.
- 3. Wall surface must be flat and clean
- Insert cable in the central hole of the base.
- Align the base and mark the location of the two mounting holes on the wall. Install base in the proper orientation. Arrow on base should be facing up.
- Install anchors in the wall.
- 7. Insert screws in mounting holes on each side of the base (fig. 2).
- Gently swing back the circuit board on the base and push on it until the tabs lock it.
- 9. Strip each wire 1/4 inch from end.







- 10. Insert each wire according to wiring diagram.
- 11. Gently push excess wiring back into hole (fig. 3).
- 12. Re-Install wiring terminals in their correct locations (fig. 3).
- 13. Re-install the cover (top side first) and gently push extra wire length back into the hole in the wall.
- 14. Install security screw.

THEORY OF OPERATION

The VT7600 uses a Viconics proprietary adaptive logic algorithm to control the space temperature. This algorithm controls the heating / air conditioning system to minimize overshoot while still providing comfort. It provides exceptional accuracy due to its unique PI time proportioning control algorithm, which virtually eliminates temperature offset associated with traditional, differential-based on/off Terminal Equipment Controllers.

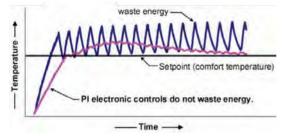


Fig.2 - On/Off mechanical control vs PI electronic control.

Features overview

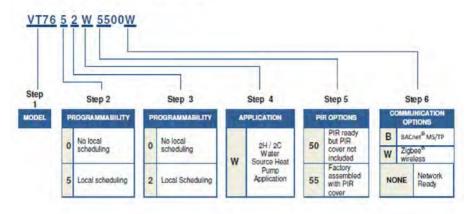
- 7 day schedule models, 2 or 4 events
- Built-in dehumidification control function with local ambient humidity sensing
- Selectable single or dual compressor stages
- Remote indoor averaging sensing capability
- Temperature averaging with 2, 3, 4, 9 or 16 sensors
- System mode lock out
- Remote discharge air temperature sensor input for monitoring purpose
- Remote water temperature sensor input for monitoring purpose
- Lockable keypads for tamper proofing. No need for a separate guards
- Anti short cycle and minimum on/off run time protection. Reduces wear and maximizes life span of mechanical equipment.
- 2 configurable digital inputs for added flexibility. Each input can be configured as the following:
 - None: No function will be associated with the input
 - Service: a backlit flashing Service alarm will be displayed on the Terminal Equipment 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.
 - Filter: a backlit flashing Filter alarm will be displayed on the Terminal Equipment Controller LCD screen when the input is energized. It can be tied to a differential pressure switch that monitor filters
 - Rem NSB: remote NSB timer clock input. Will disable the internal scheduling of the Terminal Equipment Controller. The scheduling will now be set as per the digital input. The menu part related to scheduling is disabled and no longer accessible. It provides low cost setback operation via occupancy sensor or from a dry contact

- RemOVR: temporary occupancy contact. Disables all override menu function of the Terminal Equipment 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.
- With this function enabled it is now possible to toggle between unoccupied & occupied setpoints for the amount of time set by parameter (TOccTime) temporary occupancy time.
- Fan lock: used in conjunction with a local air flow sensor connected to the input. Locks out the Terminal Equipment Controller heating and cooling action and displays a local alarm if no air flow is detected 10 seconds after the fan (G terminal) is energized.
- Configurable smart fan operation saves energy during night mode
- Non volatile EEPROM memory prevents loss of parameters during power shortage
- Built in default profile set-up for easier start up and commissioning
- Configurable SPST output relay for lighting, exhaust fan or fresh air control
- 6 hour typical reserve time for clock in case of power loss on scheduling models

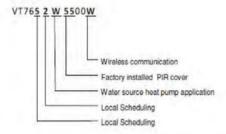
MODEL CHART

Product Selector

Please refer to the following matrix when ordering:



EXAMPLE:



Please note, not all combinations and variants are available. Refer to the Viconics price list for a complete selection listing of all available models.

Network ready

- All Viconics VT7600 series Terminal Equipment Controllers are designed for stand-alone (Network Ready) operation.
- They can be fully integrated into your choice of automation systems using the available communication adapter options.
- If required, stand-alone (Network Ready) Terminal Equipment Controllers can be field retrofitted with the following communication adapters:
 - VCM7600N5000B, Terminal Equipment Controller BACnet[™] MS-TP® communication adapter
 - ∨CM7600N5000W Terminal Equipment Controller wireless Zigbee[™] communication adapter

TERMINAL, IDENTIFICATION AND FUNCTION Wiring

Water Source Heat Pump						
Part Number	VT7600W					
Schedule	No					
7	Top left terminal	block				
Y2	Х	Х				
Y1	X	Х				
G	X	Х				
RC	Х	Х				
С	Х	X				

Top right terminal block						
DEH	X	X				
O/B	X	X				

Bottom terminal block					
Aux	X	X			
DI1	Х	Х			
DI2	X	X			
RS	Х	Х			
Scom	Х	Х			
WS	Х	Х			
MS	Х	Х			

Screw terminal arrangement

5 pole left top connector

2 pole left top connector



7 pole bottom connector

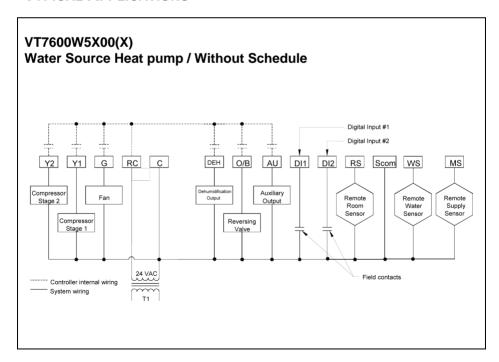


Main outputs wiring

Wiring notes:

- Note 1: Electromechanical contacts are to be used with the digital inputs. Electronic triacs cannot be used as mean of switching for the input. The switched leg to the input for the input to activate is terminal C (common)
- Note 2: The transformer of the unit provides power to the Terminal Equipment Controller and the additional loads that will be wired to the Terminal Equipment Controller.

TYPICAL APPLICATIONS



Remote sensor accessories

MODEL NO.	DESCRIPTION
S3010W1000	Wall mounted temperature sensor
S3020W1000	Wall mounted temperature sensor+override button and occupancy status
S2060A1000	Averaging temperature sensor
S2000D1000	Duct mounted temperature sensor

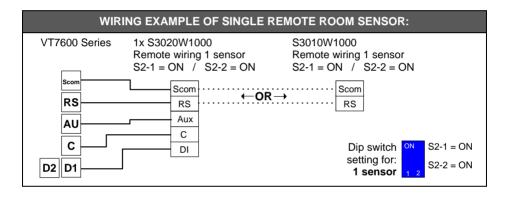
Remote mount temperature sensors use 10K NTC thermistor.

This sensor can be used for:

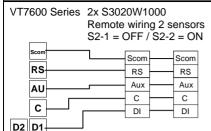
- Various averaging combinations
- Optional occupancy led
- Optional override key

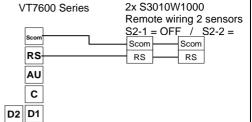


Wall mounted sensor



WIRING EXAMPLES OF 2 REMOTE ROOM SENSORS FOR AVERAGING APPLICATIONS:

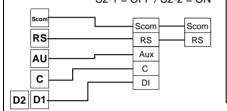




VT7600 Series

1x S3010W1000 and 1x S3020W1000

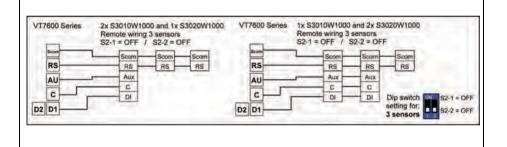
Remote wiring 2 sensors S2-1 = OFF / S2-2 = ON



Notes for averaging applications:

- S3010W1000 and S3020W1000 can be mixed matched.
- S3010W1000 and S3020W1000 are to be wired in parallel.
- Respect the dip switch setting in each remote sensor.

WIRING EXAMPLES OF 3 REMOTE ROOM SENSORS FOR AVERAGING APPLICATIONS:



Temperature vs. resistance chart for 10 Kohm NTC thermistor

٥С	۰F	Kohm
-40	-40	324.3197
-39	-38	303.6427
-38	-36	284.4189
-37	-35	266.5373
-36	-33	249.8958
-35	-31	234.4009
-34	-29	219.9666
-33	-27	206.5140
-32	-26	193.9703
-31	-24	182.2686
-30	-22	171.3474
-29	-20	161.1499

٥C	٥F	Kohm	٥C	٥F	Kohm
-20	-4	94.5149	0	32	32.1910
-19	-2	89.2521	1	34	30.6120
-18	0	84.3147	2	36	29.1197
-17	1	79.6808	3	37	27.7088
-16	3	75.3299	4	39	26.3744
-15	5	71.2430	5	41	25.1119
-14	7	67.4028	6	43	23.9172
-13	9	63.7928	7	45	22.7861
-12	10	60.3980	8	46	21.7151
-11	12	57.2044	9	48	20.7004
-10	14	54.1988	10	50	19.7390
-9	16	51.3692	11	52	18.8277

Hermistor							
٥С	٥F	Kohm		٥С	٥F	Kohm	
20	68	12.4601		40	104	5.3467	
21	70	11.9177		41	106	5.1373	
22	72	11.4018		42	108	4.9373	
23	73	10.9112		43	109	4.7460	
24	75	10.4443		44	111	4.5631	
25	77	10.0000		45	113	4.3881	
26	79	9.5754		46	115	4.2208	
27	81	9.1711		47	117	4.0607	
28	82	8.7860		48	118	3.9074	
29	84	8.4190		49	120	3.7607	
30	86	8.0694		50	122	3.6202	
31	88	7.7360		51	124	3.4857	
31	88	7.7360		51	124	3.485	

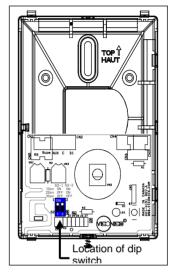
-28	-18	151.6239
-27	-17	142.7211
-26	-15	134.3971
-25	-13	126.6109
-24	-11	119.3244
-23	-9	112.5028
-22	-8	106.1135
-21	-6	100.1268

-8	18	48.7042	12	54	17.9636
-7	19	46.1933	13	55	17.1440
-6	21	43.8268	14	57	16.3665
-5	23	41.5956	15	59	15.6286
-4	25	39.4921	16	61	14.9280
-3	27	37.5056	17	63	14.2629
-2	28	35.6316	18	64	13.6310
-1	30	33.8622	19	66	13.0307

32	90	7.4182
33	91	7.1150
34	93	6.8259
35	95	6.5499
36	97	6.2866
37	99	6.0351
38	100	5.7950
39	102	5.5657

2	52	126	3.3568
)	53	127	3.2333
9	54	129	3.1150
9	55	131	3.0016
6	56	133	2.8928
1	57	135	2.7886
0	58	136	2.6886
7	59	138	2.5926
_			

\$3010W1000 remote wall mounted temperature sensor, dip switch location



\$2000D1000, remote duct mounted temperature sensor c/w junction box.

This sensor can be used for:

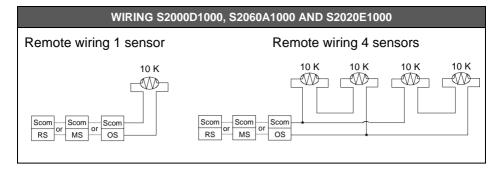
- Remote return air temperature sensing with the sensor mounted on the return air duct.
- Outside air temperature sensing with the sensor installed in the fresh air plenum.
- Supply air temperature sensor



\$2060A1000, remote averaging duct mounted temperature sensor c/w junction box.

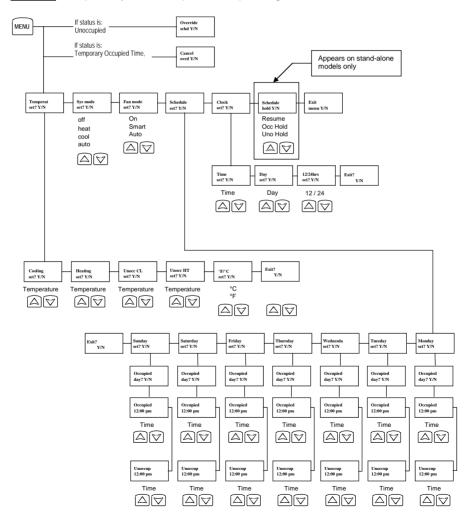
This sensor can be used for:

- Remote averaging return air temperature sensing with the sensor mounted on the return air duct.
- Outside air temperature averaging sensing with the sensor installed in the fresh air plenum.
- Mixed air temperature averaging sensor for economizer models with the sensor in the mixing plenum.



User menu flow chart:

NOTE: Prompts may not all be present depending on model selected



CONFIGURING AND STATUS DISPLAY INSTRUCTIONS

Status display

The Terminal Equipment 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 Terminal Equipment Controller has an auto scrolling display that shows the actual status of the system.

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.

Manual scroll of each menu item is achieved by pressing the Yes (scroll) key repetitively. The last item viewed will be shown on the display for 30 seconds before returning to automatic scrolling. Temperature is automatically updated when scrolling is held.

Sequence of auto-scroll status display:

Coquentee or au	ocquence of date coron status display.							
ROOM TEMPERATURE	CLOCK STATUS	SYSTEM MODE	SCHEDULE STATUS	OUTDOOR TEMPERATURE	ALARMS			
x.x °C or °F XX % RH	Monday 12:00 AM	Sys mode auto	Occupied	Outdoor x.x °C or°F	Service			
		Sys mode off	Occupied hold		Frost ON			
		Sys mode heat	Unoccup		SetClock			
		Sys mode cool	Unoccup hold		Filter			
					Fan lock			

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:

Frost ON	Indicates that the heating is energized by the low limit frost protection room temperature setpoint 5.6 °C (42 °F)
SetClock	Indicates that the clock needs to be reset. There has been a power failure which has lasted longer than 6 hours
Service	Indicates that there is a service alarm as per one of the configurable digital input (DI1 or DI2)
Filter	Indicates that the filters are dirty as per one of the configurable digital input (DI1 or DI2)
Fan lock	Indicates that the heating and cooling action are locked out due to a defective fan operation

Three status LEDs on the Terminal Equipment Controller cover are used to indicate the status of the fan, a call for heat, or a call for cooling.

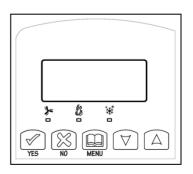
When any of the fan is ON, the FAN LED will illuminate	*
When heating is ON, the HEAT LED will illuminate	
When cooling is ON, the COOL LED will illuminate	***

LED OPERATION	HEATPUMP MODELS
Fan LED on	When G Fan terminal operates
Heating LED on	When Y1 terminal operates in heating mode
Cooling LED on	When Y1 terminal operates in cooling mode

USER INTERFACE

User configuring instructions menu

The VT7600 series of Terminal Equipment Controller feature an intuitive, menu-driven, back-lit LCD display that walks users through the configuring steps, making the configuring process extremely simple. This menu is typically accessed by the user to set the parameters such as temperature and time events, system mode, fan mode, etc.



It is possible to bring up the user menu at any time by depressing the MENU key. The status display automatically resumes after exiting the user-configuring menu.

If the user pauses at any given time during configuring, Auto Help text is displayed to help and guide the user through the usage and configuring of the Terminal Equipment Controller.

Ex.: Press yes key to change cooling temperature setpoint

Use the up or down arrow to adjust cooling setpoint

Local keypad interface

Each of the sections in the menu is accessed and configured using 5 keys on the Terminal Equipment Controller cover.

The priority for the alarms is as follows:

YES	The YES key is used to confirm a selection, to move onto the next menu item and to manually scroll through the displayed information.
	The NO key is used when you do not desire a parameter change, and to advance to the next menu item. Can also be used to toggle between heating and cooling setpoints.
MENU	The MENU key is used to access the Main User Menu or exit the menu.
	The down arrow key is used to decrease temperature setpoint and to adjust the desired values when configuring the Terminal Equipment Controller.
A	The up arrow key is used to increase temperature setpoint and to adjust the desired values when configuring the Terminal Equipment Controller.

When left unattended for 45 seconds, the display will resume automatic status display scrolling.

To turn on the back light, press any key on the front panel. The back lit display will turn off when the Terminal Equipment Controller is left unattended for 45 seconds

Sequence of user menu:

OVERRIDE RESUME	TEMPERATURE SETPOINTS	SYSTEM MODE SETTING	MODE	SCHEDULES SETTING	CLOCK SETTING	SCHEDULE HOLD
Override schd Y/N	Temperat Set Y/N	Sys mode set Y/N	Fan mode set Y/N	Schedule set Y/N	Clock set Y/N	Schedule hold Y/N
Appears only in unoccupied mode						Appears only on stand-alone (Network Ready) models
Cancel ovrd Y/N						
Appears						
only in						
override						
mode						

Occupied setpoints adjustments

There is a default profile set in the Terminal Equipment Controller from the factory.

This enables the Terminal Equipment Controller to operate as a non-scheduling unit in day mode operation at start up.

DEFAULT TEMPERATURE SETPOINTS:
Occupied cooling setpoint = 24 °C (75 °F)
Occupied heating setpoint = 22 °C (72 °F)
Unoccupied cooling setpoint = 28 °C (82°F)
Unoccupied heating setpoint = 18 °C (65°F)
Fahrenheit scale
Setpoint type = permanent

DEFAULT MODES:
System mode = Auto
Fan mode = Smart (for models with a communication module or scheduling network ready models) Fan mode = Auto (for non-scheduling network ready models)
DEFAULT SCHEDULES:
Monday through Sunday
Occupied time is: 12 00 AM
Unoccupied time is: 11:59 PM

There will be a 1 minute unoccupied period every night at 11:59 PM with this default configuration.

A) Override an unoccupied period

Override schd Y/N

This menu will appear only when the Terminal Equipment Controller is in unoccupied mode. The unoccupied mode is enabled either by the internal timer scheduling or by a remote NSB contact via DI1 or DI2.

If DI1 or DI2 is configured to operate as a remote temporary override contact, this menu will be disabled.

Answering yes to this prompt will cause the Terminal Equipment Controller to go into occupied mode for an amount of time equal to the parameter "TOccTime" (1 to 12 hours).

B) Resume regular scheduling



This menu does not appear in regular operation. It will appear only when the Terminal Equipment Controller is in Unoccupied override mode.

Answering "Yes" to this question will cause the Terminal Equipment Controller to resume the regular setpoints & scheduling.

C) Temperature setpoints

Permanent setpoint changes



This menu permits the adjustment of all permanent temperature setpoints (occupied and unoccupied) as well as the desired temperature units (°F or °C). Permanent setpoints are written to RAM and FEPROM

COOLING SETPOINT OCCUPIED MODE		SETP	TING POINT JPIED DDE	COO SETP UNOCO MO	OINT	HEAT SETP UNOCO MO	OINT	DISF	R °C PLAY TING
Cooling set? Y/N	No next → Yes down ↓	Heating set? Y/N	Voc down	Unocc CL set? Y/N	Voc down	Unocc HT set? Y/N	Vac down	°F or °C set? Y/N	No next → Yes down ↓
			Use ▲ ▼	keys to set va	lue, Yes key	to confirm			
Cooling 70.0 °F	Use ▲ ▼ To set value	Heating 68.00 °F	To got	Unocc CL 80.0 °F	To got	Unocc HT 60.0 °F	Use ▲ ▼ To set value	Units °F	Use ▲ ▼ To set value

Temporary setpoint changes

Temporary setpoints can be modified through the Up arrow key (\blacktriangle) and the Down arrow keys (\blacktriangledown).

User will be prompted with the present mode (Heating or Cooling) of the Terminal Equipment Controller and its setpoint.

The Up (▲) arrow key will increment the setpoint by 0.5 degree (F or C).

The Down (▼) arrow key will decrement the setpoint by 0.5 degree (F or C).

Press the Yes key to accept the new setpoint.

Local changes to the heating or cooling setpoints made by the user directly using the up or down arrow are temporary.

They will remain effective for the duration specified by ToccTime.

Setpoints will revert back to their default value after internal timer ToccTime expires.

If a permanent change to the setpoints is required, use the Temperat set? menu

D) System mode setting

Sys mode set Y/N

This menu is accessed to set system mode operation

Use ▲ ▼ to set value, Yes key to confirm

	•
Sys mode	Automatic mode
auto	Automatic changeover mode between heating and cooling operation
Sys mode	Cooling mode
cooling	Cooling operation mode only
Sys mode	Heating mode
heating	Heating operation mode only
Sys mode	Off mode Normal cooling or heating operation disabled
off	If enabled in installer parameters, only the automatic heating frost protection
OII	at 50 °F (10 °C) is enabled

E) Fan mode setting

Fan mode set Y/N

This section of the menu is permits the setting of the fan mode operation.

Use ▲ ▼ to set value, Yes key to confirm

Fan mode On	On fan mode Fan is on continuously, even when system mode is OFF.
Fan mode Auto	Automatic fan mode Fan cycles on a call for heating or cooling for both occupied & unoccupied periods.
Fan mode Smart	Smart fan mode During occupied periods, fan is on continuously. In unoccupied mode, fan cycles on a call for heating or cooling. This selection is available on all models with a communication module, on all stand-alone (Network Ready) scheduling models or if DI1 or DI2 is set to RemNSB on stand-alone non-scheduling models.

F) Schedule set (2 events)

Scheduling can have 2 or 4 events per day. This is set in the configuration menu as per parameter (2/4event)

Schedule set Y/N

This section of the menu permits the user to set the whether 2 or 4 events is needed. Each day can be tailored to specific schedules if needed.

- 2 events can be scheduled per day.
- Occupied & unoccupied periods can be set for each day.

MONDAY TIMER SCHEDULE SET		TIN	SDAY IER JLE SET	WEDNESDAY TIMER SCHEDULE SET		OTHER DAYS ARE IDENTICAL
Monday set? Y/N	No next → Yes down ↓	Tuesday set? Y/N	No next → Yes down ↓	Wednesda set? Y/N	No next → Yes down ↓	Selects the day to be scheduled or modified
		Yes key to	access day scl	heduling, No key	to jump to nex	rt day
Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Yes = Daily schedules will be accessed No = Unoccupied mode all day
		Yes key to	access day scl	heduling, No key	to jump to nex	t day
		Copy Y/N Previous	Yes next → No down ↓	Copy Y/N Previous	Yes next → No down ↓	Yes = Will copy previous day schedule No = Daily schedules will be accessed
	Y	es key to copy	previous day, I	No key to set ne	w time value fo	r each day
Occupied 00:00 AM	Use ▲ ▼ To set value	Occupied 00:00 AM	Use ▲ ▼ To set value	Occupied 00:00 AM	Use ▲ ▼ To set value	Sets Event # 1 Occupied time Will activate occupied setpoints
		-	Jse ▲ ▼ to set	value, Yes key	to confirm	
Unoccup 00:00 AM	Use ▲ ▼ To set value	Unoccup 00:00 AM	Use ▲ ▼ To set value	Unoccup 00:00 AM	Use ▲ ▼ To set value	Sets Event # 2 Unoccupied time Will activate unoccupied setpoints

Use ▲ ▼ to set value, Yes key to confirm

Typical examples of a 2 event office schedule:

Ex. #1 Office building closed all weekend

Event	Period #1 - Event #1		Period #1 - Event #2			
	Occi	ıpied	Unoccupied			
Cotnoint	Cool	Heat	Cool	Heat		
Setpoint	72 °F	70 °F	80 °F	62 °F		C
Monday	7.00	AM	6.00 PM			D
Tuesday	7.00 AM		6.00 PM			D
Wednesday	7.00 AM		6.00 PM			D
Thursday	7.00 AM		6.00 PM			D
Friday	7.00 AM		6.00 PM			D
Saturday	12.00 PM *		12.00 PM *			l
Sunday	12.00	PM *	12.00 PM *			l

Daily
Occupancy
Day time only
Unoccupied
Unoccupied

^{*} Scheduling consecutive events to the same time will cause the Terminal Equipment Controller to choose the last event as the time at which it will set its schedule. In the above example, the Terminal Equipment Controller will control to the unoccupied set point until 7:00 AM Monday.

Ex. #2 Commercial building which is occupied all weekend

Event		1 - Event	Period #1 - Even		
	Occi	ıpied	Unoco	cupied	
Cotnoint	Cool	Heat	Cool	Heat	
Setpoint	72 °F	70 °F	80 °F	62 °F	
Monday	8.00) AM	5.00 PM		
Tuesday	8.00) AM	5.00 PM		
Wednesday	8.00	8.00 AM		PM (
Thursday	8.00	8.00 AM		PM (
Friday	8.00) AM	5.00 PM		
Saturday	12.00	AM **	11.59	PM **	
Sunday	12.00	AM **	11.59	PM **	

Daily	
Occupancy	
Day time only	
Occupied	
Occupied	

^{**} To schedule a day as occupied for 24 hours, set that day occupied time to 12:00 AM and Unoccupied time to 11:59 PM There will be a 1 minute unoccupied period every night at 11:59 PM with this schedule configuration.

Note: 12:00 PM = Noon 12:00 AM = Midnight

G) Schedule set (4 events)

Schedule set Y/N

This section of the menu permits the user to set the whether 2 or 4 events is needed. Each day can be tailored to specific schedules if needed.

- 4 events can be scheduled per day.
- Occupied & Unoccupied periods can be set for each day.
- Scheduling the 3rd. & 4th. Events to the same time will cancel the last period.

			ay timer Wednesday timer dule set Schedule set			Other days are identical		
Monday set? Y/N	No next → Yes down ↓	Tuesday set? Y/N	No next → Yes down ↓	Wednesda set? Y/N	No next → Yes down ↓	Selects the day to be scheduled or modified		
	Yes key to access day scheduling, No key to jump to next day							
Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Occupied Day? Y/N	No next → Yes down ↓	Yes = Daily schedules will be accessed No = Unoccupied mode all day		
	Yes key to access day scheduling, No key to jump to next day							
		Copy Y/N Previous	Yes next → No down ↓	Copy Y/N Previous	Yes next → No down↓	Yes = Will copy previous day schedule No = Daily schedules will be accessed		
	Yes	s key to copy	previous day, N	lo key to set ne	ew time value f	or each day		
Occupied 00:00 AM	Use ▲ ▼ To set value	Occupied 00:00 AM	Use ▲ ▼ To set value	Occupied 00:00 AM	Use ▲ ▼ To set value	Sets Event # 1 Occupied time Will activate occupied setpoints		
		ı	Jse ▲ ▼ to set v	/alue, Yes key	to confirm			
Unoccup 00:00 AM	Use ▲ ▼ To set value	Unoccup 00:00 AM	Use ▲ ▼ To set value	Unoccup 00:00 AM	Use ▲ ▼ To set value	Sets Event # 2 Unoccupied time Will activate unoccupied setpoints		
		·	Jse ▲ ▼ to set v	/alue, Yes key				
Occupie2 00:00 AM	Use ▲ ▼ To set value	Occupie2 00:00 AM	Use ▲ ▼ To set value	Occupie2 00:00 AM	Use ▲ ▼ To set value	Sets Event # 3 Occupied time Will activate occupied setpoints		
			Jse ▲ ▼ to set v	alue, Yes key				
Unoccup2 00:00 AM	Use ▲ ▼ To set value	Unoccup2 00:00 AM	Use ▲ ▼ To set value	Unoccup2 00:00 AM	Use ▲ ▼ To set value	Sets Event # 4 Unoccupied time Will activate unoccupied setpoints		

Use ▲ ▼ to set value, Yes key to confirm

Ex. #1 Four event retail establishment schedule

Event	Period 1 - Event 1		Period 1 - Event 2		Period 2 - Event 3		Period 2 - Event 4		
Setpoint	Occi	ıpied	Unoccupied		Occupied		Unoccupied		
	Cool	Heat	Cool	Heat	Cool	Heat	Cool	Heat	Daily
	72°F	70°F	80°F	62°F	72°F	70 °F	80°F	62 °F	Occupancy
Monday	7.00 AM		5.00 PM		12.00 PM *		12.00 PM *		Day time only
Tuesday	7.00 AM		5.00 PM		12.00 PM *		12.00 PM *		Day time only
Wednesday	7.00 AM		5.00 PM		12.00	PM *	12.00	PM *	Day time only
Thursday	7.00 AM		5.00	PM	7.00	PM	10.3	0 PM	Day/evening time only
Friday	7.00	00 AM 5.00 PM		5.00 PM		PM	10.3	0 PM	Day/evening time only
Saturday	12.00	PM *	* 12.00 PM * 12.00 PM *		PM *	12.00	PM *	Unoccupied	
Sunday	12.00	PM *	12.00	PM *	12.00	PM *	12.00	PM *	Unoccupied

^{*}Scheduling events to the same time will cancel the last period and leave the Terminal Equipment Controller in unoccupied mode

Fx. #2 Residential

Event	Period 1 - Event 1		Period 1 - Event 2		Period 2 - Event 3		Period 2 - Event 4		
Setpoint	Occi	ıpied	Unoccupied		Occupied		Unoccupied		
	Cool	Heat	Cool	Heat	Cool	Heat	Cool Heat		Daily
	72°F	70°F	80°F	62°F	72°F	70°F	80°F	62°F	Occupancy
Monday	Monday 6:00 AM		8:00 AM		4:00 PM		10:00 PM		Day/evening time only
Tuesday	6:00 AM		8:00 AM		4:00	PM	10:00 PM		Day/evening time only
Wednesday	6:00	6:00 AM		8:00 AM		PM	PM 10:00 PM		Day/evening time only
Thursday	6:00 AM		8:00 AM		4:00	PM	10:00 PM		Day/evening time only
Friday	6:00 AM		8:00 AM		4:00	PM	11:30 PM		Day/evening time only
Saturday	8:00	AM *	8:00	AM *	8:00	8:00 AM * 11:59 PM *		Day time only	
Sunday	12:00	AM *	12:00	AM *	12:00	AM *	11:59	PM *	Occupied all day

^{*}Scheduling consecutive events to the same time will cause the Terminal Equipment Controller to choose the last event as the time at which it will set its schedule. In the above example for Saturday, the Terminal Equipment Controller will control to the occupied set point from 8:00 AM until 11:59 PM. Since it is desired to be in occupied mode throughout the night, then it is necessary to schedule the first event on Sunday at 12:00 AM. The Terminal Equipment Controller will force a one minute unoccupied period for a one minute period (between 11:59 PM and 12:00 AM on Saturday).

H) Clock/Day Settings

Clock set Y/N

This section of the menu permits the user to set the time and day.

Time	setting	Day s	etting	Time format setting		
Time	No next →	Day	No next →	12/24hrs	No = exit	
set? Y/N	Yes down ↓	set? Y/N	Yes down ↓	set? Y/N	Yes down ↓	
Time	Use ▲ ▼	Day	Use ▲ ▼	12/24hrs	Use ▲ ▼	
0:00	To set value	Monday	To set value	12 hrs	To set value	

J) Schedule hold

Schedule hold Y/N

- This menu will only appear on stand-alone (Network Ready) Terminal Equipment Controller, i.e. without a BACnet™ / Echelon™ module.
- This section of the menu permits the user to set a permanent schedule hold, which bypasses the internal Terminal Equipment Controller scheduling.
- The permanent schedule hold function is typically used for nonscheduled events that extend for various periods of time.
- Enabling a permanent occupied or permanent unoccupied schedule hold will cancel any active override.
- The use of temporary setpoints during permanent hold is permitted. The duration of the temporary setpoint is as set per the TOccTime parameter.
 Fx 3 hours

Use ▲ ▼ to set value, yes key to confirm

Schedule resume	Resume regular scheduling cancels the permanent hold and re-enables the regular scheduling as set per internal schedule or as per remote NSB via one of the Dl's configured as remote NSB.
	This action can also by accomplished by using the Resume menu.
	Any temporary setpoint that are active will be left active for the duration of the period as set per the TOccTime parameter.
Schedule	
	Hold represent a coming of forces the Tombian I Forcing and Controller into
occ hold	Hold permanent occupied forces the Terminal Equipment Controller into
	a permanent occupied mode using the occupied setpoints. All timed
	scheduling functions are by-passed.
	The PERMANENT OCCUPIED status will appear in the automatic status scroll. To resume to regular scheduling, user must scroll to the Schedule Hold menu and select the Schedule resume option.

Schedule uno hold

Hold permanent unoccupied forces the Terminal Equipment Controller into a permanent unoccupied mode using the unoccupied setpoints. All timed scheduling functions are by-passed.

The PERMANENT UNOCCUPIED status will appear in the automatic status scroll. To resume to regular scheduling, user must scroll to the Schedule Hold menu and select the Schedule resume option.

INSTALLER CONFIGURATION PARAMETER MENU

- Configuration can be done through the network or locally at the Terminal Equipment Controller.
- To enter configuration, press and hold the middle button "Menu" for 8 seconds
- If a password lockout is active, "Password" is prompted. Enter password value using the "up" and "down" arrows and press "Yes" to gain access to all configuration properties of the Terminal Equipment Controller. A wrong password entered will prevent local access to the configuration menu.
- Once in the configuration menu, press the "No" button repetitively to scroll between all the available parameters.
- When the desired parameter is displayed, press "Yes" to adjust it to the desired value using "up" and "down" arrows. Once set, press "Yes" to scroll to the next parameter.

CONFIGURATION PARAMETERS DEFAULT VALUE	SIGNIFICANCE AND ADJUSTMENTS
PswrdSet Configuration parameters menu access password Default value = 0 No password prompted	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
Com Addr Terminal Equipment Terminal Equipment Controller networking address Default value = 254	Conditional parameter to BACnet [™] MS-TP models (VT76xxW5x00B) Conditional parameter to Wireless models (VT76xxW5x00W) This parameter will only appear when a BACnet [™] or
Range is: 0 to 254	wireless network adapter is present. If the Terminal Equipment Controller is installed as a stand-alone (Network Ready) unit or with an Echelon™ adapter, this parameter will not be used or displayed
	-For BACnet™ MS-TP models, the valid range to is from 1 to 127. Default value of 254 disables BACnet™ communication for the Terminal Equipment Controller. For wireless models valid range is 0 to 254 with a maximum of 30 Terminal Equipment Controllers per VWG
PAN ID Personal Area Network Identification	Conditional parameter to Wireless models (VT76xxW5x00W)
Default value = 0 Range is: 0 to 1000	This parameter will only appear when a wireless network adapter is present. If the Terminal Equipment 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 (Personal Area Network Identification) is used to link specific Terminal Equipment Controllers to a single specific Viconics wireless gateway (VWG) For every Terminal Equipment Controller reporting to a gateway (maximum of 30 Terminal Equipment Controllers per gateway), be sure you set the SAME PAN ID value both at the gateway and the Terminal Equipment Controller(s).
	The default value of 0 is NOT a valid PAN ID.

Channel

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

Conditional parameter to Wireless models (VT76xxW5x00W)

This parameter will only appear when a wireless network adapter is present. If the Terminal Equipment 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 Terminal Equipment Controllers to specific Viconics wireless gateway(s) (VWG) For every Terminal Equipment Controller reporting to a gateway (maximum of 30 Terminal Equipment Controllers per gateway), be sure you set the SAME channel value both at the gateway and the Terminal Equipment 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

Get From

Terminal Equipment Controller Get From another device configuration utility Default value = **0**Range is: 0 to 254

Conditional parameter to Wireless models VT76xxW5x00W

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 an 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 Terminal Equipment Controller MAC address.

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.

- If the process is successful and all required configuration properties have been copied, the value will revert back to 255
- If the process is NOT successful and all required configuration properties have NOT been copied (either the reference device is NOT 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

Leaving the Get From parameter to 255 means that every configuration parameters will be set manually.

DI 1 (None): No function will be associated with the input Digital input no.1 (Rem NSB): remote NSB timer clock input. Will disable the configuration internal scheduling of the Terminal Equipment Controller. The scheduling will now be set as per the digital input. The time is Open contact input = still displayed as information, but the menu part related to function not energized scheduling is disabled and no longer accessible. Closed contact input = Open contact = occupied setpoints function energized Closed contacts = unoccupied setpoints Default Value = None (RemOVR): Temporary override remote contact. Disables all override menu function of the Terminal Equipment 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. With this function enabled it is now possible to togale between unoccupied & occupied setpoints for the amount of time set by parameter (TOccTime) temporary occupancy time. When Override is enabled, an Override status message will be displayed (Filter): a back-lit flashing Filter alarm will be displayed on the Terminal Equipment Controller LCD screen when the input is eneraized (Service): a back-lit flashing Service alarm will be displayed on the Terminal Equipment Controller LCD screen when the input is eneraized (Fan lock): a back-lit flashing Fan lock alarm will be displayed on the Terminal Equipment Controller LCD screen when the input is not energized. Used in conjunction with a local airflow sensor connected to the input. Locks out the Terminal Equipment Controller heating and cooling action if no airflow is detected 10 seconds after the fan (G terminal) is energized. Open contact = no airflow Closed contacts = airflow present DI 2 Same as above. It is possible to configure both inputs to have the same function. Digital input no. 2 configuration Default value = None MenuScro Removes the scrolling display and only present the room Menu scroll temperature/humidity to the user. With this option enabled, no Default value = On = status is given of mode, schedule and outdoor temperature. Scroll active On = Scroll active Off = Scroll not active

locko	ut Keypad lo	ckout levels						
Defaul	It value = 0 N	lo lock	1 = Low level 2 = High level					
			USER K	EY FUNC	TIONS			
LEVEL	Resume/ Override scheduling	Permanent Occupied and Unoccupied Setpoints	Sy Sy Sy			Permanent hold		
0	a	7	2	2	2	7	2	2
1	a	ı l	a	ı l			a	a
2	a	a	0			a	2	
pwr del Power-up delay Default value = 10 seconds			On initial power up of the Terminal Equipment Controller (each time 24 Vac power supply is removed & re-applied) there is a delay before any operation is authorized (fan, cooling or heating). This can be used to sequence start up multiple units / Terminal Equipment Controller in one location.					
				seconds				
Frost pr Frost protection enabled Default value = Off			Off: no room frost protection On: room frost protection enabled in all system mode at: 42 °F (5.6 °C) Frost protection is enabled even in system Off mode Off or On					
heat max Maximum heating setpoint limit Default value = 90 °F (32 °C)			Maximum occupied & unoccupied heating setpoint adjustment. Heating setpoint range is: 40 to 90 °F (4.5 to 32.0 °C)					
cool n			Minimum occupied & unoccupied cooling setpoint					
	um cooling s							
Defau	It value = 54	F (12 °C)	F (12 °C) 54 to 100 °F (12.0 to 37.5 °C)					

Pband **Proportional Band** settina

°F (0.6 °C)

Adjust the proportional band used by the Terminal Equipment Controller PI control loop.

Default value 2 = 2.0

Note that the default value of 2.0 °F (1.1 °C) gives satisfactory operation in most normal installation cases. The use of a superior proportional band different than

the factory one is normally warranted in applications where the Terminal Equipment Controller location is problematic and leads to unwanted cycling of the unit. A typical example is a wall mounted unit where the Terminal Equipment 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
2	2 F	1.1 C
3	3 F	1.7 C
4	4 F	2.2 C
5	5 F	2.8 C
6	6 F	3.3 C
7	7 F	3.9 C
8	8 F	4.4 C

Anticvcle Minimum on/off operation time for stages Default value = 2

minutes

Minimum On/Off operation time of cooling & heating stages.

IMPORTANT, anti-short cycling can be set to 0 minutes for equipment that posses their own anti cycling timer. Do not use this value unless the equipment is equipped with such internal timer. Failure to do so can damage the equipment.

0. 1. 2. 3. 4 & 5 minutes

Anti-short cycling can be set to 0 minutes for equipment that posses their own anti cycling timer. Do not use that value unless the equipment is equipped with such internal timer. Failure to do so can damage the equipment.

% RH disp Local RH Display Default value = Off

Enables the display of humidity below the room temperature on the display

On = Display %RH Off = No display of %RH

day loop Heatpump stages cycles per hour Default value = 4 C.P.H.

Will set the maximum number of heatpump stage cycles per hour under normal control operation. It represents the maximum number of cycles that the equipment will turned 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 or 4 C.P.H.

	,
deadband	Minimum deadband value between the heating and cooling
Minimum deadband	setpoints. If modified, it will be applied only when any of the
Default value = 2.0 °F	setpoints are modified.
(1.1 °C)	2, 3 or 4 °F (1.0 to 2.0 °C)
fan cont	Fan control in heating mode.
Fan control	When selecting On ; the Terminal Equipment Controller in all cases
Default value = On	will always control the fan (terminal G).
	Valid for On or Auto fan mode
	When selecting Off ; the fan (terminal G), when heating stages (terminals W1 & W2) are solicited, will not be energized. The fan in
	this case will be controlled by the equipment fan limit control.
	Valid only for Auto fan mode. On fan mode will leave the fan
	always on.
	ON OR OFF
	ON ON OFF
	For multi stage models, fan control applies to W1 & W2
	For heat pump models, fan control applies to W1 only
	(Emergency heat)
fan del	Fan delay extends fan operation by 60 seconds after the call for
Fan delay	heating or cooling ends.
Default value = Off	Valid only for Auto fan mode. "On" fan mode will leave the fan
	always on.
	Off or On
ToccTime	Temporary occupancy time with occupied mode setpoints when
Temporary	override function is enabled
occupancy time Default value = 3	When the Terminal Equipment Controller is in unoccupied mode, function is enabled with either the menu or DI1 or DI2 configured
hours	as remote override input.
liours	0,1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12 hours
	0,1, 2, 3, 4, 3, 0, 7, 0, 9, 10, 11 & 12 Hours
Cal RS	Offset that can be added/subtracted to actual displayed room
Room air temperature	· · · · · · · · · · · · · · · · · · ·
sensor calibration	± 5.0 °F (± 2.5 °C)
Default value = 0.0 °F	
or °C	
Cal RH	Offset that can be added/subtracted to the actual displayed
Humidity sensor	humidity by ± 15.0 %RH.
calibration	, ,
Default value = 0	Range is : ± 15.0 %RH
%RH	

HP stage Number of heatpump stages Default value = 2 stages	Will revert the operation of 2 stage Terminal Equipment Controller to single stage operation only when the second compressor step is not needed. 1 or 2 stages
H lock Outside air temperature heating lockout Default value = 120 °F (49 °C)	Disables heating stage operation based on outdoor air temperature. Function will only be enabled if OS (outside air temperature network value) is received. From -15 °F up to 120 °F (-26 °C up to 49 °C)
C lock Outside air temperature mechanical cooling lockout. Default value = -40 °F (- 40 °C)	Disables cooling stage operation based on outdoor air temperature. Function will only be enabled if OS (outside air temperature network value) is received. From -40 °F up to 95 °F (-40 °C up to 35 °C)
Unocc TM Unoccupied Timer value Default 0.5 hours	Time delay between the moment where the Terminal Equipment Controller toggles from occupied to unoccupied after the last movement has been detected by the PIR. Range is: 0.5 to 24.0 hours in 0.5 hour increments
2/4event Number of events configuration Default value = 2 event	2 events, will set up scheduling for the following Event 1 is for Occupied setpoints Event 2 is for Unoccupied setpoints 4 events, will set up scheduling for the following Event 1 is for Occupied setpoints Event 2 is for Unoccupied setpoints Event 3 is for Occupied setpoints Event 4 is for Unoccupied setpoints Event 4 is for Unoccupied setpoints

aux cont Auxiliary contact configuration Default value = N.O. normally open	This contact can be used to energize peripheral devices such as: lighting equipment, exhaust fans, economizers, etc. This contact will operate in parallel with the internal occupied/unoccupied schedule of the Terminal Equipment Controller or the remote NSB contact if DI1 or DI2 is used. When the system is in OFF mode , the contact will remain in its unoccupied status independently of the occupied / unoccupied schedule.			
	Configured	Contact occupied status	Contact unoccupied status	
	N.O.	Closed	Opened	
	N.C.	opened	Closed	
Prog rec Progressive recovery enabled Default value = Off Progressive recovery is automatically disabled if DI 1 and / or DI 2 are configured remote NSB	Off, = no progressive recovery The occupied schedule time is the time at which the system will restart. On, = progressive recovery active. The occupied schedule time is the time at which the desired occupied temperature will be attained. The Terminal Equipment Controller will automatically optimize the equipment start time.			
	In any case, the latest a system will restart is 10 minutes prior to the occupied period time.			
Re valve Reversing valve operation O/B Default value = O	Heat pump reversing valve operation O will energize the valve in cooling operation. B will energize the valve in heating operation O OR B			

D			
Dhu set	Used only if dehumidification sequence is enabled:		
Dehumidification setpoint	December 20 050/ BH		
Default is 50 % RH	Range is: 30-95% RH		
DHumiLCK Dehumidification lockout	Enables, restricts or disables the dehumidification sequence.		
Default value: Restrict	Dhu Disa: Dehumidification disabled		
Resulct	Restrict: will restrict the dehumidification process based on the following:		
	 System mode = Needs to be Cool or Auto (currently operating in cooling only) 		
	- Low ambient room temperature protection enabled		
	Dhu Enab: will not restrict the dehumidification process:		
	Dia Eriab. Will not resulted the denamination process.		
	 System mode = Needs to be Cool, Heat or Auto There is no ambient room temperature protection enabled 		
Dhu OALK	Outside air temperature under which the dehumidification		
Dehumidification outside air	' '		
temperature lockout	Only valid if an outdoor air sensor is connected at the		
Default value = 32°F (0°C)	Terminal Equipment Controller or a network value is		
Delault value = 32 1 (0 C)	transmitted to the Terminal Equipment Controller.		
	From –40°F up to 122°F (-40°C to 50°C)		
DehuHyst Dehumidification	Humidity control hysteresis. Used only if dehumidification		
Hysteresys	sequence is enabled: Range is: 2 to 20% RH		
Default = 5 % RH	Range is. 2 to 20 % Kin		
20.dail = 0 /01111			
MS dis	Used as diagnostic / service help to troubleshoot and		
Dianlas, missad air	diagnose economizer operation.		
Display mixed air temperature			
Economizer model only,			
only if sensor is installed			

TROUBLESHOOTING GUIDE All models

Symptom	Possible Cause	Corrective Action
No display on the Terminal Equipment Controller	Absent or incorrect supply voltage	Check power supply voltage between C & RC to be from 19-30 VAC Check for tripped fuse or circuit breaker
	Overloaded power transformer	Verify that the transformer used is powerful enough (enough VA's) to supply all controlled devices including the Terminal Equipment Controller
Keyboard menu does not access all functions	Keyboard locked	Change configuration parameter LOCKOUT to value "0" to access all levels of the menu
Temperature setpoints revert to original value after a certain time period	Temporary setpoint option selected	The Terminal Equipment Controller needs to be in Permanent setpoint mode for the new setpoint to be kept and memory and used all the time Go to the Set temperature menu. The last prompt is setpoint type. Set it to Permanent setpoint
Terminal	Wrong mode selected	Select heating mode
Equipment Controller will not call for heating	Terminal Equipment Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Terminal Equipment Controller Occupied heating setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Heating setpoint is satisfied	Raise the Heating setpoint
	Heating lockout attained	1. Mode is locked out based on outside air temperature 2. Change configuration parameter H Lock to value 120 °F (49 °C) to by-pass lockout
	Wiring error	Start the Fan by forcing the Fan ON mode Put a jumper across terminals RH & W1. The heating should come ON. If it does not, verify wiring and check if a jumper is required between RC & RH
	Wrong mode selected	Select cooling mode
Terminal Equipment Controller will not call for cooling	Terminal Equipment Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Terminal Equipment Controller Occupied cooling setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Cooling setpoint is satisfied	Lower the cooling setpoint
	Cooling lockout attained	Mode is locked out based on outside air temperature Change configuration parameter C Lock to value -40 °F (-40 °C) to by-pass lockout

	Wiring error	Start the Fan by forcing the Fan ON mode Put a jumper across terminals RC & Y1. The cooling should come ON. If it does not, verify wiring
The Terminal Equipment Controller will not turn on the fan	Wrong mode selected	Start the Fan by forcing the Fan ON
	Wiring error	mode 2. Put a jumper across terminals RC & G. The fan should come ON. If it does not, verify wiring
Digital display shows missing digits or erratic segments	Defective display	Replace Terminal Equipment Controller

SPECIFICATIONS

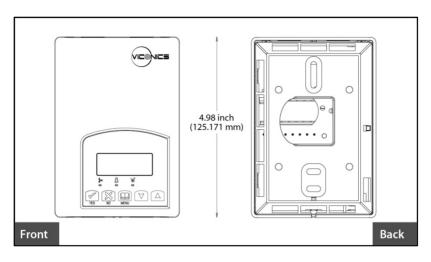
Terminal Equipment Controller power	
requirements:	19-30 VAC 50 or 60 Hz; 2 VA Class 2
Operating conditions:	0 °C to 50 °C (32 °F to 122 °F)
	0% to 95% R.H. non-condensing
Storage conditions:	-30 °C to 50 °C (-22 °F to 122 °F)
g	0% to 95% R.H. non-condensing
Temperature sensor:	Local 10 K NTC thermistor
Temperate sensor resolution:	
Temperature control accuracy:	
Temperature control accuracy.	typical calibrated
Contact output rating	Relay output: 30 VAC, 1 Amp.
Contact output rating	Maximum, 3 Amp. In-rush.
Occ, Stand-By and Unocc cooling setpoint range:	12.0 to 37.5 °C (54 to 100 °F)
Occ, Stand-By and Unocc heating setpoint range:	4.5 °C to 32 °C (40 °F to 90 °F)
Room and outdoor air temperature display range:	-40 °C to 50 °C (-40 °F to 122 °F)
Proportional band for room temperature control:	Cooling & Heating: Default: 1.1°C
	(2°F)
Digital inputs:	Dry contact across terminal DI1,
	DI2
Wire gauge:	18 gauge maximum, 22 gauge
Approximate shipping weight:	
Agency Approvals all models:	UL: UL 873 (US) and CSA C22.2 No.
	24 (Canada), File E27734 with CCN
	XAPX (US) and XAPX7 (Canada)
	Industry Canada: ICES-003 (Canada)
Agency Approvals all models:	FCC: Compliant to CFR 47, Part 15,
	Subpart B, Class A (US)
	CE: EMC Directive 89/336/EEC
	(Europe Union)
	C-Tick: AS/NZS CISPR 22 Compliant
	(Australia / New Zealand) Supplier
	Code Number N10696
Agency Approvals Wireless models:	FCC: Compliant to: Part 15, Subpart C
Agency Approvate trifetees inducts.	1 00. Compilant to. 1 art 15, Subpart C

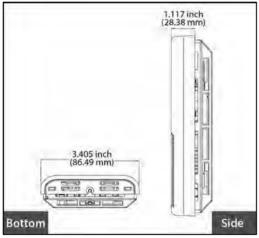
THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED. INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.



Please check with your local government for instruction on disposal of this product.

DRAWING & DIMENSIONS







Viconics Technologies Inc.

7262 Marconi Street | Montreal | Quebec | Canada | H2R 2Z5

Tel.: (514) 313-8885 | Toll free: 1 (800) 563-5660

sales@viconics.com | www.viconics.com



VT7600W Series **User Interface Guide**

November 2015

CONTENTS

Configuring and Status Display Instructions	2
Status display	2
User Interface	4
	4
User configuring instructions menu	4
Local keypad interface	4
Occupied setpoints adjustments	5
Installer Configuration Parameter Menu	14
Troubleshooting guide	24
All models	24





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.

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.

Manual scroll of each menu item is achieved by pressing the Yes (scroll) key repetitively. The last item viewed will be shown on the display for 30 seconds before returning to automatic scrolling. Temperature is automatically updated when scrolling is held.

Sequence of auto-scroll status display:

ROOM TEMPERATURE	CLOCK STATUS	SYSTEM MODE	SCHEDULE STATUS	OUTDOOR TEMPERATURE	ALARMS
x.x °C or °F XX % RH	Monday 12:00 AM	Sys mode auto	Occupied	Outdoor x.x °C or° F	Service
		Sys mode off	Occupied hold		Frost ON
		Sys mode heat	Unoccup		SetClock
		Sys mode cool	Unoccup hold		Filter
					Fan lock

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:

Frost ON	Indicates that the heating is energized by the low limit frost protection room temperature setpoint 5.6 °C (42 °F)
SetClock	Indicates that the clock needs to be reset. There has been a power failure which has lasted longer than 6 hours
Service	Indicates that there is a service alarm as per one of the configurable digital input (DI1 or DI2)
Filter	Indicates that the filters are dirty as per one of the configurable digital input (DI1 or DI2)
Fan lock	Indicates that the heating and cooling action are locked out due to a defective fan operation

Three status LEDs on the Room Controller cover are used to indicate the status of the fan, a call for heat, or a call for cooling.

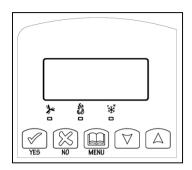
When any of the fan is ON, the FAN LED will illuminate	*
When heating is ON, the HEAT LED will illuminate	
When cooling is ON, the COOL LED will illuminate	**

LED OPERATION	HEATPUMP MODELS
Fan LED on	When G Fan terminal operates
Heating LED on	When Y1 terminal operates in heating mode
Cooling LED on	When Y1 terminal operates in cooling mode

USER INTERFACE

User configuring instructions menu

The VT7600 series of Room Controller feature an intuitive, menu-driven, back-lit LCD display that walks users through the configuring steps, making the configuring process extremely simple. This menu is typically accessed by the user to set the parameters such as temperature and time events, system mode, fan mode, etc.



It is possible to bring up the user menu at any time

by depressing the MENU key. The status display automatically resumes after exiting the user-configuring menu.

If the user pauses at any given time during configuring, Auto Help text is displayed to help and guide the user through the usage and configuring of the Room Controller.

Ex.: Press yes key to change cooling temperature setpoint Use the up or down arrow to adjust cooling setpoint

Local keypad interface

Each of the sections in the menu is accessed and configured using 5 keys on the Room Controller cover.

The priority for the alarms is as follows:

YE5	The YES key is used to confirm a selection, to move onto the next menu item and to manually scroll through the displayed information.
NO NO	The NO key is used when you do not desire a parameter change, and to advance to the next menu item. Can also be used to toggle between heating and cooling setpoints.
MENU	The MENU key is used to access the Main User Menu or exit the menu.
	The down arrow key is used to decrease temperature setpoint and to adjust the desired values when configuring the Room Controller.
A	The up arrow key is used to increase temperature setpoint and to adjust the desired values when configuring the Room Controller.

When left unattended for 45 seconds, the display will resume automatic status display scrolling.

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

Sequence of user menu:

OVERRIDE RESUME	TEMPERATURE SETPOINTS	MODE	FAN MODE SETTING	SCHEDULES SETTING	CLOCK SETTING	SCHEDULE HOLD
Override schd Y/N	Temperat Set Y/N	Sys mode set Y/N	Fan mode set Y/N	Schedule set Y/N	Clock set Y/N	Schedule hold Y/N
Appears only in unoccupied mode						Appears only on stand-alone (Network Ready) models
Cancel						
ovrd Y/N Appears						
only in						
override						
mode						

Occupied setpoints adjustments

There is a default profile set in the Room Controller from the factory.

This enables the Room Controller to operate as a non-scheduling unit in day mode operation at start up.

DEFAULT TEMPERATURE SETPOINTS:
Occupied cooling setpoint = 24 °C (75 °F)
Occupied heating setpoint = 22 °C (72 °F)
Unoccupied cooling setpoint = 28 °C (82°F)
Unoccupied heating setpoint = 18 °C (65°F)
Fahrenheit scale
Setpoint type = permanent

DEFAULT MODES:
System mode = Auto
Fan mode = Smart (for models with a communication module or scheduling network ready models) Fan mode = Auto (for non-scheduling network ready models)
DEFAULT SCHEDULES:
Monday through Sunday
Occupied time is: 12 00 AM
Unoccupied time is: 11:59 PM

There will be a 1 minute unoccupied period every night at 11:59 PM with this default configuration.

A) Override an unoccupied period

Override schd Y/N

This menu will appear only when the Room Controller is in unoccupied mode. The unoccupied mode is enabled either by the internal timer scheduling or by a remote NSB contact via DI1 or DI2.

If DI1 or DI2 is configured to operate as a remote temporary override contact, this menu will be disabled.

Answering yes to this prompt will cause the Room Controller to go into occupied mode for an amount of time equal to the parameter "TOccTime" (1 to 12 hours).

B) Resume regular scheduling



This menu does not appear in regular operation. It will appear only when the Room Controller is in Unoccupied override mode.

Answering "Yes" to this question will cause the Room Controller to resume the regular setpoints & scheduling.

C) Temperature setpoints

Permanent setpoint changes



This menu permits the adjustment of all permanent temperature setpoints (occupied and unoccupied) as well as the desired temperature units (°F or °C). Permanent setpoints are written to RAM and FEPROM.

SETF	LING POINT JPIED DDE	HEATING SETPOINT OCCUPIED MODE		COOLING SETPOINT UNOCCUPIED MODE		HEATING SETPOINT UNOCCUPIED MODE		°F OR °C DISPLAY SETTING	
Cooling set? Y/N	No next Yes down	Heating set? Y/N	No next Yes down	Unocc CL set? Y/N	No next Yes down	Unocc HT set? Y/N	No next Yes down	°F or °C set? Y/N	No next Yes down
			Use keys	s to set value,	Yes key to cor	n rm			
Cooling 70.0 °F	Use To set value	Heating 68.00 °F	To not	Unocc CL 80.0 °F	Use To set value	Unocc HT 60.0 °F	Use To set value	Units °F	Use To set value

Temporary setpoint changes

Temporary setpoints can be modi ed through the Up arrow key () and the Down arrow keys ().

User will be prompted with the present mode (Heating or Cooling) of the Room Controller and its setpoint.

The Up () arrow key will increment the setpoint by 0.5 degree (F or C).

The Down () arrow key will decrement the setpoint by 0.5 degre e (F or C).

Press the Yes key to accept the new setpoint.

Local changes to the heating or cooling setpoints made by the user directly using the up or down arrow are temporary.

They will remain effective for the duration specified by ToccTime.

Setpoints will revert back to their default value after internal timer ToccTime expires.

If a permanent change to the setpoints is required, use the Temperat set menu

D) System mode setting

Sys mode set Y/N

This menu is accessed to set system mode operation

Use to set value, Yes key to con rm

Sys mode auto	Automatic mode Automatic changeover mode between heating and cooling operation
Sys mode cooling	Cooling mode Cooling operation mode only
Sys mode heating	Heating mode Heating operation mode only
Sys mode off	Off mode Normal cooling or heating operation disabled If enabled in installer parameters, only the automatic heating frost protection at 50 °F (10 °C) is enabled

E) Fan mode setting

Fan mode set Y/N

This section of the menu is permits the setting of the fan mode operation.

Use to set value, Yes key to con rm

Fan mode On	On fan mode Fan is on continuously, even when system mode is OFF.
Fan mode Auto	Automatic fan mode Fan cycles on a call for heating or cooling for both occupied & unoccupied periods.
Fan mode Smart	Smart fan mode During occupied periods, fan is on continuously. In unoccupied mode, fan cycles on a call for heating or cooling. This selection is available on all models with a communication module, on all stand-alone (Network Ready) scheduling models or if DI1 or DI2 is set to RemNSB on stand-alone non-scheduling models.

F) Schedule set (2 events)

Scheduling can have 2 or 4 events per day. This is set in the configuration menu as per parameter (2/4event)



This section of the menu permits the user to set the whether 2 or 4 events is needed. Each day can be tailored to specific schedules if needed.

2 events can be scheduled per day.

Occupied & unoccupied periods can be set for each day.

MONDAY TIMER SCHEDULE SET		TUESDAY TIMER SCHEDULE SET		WEDNESDAY TIMER SCHEDULE SET		OTHER DAYS ARE IDENTICAL		
Monday set? Y/N	No next Yes down	Tuesday set? Y/N	No next Yes down	Wednesday set? Y/N	No next Yes down	Selects the day to be scheduled or modified		
	Yes key to access day scheduling, No key to jump to next day							
Occupied Day? Y/N	No next Yes down	Occupied Day? Y/N	No next Yes down	Occupied Day? Y/N	No next Yes down	Yes = Daily schedules will be accessed No = Unoccupied mode all day		
		Yes key to	access day sc	heduling, No key	to jump to ne	xt day		
		Copy Y/N Previous	Yes next No down	Copy Y/N Previous	Yes next No down	Yes = Will copy previous day schedule No = Daily schedules will be accessed		
	Ye	es key to copy	previous day,	No key to set ne	w time value fo	or each day		
Occupied 00:00 AM	Use To set value	Occupied 00:00 AM	Use To set value	Occupied 00:00 AM	Use To set value	Sets Event # 1 Occupied time Will activate occupied setpoints		
				lue, Yes key to co	n rm			
Unoccup 00:00 AM	Use To set value	Unoccup 00:00 AM	Use To set value	Unoccup 00:00 AM	Use To set value	Sets Event # 2 Unoccupied time Will activate unoccupied setpoints		
Use to:	set value, Ye	s key to con	rm					

Typical examples of a 2 event office schedule: Ex. #1 Office building closed all weekend

Event	Period #1 - Event #1		Period #1	- Event #2	
	Occi	ıpied	Unoco	cupied	
Setpoint	Cool	Heat	Cool	Heat	Daily
Setpoint	72 °F	70 °F	80 °F	62 °F	Occupancy
Monday	7.00 AM		6.00 PM		Day time only
Tuesday	7.00 AM		6.00 PM		Day time only
Wednesday	7.00 AM		6.00 PM		Day time only
Thursday	7.00 AM		6.00	PM	Day time only
Friday	7.00 AM		6.00 PM		Day time only
Saturday	12.00 PM *		12.00 PM *		Unoccupied
Sunday	12.00 PM *		12.00	PM *	Unoccupied

^{*} Scheduling consecutive events to the same time will cause the Room Controller to choose the last event as the time at which it will set its schedule. In the above example, the Room Controller will control to the unoccupied set point until 7:00 AM Monday.

November 2015 8 | 028-6114-00

Ex. #2 Commercial building which is occupied all weekend

Event	Period #	1 - Event	Period #1 - Event		
Event	#	:1	#2		
	Occi	ıpied	Unoccupied		
Cotnoint	Cool	Heat	Cool	Heat	
Setpoint	72 °F	70 °F	80 °F	62 °F	
Monday	8.00	8.00 AM		5.00 PM	
Tuesday	8.00	8.00 AM		5.00 PM	
Wednesday	8.00	8.00 AM		PM	
Thursday	8.00 AM		5.00	PM	
Friday	8.00 AM		5.00 PM		
Saturday	12.00 AM **		11.59	PM **	
Sunday	12.00	AM **	11.59	PM **	

Daily				
Occupancy				
Day time only				
Day time only				
Day time only				
Day time only				
Day time only				
Occupied				
Occupied				

^{**} To schedule a day as occupied for 24 hours, set that day occupied time to 12:00 AM and Unoccupied time to 11:59 PM There will be a 1 minute unoccupied period every night at 11:59 PM with this schedule configuration.

Note: 12:00 PM = Noon 12:00 AM = Midnight

G) Schedule set (4 events)

Schedule set Y/N

This section of the menu permits the user to set the whether 2 or 4 events is needed. Each day can be tailored to specific schedules if needed.

- ☑ Occupied & Unoccupied periods can be set for each day.
- ☑ Scheduling the 3rd. & 4th. Events to the same time will cancel the last period.

	Monday timer Tuesday Schedule set Schedu			Wednesd Schedu		Other days are identical		
Monday set? Y/N	No next X Yes down	Tuesday set? Y/N	No next Yes down	Wednesday set? Y/N	No next 🛭 Yes down	Selects the day to be scheduled or modified		
		Yes key to	o access day sc	heduling, No key	to jump to next	day		
Occupied Day? Y/N	No next ⊠ Yes down⊠	Occupied Day? Y/N	No next⊠ Yes down ⊠	Occupied Day? Y/N	No next ⊠ Yes down	Yes = Daily schedules will be accessed No = Unoccupied mode all day		
	Yes key to access day scheduling, No key to jump to next day							
		Copy Y/N Previous	Yes next ⊠ No down ⊠	Copy Y/N Previous	Yes next ⊠ No down ⊠	Yes = Will copy previous day schedule No = Daily schedules will be accessed		
	Yes key to copy previous day, No key to set new time value for each day							
Occupied 00:00 AM	Use ⊠ To set value	Occupied 00:00 AM	Use ⊠ To set value	Occupied 00:00 AM	Use⊠ To set value	Sets Event # 1 Occupied time Will activate occupied setpoints		
		Į.	Jse ⊠ to set valu	ie, Yeskey to confi	rm			
Unoccup 00:00 AM	Use ⊠ To set value	Unoccup 00:00 AM	Use⊠⊠ To set value	Unoccup 00:00 AM	Use ⊠ To set value	Sets Event # 2 Unoccupied time Will activate unoccupied setpoints		
	Use⊠ to set value, Yes key to confirm							
Occupie2 00:00 AM	Use ⊠ To set value	Occupie2 00:00 AM	Use⊠⊠ To set value	Occupie2 00:00 AM	Use⊠⊠ To set value	Sets Event # 3 Occupied time Will activate occupied setpoints		
	•	ı	Jse ⊠ to set valu	ie, Yeskey to confi	rm	_		
Unoccup2 00:00 AM	Use⊠⊠ To set value	Unoccup2 00:00 AM	Use ⊠ To set value	Unoccup2 00:00 AM	Use ⊠ To set value	Sets Event # 4 Unoccupied time Will activate unoccupied setpoints		
Use ™ to set value, Yes key to confirm								

November 2015 10 | 028-6114-00

Ex. #1 Four event retail establishment schedule

Event	Perio	od 1 -	Period 1 -		Perio	od 2 -	Perio	od 2 -	
Event	Event 1		Event 1 Event 2 Event 2		Event 2 Event 3		Eve	nt 4	
Setpoint	Occi	ıpied	Unoco	cupied	Occi	ıpied	Unocc	upied	
	Cool	Heat	Cool	Heat	Cool	Heat	Cool	Heat	Daily
	72°F	70°F	80°F	62°F	72°F	70 °F	80°F	62 °F	Occupancy
Monday	7.00	7.00 AM 5.00 PM 12.00 PM *		M 5.00 PM		PM *	12.00	PM *	Day time only
Tuesday	7.00 AM		5.00 PM		12.00 PM *		12.00 PM *		Day time only
Wednesday	7.00	00 AM 5.0		5.00 PM 12.00 l		PM *	12.00	PM *	Day time only
Thursday	7.00 AM		5.00 PM		7.00	PM	10.30) PM	Day/evening time only
Friday	7.00	AM	5.00 PM		7.00	PM	10.30) PM	Day/evening time only
Saturday	12.00 PM *		12.00 PM *		12.00 PM *		12.00	PM *	Unoccupied
Sunday	12.00	PM *	12.00	PM *	12.00	PM *	12.00	PM *	Unoccupied

^{*} Scheduling events to the same time will cancel the last period and leave the Room Controller in unoccupied mode

Ex. #2 Residential

Event			Period 1 - Event 2					od 2 - nt 4	
Setpoint	Occu	ıpied	Unoco	upied	Occi	ıpied	Unoccupied		
	Cool	Heat	Cool	Heat	Cool	Heat	Cool	Heat	Daily
	72°F	70°F	80°F	62°F	72°F	70°F	80°F	62°F	Occupancy
Monday	6:00 AM 8:00 AM		4:00 PM		10:00 PM		Day/evening time only		
Tuesday	6:00 AM		8:00 AM		4:00	PM	10:0	D PM	Day/evening time only
Wednesday	6:00 AM		8:00 AM		4:00	PM	10:0	D PM	Day/evening time only
Thursday	6:00 AM		8:00 AM		4:00	PM	10:0	D PM	Day/evening time only
Friday	6:00 AM		8:00 AM		4:00	PM	11:3	D PM	Day/evening time only
Saturday	8:00	AM *	8:00 AM *		8:00	AM *	11:59	PM *	Day time only
Sunday	12:00	AM *	12:00	12:00 AM *		AM *	11:59	PM *	Occupied all day

^{*}Scheduling consecutive events to the same time will cause the Room Controller to choose the last event as the time at which it will set its schedule. In the above example for Saturday, the Room Controller will control to the occupied set point from 8:00 AM until 11:59 PM. Since it is desired to be in occupied mode throughout the night, then it is necessary to schedule the first event on Sunday at 12:00 AM. The Room Controller will force a one minute unoccupied period for a one minute period (between 11:59 PM and 12:00 AM on Saturday).

H) Clock/Day Settings

Clock set Y/N

This section of the menu permits the user to set the time and day.

Time setting		Day s	etting	Time format setting		
Time	No next	Day	No next	12/24hrs	No = exit	
set? Y/N	Yes down	set? Y/N	Yes down	set? Y/N	Yes down	
Time	Use	Day	Use	12/24hrs	Use	
0:00	To set value	Monday	To set value	12 hrs	To set value	

J) Schedule hold

Schedule hold Y/N

This menu will only appear on stand-alone (Network Ready) Room Controller, i.e. without a BACnet™ / Echelon™ module.

This section of the menu permits the user to set a permanent schedule hold, which bypasses the internal Room Controller scheduling.

The permanent schedule hold function is typically used for nonscheduled events that extend for various periods of time.

Enabling a permanent occupied or permanent unoccupied schedule hold will cancel any active override.

The use of temporary setpoints during permanent hold is permitted. The duration of the temporary setpoint is as set per the TOccTime parameter. Ex. 3 hours

Use to set value, yes key to confirm

Resume regular scheduling cancels the permanent hold and re- enables the regular scheduling as set per internal schedule or as per remote NSB via one of the DI's con gured as remote NSB.
This action can also by accomplished by using the Resume menu.
Any temporary setpoint that are active will be left active for the duration of the period as set per the TOccTime parameter.
Hold permanent occupied forces the Room Controller into a permanent occupied mode using the occupied setpoints. All timed scheduling functions are by-passed.
The PERMANENT OCCUPIED status will appear in the automatic status scroll. To resume to regular scheduling, user must scroll to the Schedule Hold menu and select the Schedule resume option.

Sche	dule
uno	hold

Hold permanent unoccupied forces the Room Controller into a permanent unoccupied mode using the unoccupied setpoints. All timed scheduling functions are by-passed.

The PERMANENT UNOCCUPIED status will appear in the automatic status scroll. To resume to regular scheduling, user must scroll to the Schedule Hold menu and select the Schedule resume option.

INSTALLER CONFIGURATION PARAMETER MENU

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

To enter con guration, press and hold the middle button "Menu" for 8 seconds

If a password lockout is active, "Password" is prompted. Enter password value using the "up"

and "down" arrows and press "Yes" to gain access to all con guration properties of the Room

Controller. A wrong password entered will prevent local access to the configuration menu.

Once in the con guration menu, press the "No" button repetitively to scroll between all the available parameters.

When the desired parameter is displayed, press "Yes" to adjust it to the desired value using "up" and "down" arrows. Once set, press "Yes" to scroll to the next parameter.

SIGNIFICANCE AND ADJUSTMENTS
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
Conditional parameter to BACnet™ MS-TP models (VT76xxW5x00B) Conditional parameter to Wireless models (VT76xxW5x00W) This parameter will only appear when a BACnet™ or wireless network adapter is present. If the Room Controller is installed as a stand-alone (Network Ready) unit or with an Echelon™ adapter, this parameter will not be used or displayed -For BACnet™ MS-TP models, the valid range to is from 1 to 127. Default value of 254 disables BACnet™ communication for the Room Controller.

PAN ID

Personal Area Network Identification Default value = **0** Range is: 0 to 1000

Conditional parameter to Wireless models (VT76xxW5x00W)

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 (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 SAME PAN ID value both at the gateway and the Room Controller(s).

The default value of 0 is NOT a valid PAN ID.

Channel

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

Conditional parameter to Wireless models (VT76xxW5x00W)

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 at 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

Get From

Room Controller Get From another device configuration utility

Default value = 0

Default value = **0**Range is: 0 to 254

Conditional parameter to Wireless models VT76xxW5x00W

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.

Ex.: If you are currently configuring MAC12 and the settings matches exactly the settings of ZN MAC5, then enter 5 as the current parameter value.

If the process is successful and all required configuration properties have been copied, the value will revert back to 255
If the process is NOT successful and all required configuration properties have NOT been copied (either the reference device is NOT 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

Leaving the Get From parameter to 255 means that every configuration parameters will be set manually.

DI 1	(None): No function will be associated with the input
Digital input no.1 configuration	(Rem NSB): remote NSB timer clock input. Will disable the internal scheduling of the Room Controller. The scheduling will now be set as per the digital input. The time is still displayed as
Open contact input = function not energized	information, but the menu part related to scheduling is disabled and no longer accessible.
Closed contact input = function energized	Open contact = occupied setpoints
Default Value = None	Closed contacts = unoccupied setpoints
	(RemOVR): Temporary override remote contact. Disables all override menu function of 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. With this function enabled it is now possible to toggle between unoccupied & occupied setpoints for the amount of time set by parameter (TOccTime) temporary occupancy time. When Override is enabled, an Override status message will be displayed
	(Filter): a back-lit flashing Filter alarm will be displayed on the Room Controller LCD screen when the input is energized
	(Service): a back-lit flashing Service alarm will be displayed on the Room Controller LCD screen when the input is energized
	(Fan lock): a back-lit flashing Fan lock alarm will be displayed on the Room Controller LCD screen when the input is not energized. Used in conjunction with a local airflow sensor connected to the input. Locks out the Room Controller heating and cooling action if no airflow is detected 10 seconds after the fan (G terminal) is energized.
	Open contact = no airflow
	Closed contacts = airflow present
DI 2 Digital input no. 2 configuration	Same as above. It is possible to configure both inputs to have the same function.
Default value = None	
MenuScro Menu scroll Default value = On = Scroll active	Removes the scrolling display and only present the room temperature/humidity to the user. With this option enabled, no status is given of mode, schedule and outdoor temperature. On = Scroll active Off = Scroll not active

Default value = 0 No lock 0 = No lock 1 = Low level 2 = High level								
			USER K	EY FUNC	TIONS			
LEVEL	Resume/ Override scheduling	Permanent Occupied and Unoccupied Setpoints	Temporary setpoints using arrows	System mode setting	Fan mode setting	Schedules setting	Clock setting	Permanent hold
0	a	a	a	a	a	a	a	a
1	2	n n	2	a	a	-	2	a
2	a	a	e e	⊕			2	a
pwr del Power-up delay Default value = 10 seconds Frost pr		On initial power up of the Room Controller (each time 24 Vac power supply is removed & re-applied) there is a delay before any operation is authorized (fan, cooling or heating). This can be used to sequence start up multiple units / Room Controller in one location. 10 to 120 seconds Off: no room frost protection						
Frost protection enabled Default value = Off		On: room frost protection enabled in all system mode at: 42 °F (5.6 °C) Frost protection is enabled even in system Off mode Off or On						
heat max Maximum heating setpoint limit Default value = 90 °F (32 °C)		Maximum occupied & unoccupied heating setpoint adjustment. Heating setpoint range is: 40 to 90 °F (4.5 to 32.0 °C)						
cool min Minimum cooling setpoint limit Default value = 54 °F (12 °C)		adjustme	ent. Coolir	d & unoccung setpoint O to 37.5°	range is:		nt	

Pband Proportional Band setting Default value 2 = 2.0

°F (0.6 °C)

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



Note that the default value of 2.0 °F (1.1 °C) gives satisfactory operation in most normal installation cases. The use of a superior 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
2	2 F	1.1 C
3	3 F	1.7 C
4	4 F	2.2 C
5	5 F	2.8 C
6	6 F	3.3 C
7	7 F	3.9 C
8	8 F	4.4 C

Anticycle
Minimum on/off
operation time for
stages
Default value = 2
minutes

Minimum On/Off operation time of cooling & heating stages.

IMPORTANT, anti-short cycling can be set to 0 minutes for equipment that possess their own anti cycling timer. Do <u>not</u> use this value unless the equipment is equipped with such internal timer. Failure to do so can damage the equipment.

0, 1, 2, 3, 4 & 5 minutes

Anti-short cycling can be set to 0 minutes for equipment that possess their own anti cycling timer. Do not use that value unless the equipment is equipped with such internal timer. Failure to do so can damage the equipment.

% RH disp Local RH Display Default value = Off

Enables the display of humidity below the room temperature on the display

On = Display %RH
Off = No display of %RH

cool cph Heatpump stages cycles per hour Default value = 4 C.P.H.

Will set the maximum number of heatpump stage cycles per hour under normal control operation. It represents the maximum number of cycles that the equipment will turned 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 or 4 C.P.H.

deadband Minimum deadband Default value = 2.0 °F (1.1 °C) fan cont Fan control Default value = On	Minimum deadband value between the heating and cooling setpoints. If modified, it will be applied only when any of the setpoints are modified. 2, 3 or 4 °F (1.0 to 2.0 °C) Fan control in heating mode. When selecting On; the Room Controller in all cases will always control the fan (terminal G). Valid for On or Auto fan mode When selecting Off; the fan (terminal G), when heating stages (terminals W1 & W2) are solicited, will not be energized. The fan in this case will be controlled by the equipment fan limit control. Valid only for Auto fan mode. On fan mode will leave the fan always on. ON OR OFF
	For multi stage models, fan control applies to W1 & W2 For heat pump models, fan control applies to W1 only (Emergency heat)
fan del Fan delay Default value = Off	Fan delay extends fan operation by 60 seconds after the call for heating or cooling ends. Valid only for Auto fan mode. "On" fan mode will leave the fan always on. Off or On
ToccTime Temporary occupancy time Default value = 3 hours	Temporary occupancy time with occupied mode setpoints when override function is enabled When the Room Controller is in unoccupied mode, function is enabled with either the menu or DI1 or DI2 configured as remote override input. 0,1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 & 12 hours
Cal RS Room air temperature sensor calibration Default value = 0.0 °F or °C	Offset that can be added/subtracted to actual displayed room temperature ± 5.0 °F (± 2.5 °C)
Cal RH Humidity sensor calibration Default value = 0 %RH	Offset that can be added/subtracted to the actual displayed humidity by ± 15.0 %RH. Range is : ± 15.0 %RH

HP stage Number of heatpump stages Default value = 2 stages	Will revert the operation of 2 stage Room Controller to single stage operation only when the second compressor step is not needed. 1 or 2 stages
H lock Outside air temperature heating lockout Default value = 120 °F (49 °C)	Disables heating stage operation based on outdoor air temperature. Function will only be enabled if OS (outside air temperature network value) is received. From -15 °F up to 120 °F (-26 °C up to 49 °C)
C lock Outside air temperature mechanical cooling lockout. Default value = -40 °F (- 40 °C)	Disables cooling stage operation based on outdoor air temperature. Function will only be enabled if OS (outside air temperature network value) is received. From -40 °F up to 95 °F (-40 °C up to 35 °C)
Unocc TM Unoccupied Timer value Default 0.5 hours	Time delay between the moment where the Room Controller toggles from occupied to unoccupied after the last movement has been detected by the PIR. Range is: 0.5 to 24.0 hours in 0.5 hour increments
2/4event Number of events configuration Default value = 2 event	2 events, will set up scheduling for the following Event 1 is for Occupied setpoints Event 2 is for Unoccupied setpoints 4 events, will set up scheduling for the following Event 1 is for Occupied setpoints Event 2 is for Unoccupied setpoints Event 3 is for Occupied setpoints Event 4 is for Unoccupied setpoints Event 4 is for Unoccupied setpoints

aux cont	This contact can be used to energize peripheral devices such		
Auxiliary contact	as: lighting equipr	nent, exhaust fans, ed	conomizers, etc.
configuration	This contact will o	perate in parallel with	the internal
Default value = N.O.	occupied/unoccup	pied schedule of the R	toom Controller or the
normally open	remote NSB conta	act if DI1 or DI2 is use	ed.
			contact will remain in its
		s independently of the	occupied / unoccupied
	schedule.		
		Contact	Contact
	Configured	occupied status	unoccupied status
	N.O.	Closed	Opened
	N.C.	opened	Closed
	IV.C.	opened	Ciosed
Prog rec	Off, = no progress	sive recovery	
Progressive recovery	The occupied schedule time is the time at which the system will		
enabled	restart.		
Default value = Off			
Progressive recovery is	On, = progressive recovery active.		
automatically disabled if	The occupied schedule time is the time at which the desired		
DI 1 and / or DI 2 are	occupied temperature will be attained. The Room Controller will		
configured remote NSB	automatically optimize the equipment start time.		
	In any case, the latest a system will restart is 10 minutes prior		
	to the occupied pe	eriod time.	
Re valve	Heat pump reversing valve operation		
Reversing valve operation			
О/В	B will energize the valve in heating operation		
Default value = O	O OR B		

Dhu set	Used only if dehumidification sequence is enabled:
Dehumidification setpoint	Dongo io. 20 059/ DII
Default is 50 % RH	Range is: 30-95% RH
DHumiLCK Dehumidification lockout	Enables, restricts or disables the dehumidification sequence.
Default value: Restrict	Dhu Disa: Dehumidification disabled
Restrict	Restrict : will restrict the dehumidification process based on the following:
	 System mode = Needs to be Cool or Auto (currently operating in cooling only)
	- Low ambient room temperature protection enabled Dhu Enab : will not restrict the dehumidification process:
	 System mode = Needs to be Cool, Heat or Auto There is no ambient room temperature protection enabled
Dhu OALK	Outside air temperature under which the dehumidification
Dehumidification outside air	sequence is disabled.
temperature lockout	Only valid if an outdoor air sensor is connected at the Room
Default value = 32°F (0°C)	Controller or a network value is transmitted to the Room
	Controller.
	From -40°F up to 122°F (-40°C to 50°C)
DehuHyst	Humidity control hysteresis. Used only if dehumidification
Dehumidification	sequence is enabled:
Hysteresys	Range is: 2 to 20% RH
Default = 5 % RH	
MS dis	Used as diagnostic / service help to troubleshoot and
Display mixed air temperature	diagnose economizer operation.
Economizer model only, only if sensor is installed	

TROUBLESHOOTING GUIDE All models

Symptom	Possible Cause	Corrective Action
No display on the	Absent or incorrect supply voltage	Check power supply voltage between C & RC to be from 19-30 VAC Check for tripped fuse or circuit breaker
Room Controller	Overloaded power transformer	Verify that the transformer used is powerful enough (enough VA's) to supply all controlled devices including the Room Controller
Keyboard menu does not access all functions	Keyboard locked	Change configuration parameter LOCKOUT to value "0" to access all levels of the menu
Temperature setpoints revert to original value after a certain time period	Temporary setpoint option selected	The Room Controller needs to be in Permanent setpoint mode for the new setpoint to be kept and memory and used all the time Go to the Set temperature menu. The last prompt is setpoint type. Set it to Permanent setpoint
Danas Cantuallan	Wrong mode selected	Select heating mode
Room Controller will not call for heating	Room Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Room Controller Occupied heating setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Heating setpoint is satisfied	Raise the Heating setpoint
	Heating lockout attained	Mode is locked out based on outside air temperature Change configuration parameter H Lock to value 120 °F (49 °C) to bypass lockout
	Wiring error	Start the Fan by forcing the Fan ON mode Put a jumper across terminals RH & W1. The heating should come ON. If it does not, verify wiring and check if a jumper is required between RC & RH
	Wrong mode selected	Select cooling mode
Room Controller will not call for cooling	Room Controller in Unoccupied mode	Select Occupied Hold in Schedule hold or Override to force the Room Controller Occupied cooling setpoint
	Anticycle delay active	Wait, the anticycling period will end and the equipment will start
	Cooling setpoint is satisfied	Lower the cooling setpoint
	Cooling lockout attained	Mode is locked out based on outside air temperature Change configuration parameter C Lock to value -40 °F (-40 °C) to bypass lockout

	Wiring error	Start the Fan by forcing the Fan ON mode Put a jumper across terminals RC & Y1. The cooling should come ON. If it does not, verify wiring
	Wrong mode selected	 Start the Fan by forcing the Fan ON
The Room Controller will not turn on the fan	Wiring error	mode 2. Put a jumper across terminals RC & G. The fan should come ON. If it does not, verify wiring
Digital display shows missing digits or erratic segments	Defective display	Replace Room Controller



Viconics Technologies Inc.
9245 Langelier Blvd. | St-Leonard | Quebec | Canada | H1P 3K9
Tel.: (514) 321.5660 | Fax: (514) 321.4150 Toll free: 1 800.563.5660
sales@viconics.com | www.viconics.com



VT7600 SERIES

BACnet MS/TP, LonWorks, Zigbee and Zigbee Pro Models Available



Primarily designed for use in small to mid-sized commercial building applications, VT7600 room controllers can be installed in any building using a standard rooftop or heat pump unit with a requirement for advanced fresh air control. Capable of controlling economizer-free cooling and demand-based ventilation strategies, the VT7600 provides fresh air measurement input right out of the box.

Note: Outside air damper can be controlled based on CO₂ or airflow demand.

SPECIFICATIONS

Thermostat Power Requirements	19 to 30 Vac; 50 or 60 Hz; 2 VA Class 2
Operating Conditions	0 to 50 °C (32 to 122 °F); 0 to 95% RH non-condensing
Storage Conditions	-30 to 50 °C (-22 to 122 °F); 0 to 95% RH non-condensing
Temperature Sensor	Local 10k NTC thermistor
Resolution	± 0.1 °C (± 0.2 °F)
Control Accuracy	Temp: ± 0.5 °C (± 0.9 °F) @ 21 °C (70 °F) typical calibrated
Occupied and Unoccupied Setpoint Range Cooling	12 to 37.5 °C (54 to 100 °F)
Occupied and Unoccupied Setpoint Range Heating	4.5 to 32 °C (40 to 90 °F)
Room and Outdoor Air Temperature Display	-40 to 50 °C (-40 to 122 °F)
Proportional Band for Room Temperature Range Control	Cooling & Heating: 1.8 °C (3.2 °F)
Binary Inputs	BI2 and UI3 to Scom
Output Rating	30 Vac, 1 A max., 3 A in-rush
Economizer Analog Output Rating	0 to 10 Vdc into 2k Ω resistance min.
Economizer Analog Output Accuracy	±3% typical
Wire Gauge	18 gauge maximum, 22 gauge recommended

PI time proportioning

PI time proportioning algorithm for increased comfort, accuracy, and energy savings

Local configuration

Unique local configuration utility minimizes parameter tampering

Two digital inputs Lockable keypad

Two digital inputs for added functionality

Smart fan

Saves energy during night mode

Tamper resistant, no need for thermostat guards

Freeze protection

Limits costly freeze damage

APPLICATIONS

- Sinble-speed fans
- Outdoor air temperature sensor
- Supply air temperature sensor
- Differential pressure switch

Dimensions	4.94" x 3.38" x 1.13" (12.5 x 86 x 30 mm)
Approximate Shipping Weight	0.75 lb (0.34 kg)
WARRANTY	

2 years

AGENCY APPROVALS

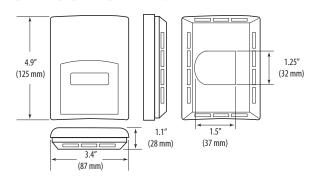
Limited Warranty



UL: 873 (US) and CSA C22.2 No. 24 (Canada), File E27734 with CCN, XAPX (US) and XAPX7 (Canada)

FCC: Compliant to CFR 47, Part 15, Subpart B, Class A (US) Industry Canada: ICES-003 (Canada)

DIMENSIONAL DRAWING





ORDERING INFORMATION

PART NUMBER	SCHEDULING	ECONOMIZER	HEAT/COOL	HUMIDITY	PIR COVER	сомм.
Rooftop Unit Control	ler					
VT7652B5031	Х		2H/2C			Standalone
VT7652B5031B	Х		2H/2C			BACnet MS/TP
VT7652B5531B	Х		2H/2C		Х	BACnet MS/TP
VT7652B5531E	X		2H/2C		Х	LonWorks
VT7652B5531P	X		2H/2C		X	Zigbee Pro
VT7652B5531W*	X		2H/2C		X	Zigbee
Rooftop Unit Control	ler for Modulating Hea	t				
VT7652F5031	X		1H (analog)/2C			Standalone
VT7652F5031B	X		1H (analog)/2C			BACnet MS/TP
VT7652F5531B	X		1H (analog)/2C		X	BACnet MS/TP
VT7652F5531P	X		1H (analog)/2C		X	Zigbee Pro
VT7652F5531W*	X		1H (analog)/2C		X	Zigbee
Heat Pump Controlle	rs					
VT7652H5031	X		3H/2C			Standalone
VT7652H5031B	Х		3H/2C			BACnet MS/TP
VT7652H5531B	Х		3H/2C		Х	BACnet MS/TP
VT7652H5531E	Х		3H/2C		Х	LonWorks
VT7652H5531P	Х		3H/2C		Х	Zigbee Pro
VT7652H5531W*	X		3H/2C		Х	Zigbee
Water Source Heat Pu	ımp Controller with Hu	ımidification Control	,			
VT7652W5031	X		3H/2C	X		Standalone
VT7652W5031B	X		3H/2C	X		BACnet MS/TP
VT7652W5531B	Х		3H/2C	Х	Х	BACnet MS/TP
VT7652W5531P	Х		3H/2C	Х	Х	Zigbee Pro
VT7652W5531W*	Х		3H/2C	Х	Х	Zigbee
Rooftop Unit Control	ler with Economizer					
VT7656B5031	Х	Х	2H/2C			Standalone
VT7656B5031B	Х	Х	2H/2C			BACnet MS/TP
VT7656B5531B	Х	Х	2H/2C		X	BACnet MS/TP
VT7656B5531E	Х	Х	2H/2C		X	LonWorks
VT7656B5531P	Х	Х	2H/2C		X	Zigbee Pro
VT7656B5531W*	Х	Х	2H/2C		Х	Zigbee
Indoor Air Quality Co	ntroller					
VT7656E5031	Х		2H/2C			Standalone
VT7656E5031B	Х		2H/2C			BACnet MS/TP
VT7656E5531B	Х		2H/2C		Х	BACnet MS/TP
VT7656E5531P	Х		2H/2C		Х	Zigbee Pro
VT7656E5531W*	Х		2H/2C		Х	Zigbee
Rooftop Unit Control	ler with Humidification	Control				
VT7657B5031	Х		2H/2C	Х		Standalone
VT7657B5031B	X		2H/2C	Х		BACnet MS/TP
VT7657B5531B	Х		2H/2C	Х	Х	BACnet MS/TP
VT7657B5531E	X		2H/2C	Х	Х	LonWorks
		1			1	
VT7657B5531P	X		2H/2C	X	X	Zigbee Pro

^{*}Wireless~'W'~Zigbee~models~for~replacement~or~existing~projects~only.~See~PN:~VCM7000V5000W.

Note: All models with PIR motion sensor and most models with communication module must be purchased in two or three different parts. For example, VT7200F5531E should be ordered as: VT7200F5031 + COV-PIR-ZN-5031 + VCM7300V5000E.