

THERMOSTATS & CONTROLLERS



SINGLE AND MULTISTAGE PROGRAMMABLE AND NON-PROGRAMMABLE THERMOSTAT VT7600 SERIES

DESCRIPTION

The **Viconics VT7600 Series** is a digital display single or multistage 7-day programmable or non-programmable PI thermostat (°F or °C). It is used with AHU control and heat pump for both heating and cooling applications. The **VT7600** has both system and fan switching with internal or remote sensor capabilities. Five buttons control a simple menu for setup of over 20 configurable parameters. Other control features are listed below.



VT7600



FEATURES

ALL MODELS

- Fan switching (on/auto/smart)
- System switching (off/auto/cooling/heating)
- Two line 8 digit backlit LCD Display
- Three status LEDs (fan, cooling, heating)
- Five control keys
- Remote and outside air sensor inputs
- Two configurable digital inputs
- Fahrenheit or Celsius operation
- Permanent program retention
- Temporary setpoints
- Proportional plus integral control
- Cycles per hour for heating and cooling

ALL MODELS

- Screen lockout (partial/total)
- Power fail start up delay
- H/C changeover (manual or auto)
- Adjustable deadband
- Individual setpoint range stops H/C
- Extended fan run time
- Extended occupancy time
- Frost low limit protection
- Outside air lockout H/C
- No logo on thermostat
- Room sensor calibration
- Outside air calibration

PROGRAMMABLE MODELS

- Two or four events per day
- Progressive recovery or none
- 12 or 24 hour clock
- Six-hour clock retention
- Occupied/unoccupied output contact

ECONOMICAL MODELS

- Mixed-air (0-10V) control output
- Mixed-air sensor input
- Mixed-air setpoint
- Economizer changeover temp
- Outside air damper minimum position (percent)

HEAT PUMP MODELS

- Configurable heat pump O/B control
- OSA lockout for HP emergency/comp heating

SPECIFICATIONS

Supply Voltage	20 to 30 VAC, 50/60 Hz	Remote Sensor	
Accuracy	±0.9°F, (± 0.5°C) at 70°F (21°C)	Room Sensor	Room Sensor input auto-detected 10K Type 2 thermistors
Auxiliary Inputs	Two dry-contact digital inputs, applied for: Service/status reminders Filter alarm Night setback clock Remote occupied override timer	Outside Air	Outside air input auto-detected 10K Type 2 thermistors
Control Output	1A relays, 30 VAC, SPST, 3A surge maximum	Mixed Air	Mixed air input auto-detected (economizer model only) 10K Type 2 thermistors
Auxiliary Contact Output	1A relay, 30 VAC, SPDT, follows occupied schedule	Control Type	Proportional plus integral
Mixed Air Output	Proportional 0-10 VDC, 2KΩ minimum impedance (economizer model only)	Dead Band	Adjustable 2° to 4°F (1° to 2°C)
Display	Two-line backlit LCD	Outside Air Lockout Limits	
Controls	Five menu-driven buttons: up, down, menu, no, yes/scroll	Heating	15° to 120°F (26° to 49°C), 5° increments
Thermostat Type	7-day programmable and non-programmable models	Cooling	-40° to 95°F (-40° to 35°C), 5° increments
Optimal Start	Progressive recovery enable/disable	Low Limit Protection	Enable/disable, heating on at 47°F (5.5°C)
Heat Pump High/Low	Outside air lockout (emergency heating/compressor heating)	Power-up Delay	Adjustable 10 to 120 seconds
Stages Available	1H/1C, 2H/2C, (3H/2C heat pump) 2H/2C + proportional mixed air economizer	Keypad Lockout	3 levels, (full, none, partial)
Memory (schedule)	Permanent, EEPROM	Cycles Per Hour	Adjustable, heating 3-8; cooling, 3-4
Clock	Six-hour power-fail retention	Display Offset	Adjustable ± 5°F, (±2.5°C), 1°F increments
System Switching	Off/Auto/Cool/Heat	LED Indicators	Three green "on" (fan, cooling, heating)
Fan Switching	On-continuous Auto-on demand Smart-(on/occupied, off/unoccupied)	Wiring	18 AWG maximum, 22 AWG recommended
Setpoint Range		Mounting	Standard vertical 2" x 4" box
Heating	40° to 90°F (4.5° to 32°C)	Color	White
Cooling	54° to 100°F (12° to 37.5°C)	Operating Temperature	32°F to 122°F (0° to 50°C)
Setpoint High/Low Limits	Individually-adjustable heating / cooling	Operating Humidity	0 to 95% RH (non-condensing)
		Enclosure Rating	NEMA 1, UL FR1 flame retardant plastic
		Dimensions	4.94"H x 3.38"W x 1.13"D (12.5 x 8.6 x 2.9 cm)
		Weight	0.75 lb (0.34 Kg)
		Approvals	UL, cUL, File #E234137, CE
		Warranty	1 year

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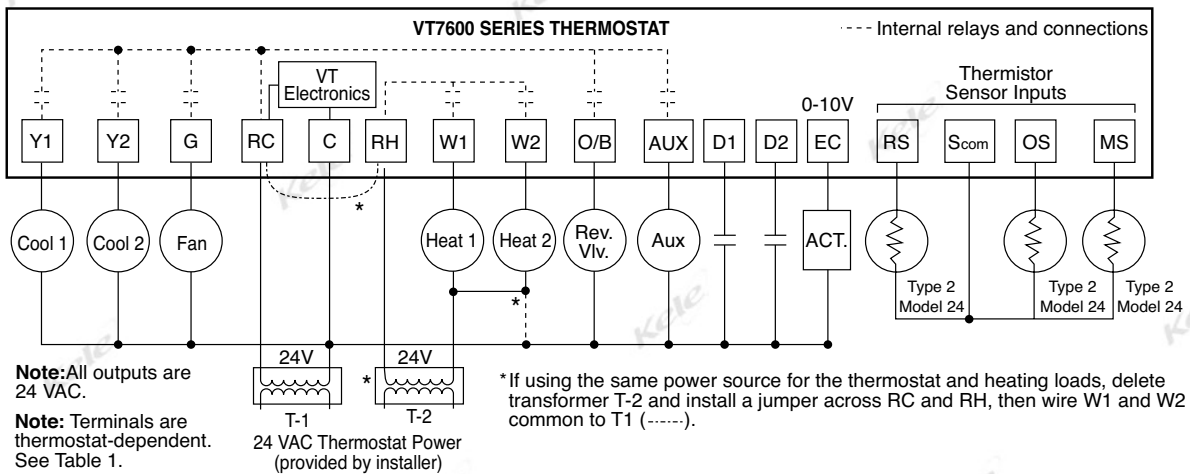


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WIRING

TABLE 1. TERMINAL DESIGNATION BY THERMOSTAT MODEL

THERMOSTAT MODEL VT7600					**Terminals and functions are not present on every thermostat	
VT7600B	VT7600H	VT7652B	VT7656B	VT7652H	Terminal**	Function**
•	•	•	•	•	Y1	Energizes on a call for first stage cooling (first stage heating HP)
•	•	•	•	•	Y2	Energizes on a call for second stage cooling (second stage heating HP)
•	•	•	•	•	G	Energizes fan in accordance with the selected fan mode
•	•	•	•	•	RC	24 VAC from equipment transformer
•	•	•	•	•	C	24 VAC (common) from equipment transformer
•	•	•	•	•	H	24 VAC for heating stages (jumper to RC for single power systems)
•	•	•	•	•	W1	Energizes on a call for first stage heating (third stage heating HP)
•	•	•	•	•	W2	Energizes on a call for second stage heating
	•			•	O/B	HP reversing valve configurable (O = on or B = on)
		•	•	•	AUX	Configurable auxiliary output (follows schedule)
•	•	•	•	•	D1	Configurable digital input
•	•	•	•	•	D2	Configurable digital input
			•		EC	0 - 10 VDC economizer actuator output
•	•	•	•	•	RS	Remote room sensor
•	•	•	•	•	Scom	Sensor common
•	•	•	•	•	OS	Outdoor air sensor
			•		MS	Mixed air sensor





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ORDERING INFORMATION

MODEL	THERMOSTAT TYPE
VT7600	RTU controller, non-programmable
VT7605	RTU + economizer controller, non-programmable
VT7606	RTU + IAQ + economizer controller, non-programmable
VT7607	RTU + humidity controller, non-programmable
VT7652	RTU controller, programmable
VT7656	RTU + economizer controller, programmable
VT7657	RTU + humidity controller, programmable
OUTPUTS	
B	2H/2C (not available on VT7606 and VT7607)
E	2H/2C + IAQ + economizer controller (VT7606 and VT7656 only)
F	2C + analog heat controller (VT7600 and VT7652 only)
H	3H/2C heatpump controller (VT7600 and VT7652 only)
W	2H/2C + humidity + watersource heatpump controller (VT7600 and VT7652 only)
COVER	
5000	Viconics logo
5031	Blank cover (no logo)
5500	PIR cover w/ Viconics logo
5531	PIR cover blank (no logo)

VT7605 | B | 5031 | *Example: VT7605B5031*

RELATED PRODUCTS

KTR24	Remote room thermistor sensor
KTR24-LED-MB	Remote room sensor with override button and LED
ST-D24	10K Type 2 duct temperature themistor
ST-FZ24-8	Averaging duct thermistor sensor, Type 2, Model 24
ST-O24	OSA thermistor sensor, Type 2, model 24, ±0.36°F (0.20°C)

ACCESSORIES

COV-HPUMP	Cover, heat pump, no logo
COV-MULTI	Cover, conventional, no logo
COV-SEN-O	Cover, no logo, sensor with override
TG511A1000	Thermostat guard- clear-medium size