



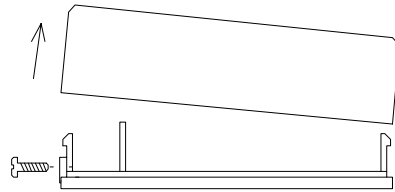
T211 T261

THERMOSTAT WITH:

- 1 DAMPER MOTOR VOLTAGE OUTPUT 0 TO 10 Vdc
- 2 MORE OUTPUTS
- POWER LIMIT INPUT
- DAY-NIGHT MODE (T261 ONLY)

TO OPEN THERMOSTAT COVER

- Remove security screw on left side of thermostat cover.
- Open up by pulling on the left side of thermostat.



THERMOSTAT INSTALLATION

A) Location:

- 1- Shouldn't be installed on outside wall.
- 2- Must be installed away from any heat source.
- 3- Shouldn't be affected by direct sun radiation.
- 4- Nothing must restrain vertical air circulation to the thermostat.

B) Installation:

- 1- Pull out cables 6" out of the wall.
- 2- Wall surface must be flat and clean.
- 3- Separate the thermostat and the base by pulling cover on the left side (same as the security screw.)
- 4- Insert cable in the central hole of the base.
- 5- Align the base and mark the location of the two mounting holes on the wall.
- 6- Install shields in the wall.
- 7- Insert screws in mounting holes on each side of the base.
DO NOT OVERTIGHTEN!
- 8- Open the cable protection 1 1/4 inch more or less.
- 9- Strip each wire 1/4 inch.
- 10- Insert each wire according to wiring diagram.
- 11- Reinstall the cover (right side first).
- 12- Install security screw.

SETPPOINT ADJUSTMENT KNOB LIMITATION

Note: To limit the rotation of setpoint knob, adjust setpoint to desired value, then insert stoppers in appropriate holes.

Horizontal model:

S1,S10 = No limitation
S3 à S8 = Setpoint limitations

Vertical model:

S7,S10 = No limitation
S1 to S7, or S12: Setpoint limitations

REMOTE SENSOR

It is possible to use a remote sensor (for duct or room application) by connecting it to pins no. 6 and 7. Inside sensor must be disconnected by removing jumper J4 inside the thermostat.

Characteristics of remote sensor 47 K Ω .

| | | | |
|----------|----------|--------------|-------------|
| 180.0 °F | 82.2 °C | 5.494 Kohm | 0.553 Volts |
| 170.0 °F | 76.7 °C | 6.585 Kohm | 0.648 Volts |
| 160.0 °F | 71.1 °C | 7.933 Kohm | 0.761 Volts |
| 150.0 °F | 65.6 °C | 9.610 Kohm | 0.893 Volts |
| 140.0 °F | 60.0 °C | 11.700 Kohm | 1.047 Volts |
| 130.0 °F | 54.4 °C | 14.342 Kohm | 1.225 Volts |
| 120.0 °F | 48.9 °C | 17.682 Kohm | 1.429 Volts |
| 110.0 °F | 43.3 °C | 21.940 Kohm | 1.659 Volts |
| 100.0 °F | 37.8 °C | 27.412 Kohm | 1.914 Volts |
| 90.0 °F | 32.2 °C | 34.483 Kohm | 2.191 Volts |
| 80.0 °F | 26.7 °C | 43.704 Kohm | 2.486 Volts |
| 70.0 °F | 21.1 °C | 55.834 Kohm | 2.791 Volts |
| 60.0 °F | 15.6 °C | 71.866 Kohm | 3.096 Volts |
| 50.0 °F | 10.0 °C | 93.340 Kohm | 3.393 Volts |
| 40.0 °F | 4.4 °C | 122.298 Kohm | 3.673 Volts |
| 30.0 °F | -1.1 °C | 161.670 Kohm | 3.927 Volts |
| 20.0 °F | -6.7 °C | 215.805 Kohm | 4.150 Volts |
| 10.0 °F | -12.2 °C | 291.100 Kohm | 4.341 Volts |
| 0.0 °F | -17.8 °C | 396.830 Kohm | 4.499 Volts |

DAY-NIGHT MODE

An external contact closing between terminals 6 and 8 activates night mode. A LED on the thermostat flashes continuously indicating night mode. By pressing the button on the thermostat, day mode is reactivated. The thermostat returns to night mode when pressing again the button, or automatically after a 4 hours delay.

Note: Terminals 6 and 8 can be connected together between thermostats.

POWER LIMIT INPUT

An external DC voltage applied between terminals no. 9 (+) et 6 (-), limits the power permitted to outputs 1 and 2 only when these outputs are programmed as heating. The following table gives the relationship between input voltage and the allowed power for each output.

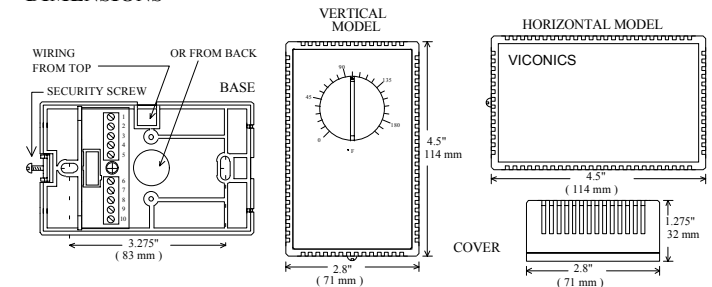
| DC VOLTAGE AT TERMINALS NO 6 AND 9 | MAXIMUM POWER OUTPUT 1 | MAXIMUM POWER OUTPUT 2 | MAXIMUM POWER TOTAL |
|------------------------------------|------------------------|------------------------|---------------------|
| 0 volt | 100 % | 100 % | 100 % |
| 1 volt | 100 % | 100 % | 100 % |
| 2 volts | 100 % | 100 % | 100 % |
| 3 volts | 100 % | 80 % | 90 % |
| 4 volts | 100 % | 54 % | 77 % |
| 5 volts | 100 % | 28 % | 64 % |
| 6 volts | 98 % | 0 % | 49 % |
| 7 volts | 68 % | 0 % | 34 % |
| 8 volts | 40 % | 0 % | 20 % |
| 9 volts | 18 % | 0 % | 9 % |
| 10 volts | 0 % | 0 % | 0 % |

Note: Terminals 6 and 9 can be connected together between thermostats.

0 TO 10 VOLTS OUTPUT

Output no 3 (terminal no. 10) produces a DC voltage 0 to 10 volts generally used for damper control. Minimum position of damper can be adjusted inside the thermostat from 0 to 50 %, using a small screwdriver. Minimum and maximum positions can be adjusted using the C263 programmer. Adjust LL parameter to desired minimum position and HL to maximum desired position. LL and HL are preprogrammed at 0 (0 volt) and 100% (10 volts) at the factory. Adjusting LL and HL does not affect the effective proportional band. Example: LL=20%, HL=80%, Pb=0.9 °C. damper will modulate from 20 to 80 % on a 0.9 °C proportional band.

DIMENSIONS



SPECIFICATIONS

Operating Conditions: 0 °C to 50 °C (32 °F to 122 °F)
 0% to 95% R.H. non-condensing
 Sensor: Local 47 K NTC thermistor
 Resolution: ± 0.1 °C (± 0.2 °F)
 Control accuracy: ± 0.2 °C (± 0.4 °F) for low ranges
 (calibrated) ± 0.9 °C (± 1.8 °F) for high ranges
 Ranges: 10 °C to 32 °C (50 °F to 90 °F)
 -18 °C to 82 °C (0 °F to 180 °F)
 Outputs: Isolated Triac: 30 Vac at ½ A max.
 0 to 10 Vdc into 2KΩ resistance min.
 0 / 5 Vdc at 20 mA max. for both outputs.
 Power: 24 Vac -15%, +10% 50/60 Hz; 2 VA

ORDER CODE

T211 - AB - CD - EF (without day-night mode)

T261 - AB - CD - EF (with day-night mode)

| A | Output no. 1 (controlled device) | Type |
|---|--|----------------|
| 1 | Relay, thermal relay, two position motor | Isolated Triac |
| 2 | Normally open thermal valve | Isolated Triac |
| 3 | Normally close thermal valve | Isolated Triac |
| 4 | "SSR" with 24 Vac input | Isolated Triac |
| 5 | "SSR" with 3-32 Vdc input | Pulsed 0/5 Vdc |

| B | Output no. 2 (controlled device) | Type |
|---|--|----------------|
| 1 | Relay, thermal relay, two position motor | Isolated Triac |
| 2 | Normally open thermal valve | Isolated Triac |
| 3 | Normally close thermal valve | Isolated Triac |
| 4 | "SSR" with 24 Vac input | Isolated Triac |
| 5 | "SSR" with 3-32 Vdc input | Pulsed 0/5 Vdc |

| C | Output no. 1 and 2 control mode | |
|---|---|------------|
| 1 | Heating, reverse acting, (RA) | * Standard |
| 2 | Cooling, direct acting, (DA) | |
| 3 | Heating, RA (no. 1) and cooling, DA (no. 2) | |
| 4 | Cooling, DA (no. 1) and heating, RA (no. 2) | |

| D | Main control sensor location | |
|---|--|------------|
| 1 | Room, inside thermostat, or (duct return air**) | * Standard |
| 2 | Duct supply air ** | |

** Order with S60 or S70 sensor

| E | Setpoint adjustment | |
|---|---------------------|------------|
| 1 | User adjustable | * Standard |
| 2 | Blind cover | |

| F | Scale | |
|---|-----------------|------------|
| 1 | 10 °C to 32 °C | * Standard |
| 2 | 50 °F to 90 °F | |
| 3 | -18 °C to 82 °C | Δ |
| 4 | 0 °F to 180 °F | Δ |

Example: T261 - 53 - 31 - 12
 One "SSR" 3-32 Volts heating output
 and one normally close thermal valve cooling output.
 Main sensor located inside the room
 Adjustable setpoint. Scale 50 °F to 90 °F.
 The output no. 3 is a cooling signal for damper modulation.

Δ Note: These models have a vertical cover.

Note: Order remote sensors separately

WIRING

NOTE: WITH THE PROPER CODES, TERMINALS 5, 6, 8 AND 9 CAN BE WIRED TOGETHER BETWEEN EACH THERMOSTAT IF POLARITY IS RESPECTED

Power supply 24 Vac -15% +10% 50/60 HZ 2 VA

POWER SUPPLY 24 Vac.

24 VAC [5] 24VAC
 COMMON [6]

IMPORTANT: IF USING A COMMON TRANSFORMER RESPECT POLARITY (COMMON AND 24 VAC) BETWEEN EACH THERMOSTAT

Day night mode T261 only

DAY NIGHT MODE

INPUT [8] COMMON
 DAY / NIGHT [6]

CLOSE = 1 CONTACT USED FOR ALL NIGHT THERMOSTAT USING THE SET BACK SAME TRANSFORMER

Output #1 code A= 1, 2, 3 & 4 Triacs

Output #2 code B= 1, 2, 3 & 4 Triacs

OUTPUT #1 AND/OR #2 USING RELAY WITH ISOLATED TRANSFORMER

OUTPUT CONTACT [1] - [2] [3] - [4]

RELAY OR THERMAL VALVE 24 VAC

USE TERMINALS 3 & 4 FOR OUTPUT #1
 USE TERMINALS 1 & 2 FOR OUTPUT #2

Power limit input

Analog 0 to 10 Vdc

POWER LIMIT INPUT USING 0 TO 10 Vdc

0 TO 10 Vdc LIMIT INPUT [9]
 COMMON [6]

ENERGY MANAGEMENT SYSTEM

Output #1 code A= 1, 2, 3 & 4 Triacs

Output #2 code B= 1, 2, 3 & 4 Triacs

OUTPUT #1 AND/OR #2 USING SAME TRANSFORMER TO OUTPUT

OUTPUT CONTACT [1] - [2] [3] - [4]

24 VAC [5] 24VAC
 COMMON [6]

RELAY OR THERMAL VALVE 24 VAC

USE TERMINALS 3 & 4 FOR OUTPUT #1
 USE TERMINALS 1 & 2 FOR OUTPUT #2

Output #1 code A= 5 Pulsed 0/5 Vdc

Output #2 code B= 5 Pulsed 0/5 Vdc

OUTPUT #1 AND/OR #2 USING PULSED 0/5 Vdc

0/5 V [2] - [4]
 COMMON [6]

SOLID STATE RELAY 3-32 VDC TRIGGER

LOAD

USE TERMINALS 4 & 6 FOR OUTPUT #1
 USE TERMINALS 2 & 6 FOR OUTPUT #2

Output #3 Analog 0 to 10 Vdc

OUTPUT #3 USING 0 TO 10 Vdc

0 TO 10 Vdc [10] 0 TO 10 VDC
 COMMON [6]

ELECTRONIC ACTUATOR, SCR, OR VOLTAGE RELAY

Remote main temperature control sensor

Room or return control code D= 1, Supply control code D=2

REMOTE MAIN CONTROL SENSOR

COMMON [6]
 EXTERNAL SENSOR [7]

DUCT S60 OR S70
 IMMERSION S90
 ROOM S80

NOTE: REMOVE INTERNAL J4 JUMPER