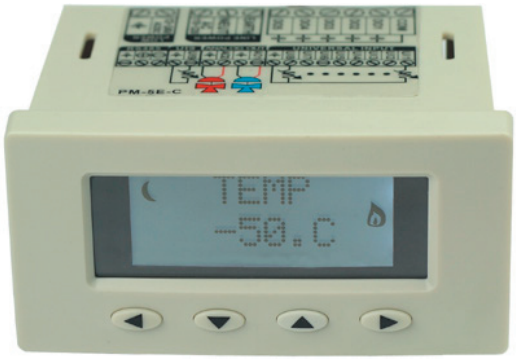
## PM-5E

## Descriptions

This full-featured CPU based thermostat with clock is designed for small cooling and heating air handling systems in residential and commercial facilities. The unit provides features which eclipse standard mechanical thermostats at a price that fits conventional HVAC projects.

The unit comes in several models to suit any mechanical equipment or application.




**Highlights:**

-Tight control of 0.5°C provides comfortable indoor environment.

-High impact plastic enclosure provides durability in commercial environments.

-Customizable sequence of operation table (FCU with modulating or on/off valve, single or 3-speed fan, pressure independent VAV, stage sequencer…)

## Technical Data

PM-5E…..... 5 relays x 1amps @24VAC /110VAC / 220VAC, 8 universal inputs, 2 universal outputs (10V @100ma), with clock.

Operating temperature…..... -30~70°C (-22~158°F)

Supply voltage……..... 12~24VAC/DC ±20%, 50-60Hz

Power consumption…..... 100mA at 12VDC

Relay contacts rating..... max 6A

Ambient humidity……..... 10-90 %Rh

Operating Environment..... 0 ~ 99% humidity non condensing

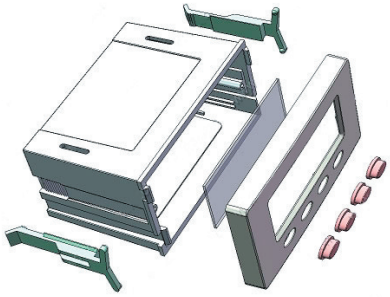
Plastic Housing ..... Flammability rating UL 94V0 file E194560

Enclosure rating…..... IP31

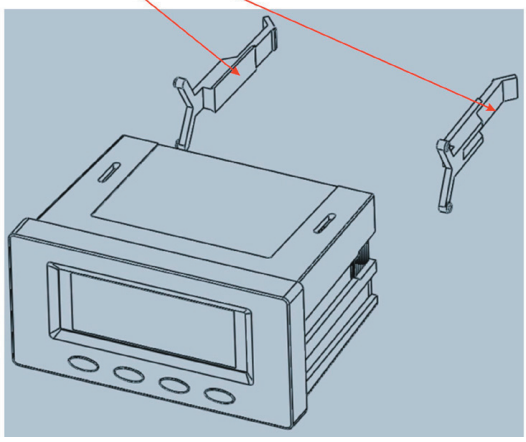
Temperature sensor..... 10K thermistor ±0.5°C

Colour……..…..... White/Off-white

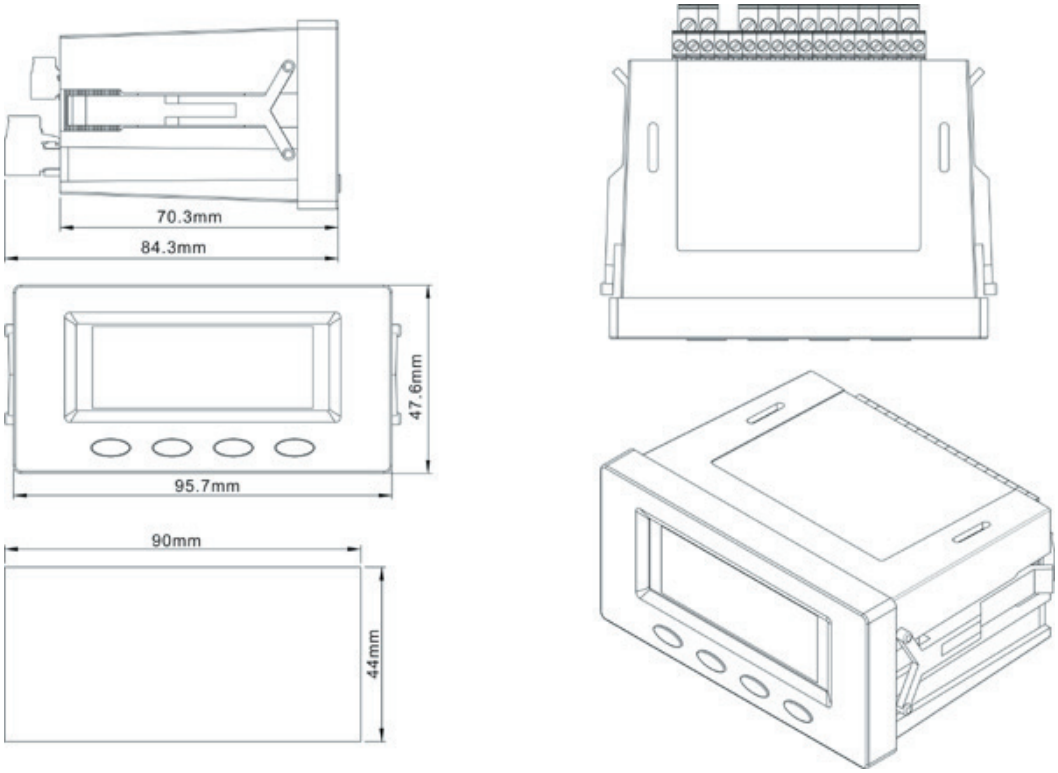
Weight ……..……..... 200g



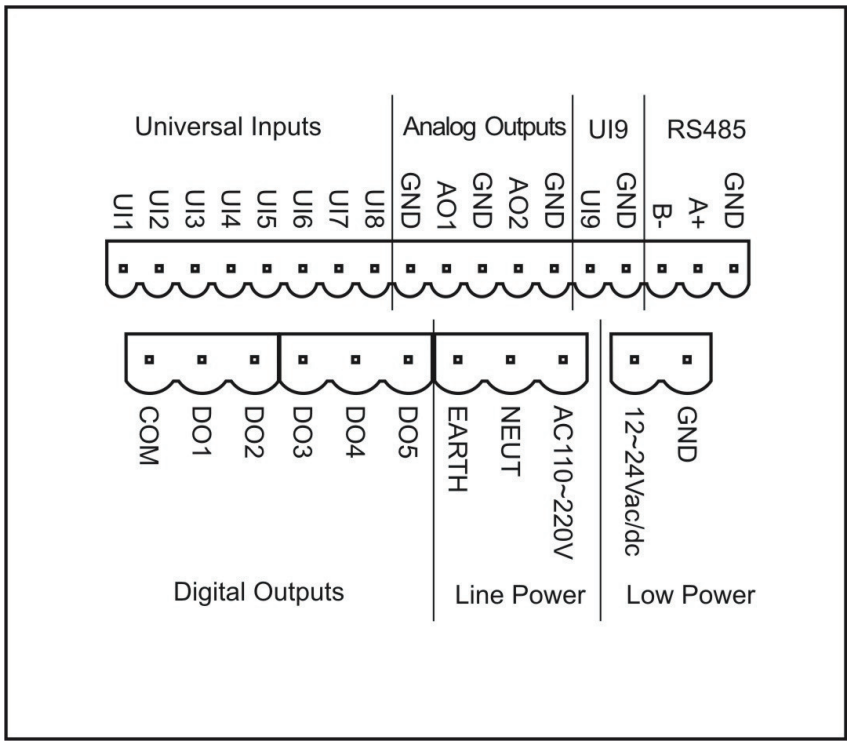
Snap Slider: Slide tab into slot to secure device in the panel. No screws or other hardware required.



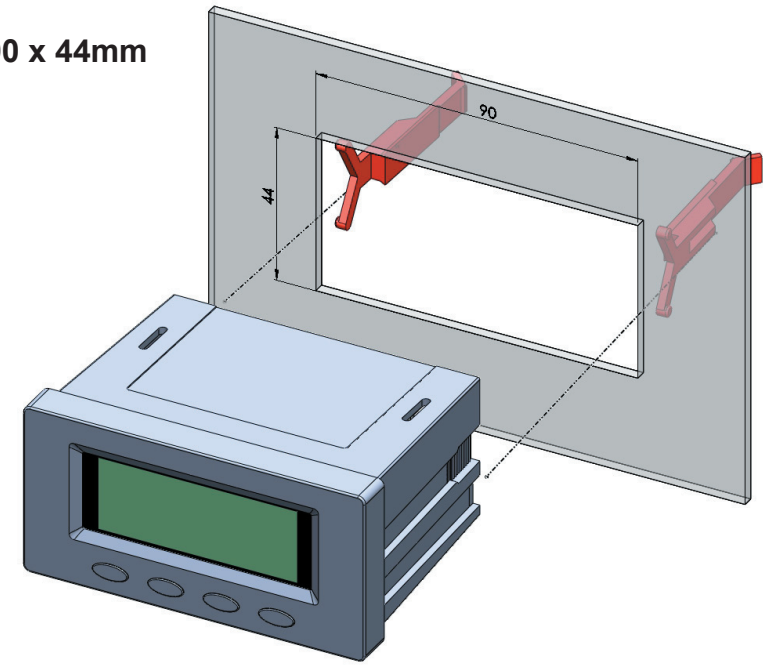
Dimensions:

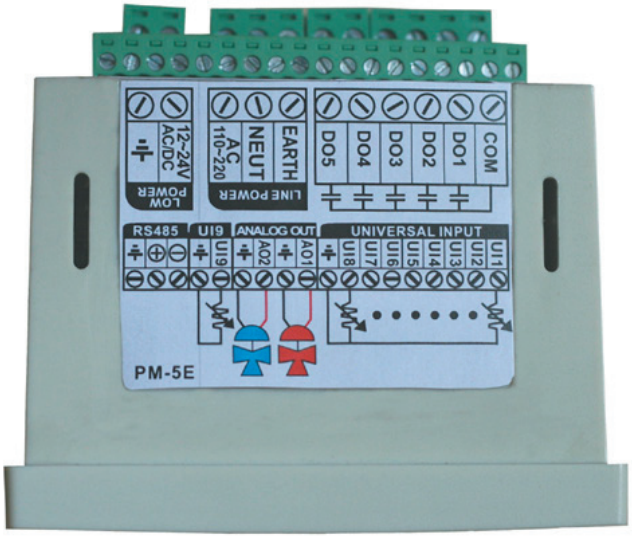


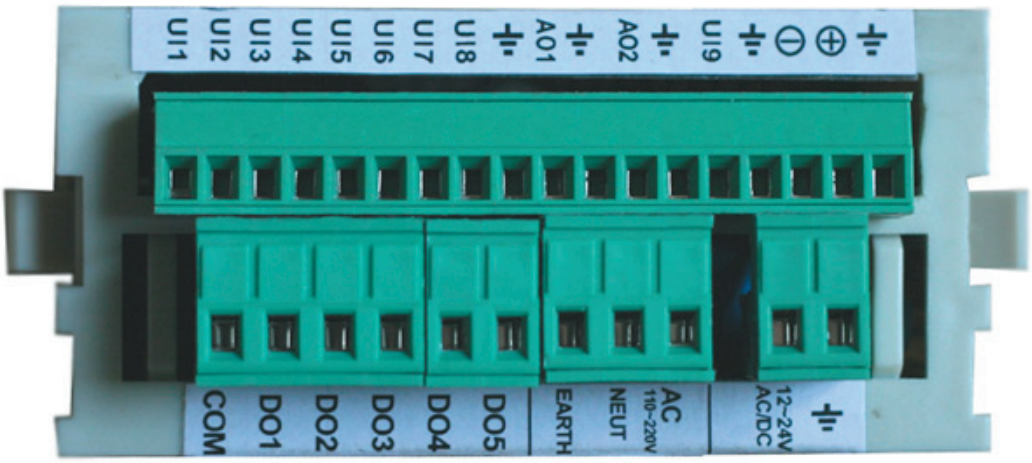

Terminal Block Diagrams:



**Panel Cutout Size: 90 x 44mm**



## Register List

All of the registers of the tstat are accessible using the serial interface via the read and/or write commands. The following is a detailed list of all of the tstat registers.

Note: When using the Modbus Poll software, addressing should be set to “Protocol Addresses (Base 0)” under the “Display” menu.

| Address | Bytes | Range | Defaults | | Register and Description |
|---|---|---|---|---|---|
| | | | °C | °F | |
| 0 to 3 | 4 | - | - | - | Serial Number - 4 byte value. Read-only |
| 4 to 5 | 2 | - | - | - | Software Version – 2 byte value. Read-only |
| 6 | 1 | 0-255 | 254 | 254 | ADDRESS. Modbus device address |
| 7 | 1 | 0-255 | - | - | Product Model. This is a read-only register that is used by the microcontroller to determine the product |
| 8 | 1 | 0-255 | - | - | Hardware Revision. This is a read-only register that is used by the microcontroller to determine the hardware rev |
| 9 | 1 | 0-255 | - | - | PIC firmware version |
| 10 | 1 | 0-255 | - | - | PLUG_N_PLAY_ADDRESS, ‘plug n play’ address, used by the network master to resolve address conflicts. See VC code for algorithms |
| 15 | 1 | 0-1 | 0 | 0 | Base address selection. 0 = Protocol address, 1 = PLC address. |
| 16 | 1 | 0-255 | - | - | Update Register. Look below in ISP section |
| 11 to 100 | | | | | Blank, for future use |
| | | | | | |
| 101 | 2 | 0-3000 | - | - | ROOM TEMPERATURE reading in Deg from the sensor selected by TSS. Writing a temperature value to this register will calibrate the tstat by automatically adjusting the calibration register |
| 102 | 2 | 0-1000 | - | - | COOLING_VALVE, a number from 0-1000 representing 0% (closed) to 100% (open) |
| 103 | 2 | 0-1000 | - | - | HEATING_VALVE, a number from 0-1000 representing 0% (closed) to 100% (open) |
| 104 | 2 | 0-100 | - | - | PID, current PI calculation for cooling term |
| 105 | | | | | NOT USED FOR REV 25 |
| 106 | 1 | 0-3 | - | - | COOL_HEAT_MODE, heating or cooling mode. 0=none, 1=cooling, 2=heating. |
| 107 | 1 | 0-3 | - | - | MODE_OPERATION, heating or cooling state: 0-7 = coasting, cooling 1,2,3, heating 1,2,3 |
| 108 | 1 | 0-255 | - | - | DIGITAL_OUTPUT_STATE, bit 0 thru 4 = relay 1 thru 5. |
| 109 | 2 | 0-1000 | 500 | 500 | CALIBRATION, this is the calibration factor for the internal sensor, normally maintained by the tstat, |
| 110 | 2 | 0-1000 | 500 | 500 | CALIBRATION_EXTERNAL , this is the calibration factor for the external sensor, normally maintained by the tstat, |
| 111 | 1 | 0-3 | 0 | 0 | TEMP_SELECT, Sensor to be used for the PID calculations, 0 = internal sensor IC, 1= external sensor, 2 = internal thermistor, 3 = average the internal thermistor and external sensor |
| 112 | 1 | 0-255 | 100 | 100 | DAC_OFFSET , Calibration data for the 0-10VDC signal, internal variable maintained by tstat |
| 113 | 1 | | | | NOT USED FOR REV 25 |
| 114 | 1 | 10-255 | 60 | 60 | PTERM , proportional term for PI calculation |
| 115 | 1 | 0-255 | 50 | 50 | ITERM , integral term for PI calculation |
| 116 | 1 | | | | NOT USED FOR REV 25 |
| 117 | 1 | | | | NOT USED FOR REV 25 |
| 118 | 1 | 0-2 | 1 | 1 | SEQUENCE , control sequence ie fancoil, heatpump etc. |
| 119 | 1 | 1-200 | 10 | 10 | COOLING_DEADBAND , offset from setpoint for cooling to begin. Units of 0.1 deg. |
| 120 | 1 | 1-200 | 10 | 10 | HEATING_DEADBAND , offset from setpoint for heating to begin. Units of 0.1 deg |
| 121 | 1 | 0-1 | 0 | 1 | DEGC_OR_F , engineering units, Deg C = 0, DegF = 1 |
| 122 | 1 | 0-3 | 3 | 3 | FAN , number of fan speeds. Single speed = 1 up to three speed fan = 3 |
| 123 | 1 | 0-35 (C)<br>0-95 (F) | 10 | 10 | NIGHT_HEATING_DEADBAND , heating deadband in the night time or OFF mode. Units of 1 deg. |
| 124 | 1 | 0-99 | 10 | 10 | NIGHT_COOLING_DEADBAND , cooling deadband for the night (OFF) mode. Units of 1 deg. |
| 125 | 1 | 0-1 | 0 | 0 | APPLICATION , application: 0 = office, 1 = Hotel or Residential |
| 126 | 1 | 0-255 | 20 | 68 | POWERUP_SETPOINT , setpoint on power up |

| Address | Bytes | Range | Defaults | | Register and Description |
|---|---|---|---|---|---|
| | | | °C | °F | |
| 127 | 1 | 0-3 | 2 | 2 | POWERUP_MODE, mode of operation on power up. 0 = power off, 1 = power up in on mode, 2 = last value (default), 3 = auto mode. |
| 128 | 1 | 0-5 | 1 | 1 | KEYPAD_SELECT , variable to select various keypad arrangements. Refer to PAd description in Table 1: Advanced Menu ItemsNumber of buttons on the keypad The keypad can have up to six buttons. The setting is not normally adjusted in the field. Care should be taken to coordinate with the settings in register 106, the Heat / Cool changeover parameter128=0 , two buttons, for adjusting the setpoint.128=1 , 4 buttons, lower pair for the mode and upper pair for the setpoint. 128=2 , 6 button keypad, with heat cool manual selection. Lower pair for the mode, next pair for the setpoint and upper pair for the heat or cool mode. 128=3 , 6 button keypad, with separate heating and cooling setpoints. Lower pair for the mode, next pair for the cooling setpoint and uppermost pair for the heating setpoint. |
| 129 | 1 | 0-2 | 0 | 0 | AUTO_ONLY , enables or disables manual mode. 0 = Manual Fan Modes 1-x Allowed (depending on R122 value, 1 = Auto Mode Only, 2 = DDC mode, the user can not change setpoint and fan speed from keypad. |
| 130 | 1 | | | | NOT USED FOR REV 25 |
| 131 | 1 | 0-255 | 50 | 99 | MAX_SETPOINT, Setpoint high, the highest setpoint a user will be able to set from the keypad. |
| 132 | 1 | 0-255 | 15 | 55 | MIN_SETPOINT, Setpoint Low, the lowest setpoint a user will be able to set from the keypad. |
| 133 | 1 | 0-3 | 0 | 0 | SPECIAL_MENU_LOCK, Special menu lockout via keypad, serial port only, 0=Full Menu, 1=Menu Disabled, 2=User Menu, 3 = The user need adjust setpoint in menu mode |
| 134 | 1 | 0-1 | 0 | 0 | FACTORY_DEFAULTS, Reset all parameters to the factory settings |
| 135 | 1 | MIN-MAX | 20 | 68 | COOLING_SETPOINT , current cooling setpoint - limits are set by the max and min setpoints |
| 136 | 1 | | | | NOT USED FOR REV26 |
| 137 | 1 | 0-4 | 0 | 0 | FAN_SPEED, current operating fan speed |
| Relay Output Tables (bit0 = relay1, bit1 = relay2, bit2 = relay3, bit3 = relay4, bit4 = relay5)Fan0 table is for the off state. Fan1, Fan2, and Fan3 are for the manual states. Fan4 is for the Auto state. These states are controlled by the user.The mode of operation (coasting, cooling, heating) is determined by the PID parameter. | | | | | |
| 138 | 1 | 0-255 | 0 | 0 | FAN0_OPERATION_TABLE_COAST |
| 139 | 1 | 0-255 | 65 | 65 | FAN0_OPERATION_TABLE_COOL1 |
| 140 | 1 | 0-255 | 202 | 202 | FAN0_OPERATION_TABLE_COOL2 |
| 141 | 1 | 0-255 | 204 | 204 | FAN0_OPERATION_TABLE_COOL3 |
| 142 | 1 | 0-255 | 65 | 65 | FAN0_OPERATION_TABLE_HEAT1 |
| 143 | 1 | 0-255 | 210 | 210 | FAN0_OPERATION_TABLE_HEAT2 |
| 144 | 1 | 0-255 | 212 | 212 | FAN0_OPERATION_TABLE_HEAT3 |
| 145 | 1 | 0-255 | 1 | 1 | FAN1_OPERATION_TABLE_COAST |
| 146 | 1 | 0-255 | 65 | 65 | FAN1_OPERATION_TABLE_COOL1 |
| 147 | 1 | 0-255 | 201 | 201 | FAN1_OPERATION_TABLE_COOL2 |
| 148 | 1 | 0-255 | 201 | 201 | FAN1_OPERATION_TABLE_COOL3 |
| 149 | 1 | 0-255 | 65 | 65 | FAN1_OPERATION_TABLE_HEAT1 |
| 150 | 1 | 0-255 | 209 | 209 | FAN1_OPERATION_TABLE_HEAT2 |
| 151 | 1 | 0-255 | 209 | 209 | FAN1_OPERATION_TABLE_HEAT3 |
| 152 | 1 | 0-255 | 2 | 2 | FAN2_OPERATION_TABLE_COAST |
| 153 | 1 | 0-255 | 66 | 66 | FAN2_OPERATION_TABLE_COOL1 |
| 154 | 1 | 0-255 | 202 | 202 | FAN2_OPERATION_TABLE_COOL2 |
| 155 | 1 | 0-255 | 202 | 202 | FAN2_OPERATION_TABLE_COOL3 |
| 156 | 1 | 0-255 | 66 | 66 | FAN2_OPERATION_TABLE_HEAT1 |
| 157 | 1 | 0-255 | 210 | 210 | FAN2_OPERATION_TABLE_HEAT2 |
| 158 | 1 | 0-255 | 210 | 210 | FAN2_OPERATION_TABLE_HEAT3 |
| | | | | | |
| 159 | 1 | 0-255 | 4 | 4 | FAN3_OPERATION_TABLE_COAST |
| 160 | 1 | 0-255 | 68 | 68 | FAN3_OPERATION_TABLE_COOL1 |
| 161 | 1 | 0-255 | 204 | 204 | FAN3_OPERATION_TABLE_COOL2 |

| Address | Bytes | Range | Defaults | | Register and Description |
|---|---|---|---|---|---|
| | | | °C | °F | |
| 162 | 1 | 0-255 | 204 | 204 | FAN3_OPERATION_TABLE_COOL3 |
| 163 | 1 | 0-255 | 68 | 68 | FAN3_OPERATION_TABLE_HEAT1 |
| 164 | 1 | 0-255 | 212 | 212 | FAN3_OPERATION_TABLE_HEAT2 |
| 165 | 1 | 0-255 | 212 | 212 | FAN3_OPERATION_TABLE_HEAT3 |
| 166 | 1 | 0-255 | 0 | 0 | FANAUT_OPERATION_TABLE_COAST |
| 167 | 1 | 0-255 | 65 | 65 | FANAUT_OPERATION_TABLE_COOL1 |
| 168 | 1 | 0-255 | 202 | 202 | FANAUT_OPERATION_TABLE_COOL2 |
| 169 | 1 | 0-255 | 204 | 204 | FANAUT_OPERATION_TABLE_COOL3 |
| 170 | 1 | 0-255 | 65 | 65 | FANAUT_OPERATION_TABLE_HEAT1 |
| 171 | 1 | 0-255 | 210 | 210 | FANAUT_OPERATION_TABLE_HEAT2 |
| 172 | 1 | 0-255 | 212 | 212 | FANAUT_OPERATION_TABLE_HEAT3 |
| | | | | | |
| Analog Output Tables (bit0,1 = analog out1, bit2, 3 = analog out2, 00 = 0%, 01 = 0-100%, 11 = 100%) | | | | | |
| 173 | 1 | 0-255 | 0 | 0 | VALVE_OPER_TABLE_COAST, Analog output state for each of the 8 modes of operation |
| 174 | 1 | 0-255 | 1 | 1 | VALVE_OPER_TABLE_COOLING1 |
| 175 | 1 | 0-255 | 3 | 3 | VALVE_OPER_TABLE_COOLING2 |
| 176 | 1 | 0-255 | 3 | 3 | VALVE_OPER_TABLE_COOLING3 |
| 177 | 1 | 0-255 | 4 | 4 | VALVE_OPER_TABLE_HEATING1 |
| 178 | 1 | 0-255 | 4 | 4 | VALVE_OPER_TABLE_HEATING2 |
| 179 | 1 | 0-255 | 12 | 12 | VALVE_OPER_TABLE_HEATING3 |
| | | | | | |
| 180 | 2 | 0-65535 | - | - | External Sensor 1 - Filtered, calibrated value for analog in 1 |
| 181 | 2 | 0-65535 | - | - | External Sensor 2 - Filtered, calibrated value for analog in 2 |
| 182 | 1 | 0-255 | 15 | 65 | Night heating setpoint |
| 183 | 1 | 0-255 | 30 | 80 | Night cooling setpoint |
| 184 | 1 | 0-255 | 1 | 1 | Bit 0 is read/write and shows the occupancy mode. Bit 0 = 0 means unoccupied. Bit 0 = 1 means occupied. Bit 1 is read only and shows the reset state. Bit 1 = 0 means hardware restart. Bit 1 = 1 means software restart. Bit 2 is read/write and is the reset prevention bit. Bit 2 = 0 means the tstat will automatically reset after certain registers are changed. Bit 2 = 1 prevents this reset. Changing this bit from 1 to 0 will trigger a reset. Bit 3 is the state of the digital input. Bit 3 = 1 means logic high. Bit 3 = 0 means logic low. Bit 4,5: Reserved, used for some non standard occupancy sensor logic. Bit6 0=no delay on modbus reply, 1= 10ms delay before send for slower PLC's to switch from TX to RX. Bit7, RS485/wireless communications mode: The normal communications method is a bus topology using RS485 which uses a 'transmit enable' or TX_EN line on the RS485 hardware whenever transmission from the thermostat to the bus takes place. For wireless devices this is typically taken care of by the radio module itself so it is not needed. Default = 0, When bit7 is 0, the RS485 chip, TX_EN line is used for normal RS485 bus communications. When bit7 is 1, the TX_EN line is not used, allowing the radio module to communicate one-to-one with the Tstat |
| 185 | 1 | 0-1 | 1 | 1 | BAu - Baudrate |
| 186 | 1 | 0-4 | 0 | 0 | Ou1 - Output1 Scale - 0=On/Off, 1=0-10V, 2=0-5V, 3=2-10V, 4= 10-0V |
| 187 | 1 | 0-4 | 0 | 0 | Ou2 - Output2 Scale - 0=On/Off, 1=0-10V, 2=0-5V, 3=2-10V, 4= 10-0V |
| 188 | 1 | 0-4 | 1 | 1 | AI1 – Analog input 1 range 0=10-bit raw data, 1=10K thermistor, 2=0-100%, 3 = on/off, 4= custom |
| 189 | 1 | 0-4 | 0 | 0 | AI2 – Analog input 2 range 0=10-bit raw data, 1=10K thermistor, 2=0-100%, 3 = on/off, 4= custom |
| 190 | 1 | 0-0 | 0 | 0 | dI1 – Digital input 1 range 0 = ON/OFF. |
| | | | | | |
| 191 | 1 | 0-255 | 0 | 0 | OUTPUT1_DELAY_OFF_TO_ON – delay time for output1 going from OFF to ON (sec) |
| 192 | 1 | 0-255 | 0 | 0 | OUTPUT2_DELAY_OFF_TO_ON – delay time for output2 going from OFF to ON (sec) |
| 193 | 1 | 0-255 | 0 | 0 | OUTPUT3_DELAY_OFF_TO_ON – delay time for output3 going from OFF to ON (sec) |
| 194 | 1 | 0-255 | 0 | 0 | OUTPUT4_DELAY_OFF_TO_ON – delay time for output4 going from OFF to ON (sec) |
| 195 | 1 | 0-255 | 0 | 0 | OUTPUT5_DELAY_OFF_TO_ON – delay time for output5 going from OFF to ON (sec) |
| 196 | 1 | 0-255 | 0 | 0 | OUTPUT1_DELAY_ON_TO_OFF – delay time for output1 going from OFF to ON (sec) |
| 197 | 1 | 0-255 | 0 | 0 | OUTPUT2_DELAY_ON_TO_OFF – delay time for output2 going from OFF to ON (sec) |

| | | | | | |
|---|---|---|---|---|---|
| 198 | 1 | 0-255 | 0 | 0 | |
| 199 | 1 | 0-255 | 0 | 0 | |
| 200 | 1 | 0-255 | 0 | 0 | |
| 201 | 1 | 0-20 | 0 | 0 | MODBUS_CYCLING_DELAY – delay time (in minutes) for switching out of heating or cooling and then back in. |
| 202 | 1 | 0-200 | 0 | 0 | MODBUS_CHANGOVER_DELAY – delay time (in minutes) for switching from cooling into heating or vice versa. |
| 203 | 1 | 0-6 | 0 | 0 | dIS – Display. This sets the display to either room temperature or setpoint. 0 = room temp, 1 = setpoint, 2 = Blank Display, 3 = PID2 value, 4 = PID2 setpoint, 5 = set segment code by manually, 6 = Display sleep |
| | | | | | LED TABLE<br>Determines what activates<br>the LEDs |
| 204 | 1 | 0-24 | 3 | 3 | LED1 (top left to bottom right) |
| 205 | 1 | 0-24 | 2 | 2 | LED2 |
| 206 | 1 | 0-24 | 1 | 1 | LED3 |
| 207 | 1 | 0-24 | 15 | 15 | LED4 |
| 208 | 1 | 0-24 | 13 | 13 | LED5 |
| 209 | 1 | 0-24 | 14 | 14 | LED6 |
| 210 | 1 | 0-24 | 19 | 19 | LED7 |
| | | | | | 0 = NONE<br>1 = RELAY1<br>2 = RELAY2<br>3 = RELAY3<br>4 = RELAY4<br>5 = RELAY5<br>6 = COASTING STAGE<br>7 = COOLING1 STAGE<br>8 = COOLING2 STAGE<br>9 = COOLING3 STAGE<br>10 = HEATING1 STAGE<br>11 = HEATING2 STAGE<br>12 = HEATING3 STAGE<br>13 = COOLING MODE |
| | | | | | 14 = HEATING MODE<br>15 = FAN OFF<br>16 = FAN LOW<br>17 = FAN MED<br>18 = FAN HI<br>19 = FAN AUTO<br>20 = HEAT1 OR COOL1<br>21 = HEAT2 OR COOL2<br>22 = HEAT3 OR COOL3<br>23 = COOL1,2, OR 3<br>24 = HEAT1, 2, OR 3<br>25 = OCCUPANCY<br>26 = STAGE 1,2 OR 3<br>27 = STAGE 2 OR 3 |
| 211 | 1 | 0-255 | 0 | 0 | Unoccupied Override Timer, Ort. 0=disabled, not 0=number of minutes manual override is allowed |
| 212 | 1 | 0-255 | - | - | OVERRIDE_TIMER_DOWN_COUNT - Number of minutes remaining on the timer when unoccupied override timer is in effect. |
| 213 | 1 | 0-100 | 20 | 20 | Temperature sensor filter, FIL, weighted average of stored value to new raw value |
| 214 | 1 | 0-5 | 0 | 0 | Heating cooling mode configuration, HC, 0=PID, 1=Keypad, 2=Digital_in1, 3=!Digital_in1, 4=Analog_in1, 5=Analog_in2 |
| 215 | 2 | 0-3000 | - | - | Internal Temperature Sensor IC - Shows the filtered, calibrated value of the internal temperature sensor IC |
| 216 | 2 | 0-3000 | - | - | Internal Thermistor Sensor - Shows the filtered, calibrated value of the internal thermistor sensor |
| 217 | 2 | 0-1000 | 500 | 500 | Calibration Internal Thermistor - Calibration value used on the internal thermistor |
| 218 | 2 | 0-1000 | 500 | 500 | Calibration Analog Input2 - Calibration value used on the analog input 2 |
| | | | | | |
| 219 | 2 | 0-65535 | - | - | Lookup Table 1 - 0.0V value Sensor value that corresponds to 0.0V |
| 220 | 2 | 0-65535 | - | - | Lookup Table 1 - 0.5V value Sensor value that corresponds to 0.5V |
| 221 | 2 | 0-65535 | - | - | Lookup Table 1 - 1.0V value Sensor value that corresponds to 1.0V |
| 222 | 2 | 0-65535 | - | - | Lookup Table 1 - 1.5V value Sensor value that corresponds to 1.5V |
| 223 | 2 | 0-65535 | - | - | Lookup Table 1 - 2.0V value Sensor value that corresponds to 2.0V |
| 224 | 2 | 0-65535 | - | - | Lookup Table 1 - 2.5V value Sensor value that corresponds to 2.5V |
| 225 | 2 | 0-65535 | - | - | Lookup Table 1 - 3.0V value Sensor value that corresponds to 3.0V |
| 226 | 2 | 0-65535 | - | - | Lookup Table 1 - 3.5V value Sensor value that corresponds to 3.5V |
| 227 | 2 | 0-65535 | - | - | Lookup Table 1 - 4.0V value Sensor value that corresponds to 4.0V |
| 228 | 2 | 0-65535 | - | - | Lookup Table 1 - 4.5V value Sensor value that corresponds to 4.5V |
| 229 | 2 | 0-65535 | - | - | Lookup Table 1 - 5.0V value Sensor value that corresponds to 5.0V |
| | | | | | |
| 230 | 2 | 0-65535 | - | - | Lookup Table 2 - 0.0V value Sensor value that corresponds to 0.0V |
| 231 | 2 | 0-65535 | - | - | Lookup Table 2 - 0.5V value Sensor value that corresponds to 0.5V |
| 232 | 2 | 0-65535 | - | - | Lookup Table 2 - 1.0V value Sensor value that corresponds to 1.0V |
| 233 | 2 | 0-65535 | - | - | Lookup Table 2 - 1.5V value Sensor value that corresponds to 1.5V |
| 234 | 2 | 0-65535 | - | - | Lookup Table 2 - 2.0V value Sensor value that corresponds to 2.0V |
| 235 | 2 | 0-65535 | - | - | Lookup Table 2 - 2.5V value Sensor value that corresponds to 2.5V |
| 236 | 2 | 0-65535 | - | - | Lookup Table 2 - 3.0V value Sensor value that corresponds to 3.0V |
| 237 | 2 | 0-65535 | - | - | Lookup Table 2 - 3.5V value Sensor value that corresponds to 3.5V |
| 238 | 2 | 0-65535 | - | - | Lookup Table 2 - 4.0V value Sensor value that corresponds to 4.0V |
| 239 | 2 | 0-65535 | - | - | Lookup Table 2 - 4.5V value Sensor value that corresponds to 4.5V |
| 240 | 2 | 0-65535 | - | - | Lookup Table 2 - 5.0V value Sensor value that corresponds to 5.0V |
| | | | | | |
| 241 | 2 | 0-2 | - | - | Universal PID input select, 0=none, 1=analog_in1, 2=analog_in2 |
| 242 | 2 | 0-65535 | - | - | Universal PID upper deadband |
| 243 | 2 | 0-65535 | - | - | Universal PID lower deadband |
| 244 | 2 | 0-65535 | - | - | Universal PID pterm |
| 245 | 2 | 0-65535 | - | - | Universal PID iterm |
| 246 | 2 | 0-65535 | - | - | Universal PID setpoint |
| | | | | | |
| 247 | 1 | 0-3 | - | - | Output 1 PID Control 0 = PID1 |
| 248 | 1 | 0-3 | - | - | Output 2 PID Control 1 = PID2 |
| 249 | 1 | 0-3 | - | - | Output 3 PID Control 2 = Maximum of PID1 and PID2 |

| | | | | | |
|---|---|---|---|---|---|
| 250 | 1 | 0-3 | - | - | Output 4 PID Control 3 = Minimum of PID1 and PID2 |
| 251 | 1 | 0-3 | - | - | Output 5 PID Control |
| 252 | 1 | 0-3 | - | - | Output 6 PID Control |
| 253 | 1 | 0-3 | - | - | Output 7 PID Control |
| | | | | | |
| 254 | 1 | 0-255 | - | - | Universal PID Output - Coasting |
| 255 | 1 | 0-255 | - | - | Universal PID Output - Cooling1 |
| 256 | 1 | 0-255 | - | - | Universal PID Output - Cooling2 |
| 257 | 1 | 0-255 | - | - | Universal PID Output - Cooling3 |
| 258 | 1 | 0-255 | - | - | Universal PID Output - Heating1 |
| 259 | 1 | 0-255 | - | - | Universal PID Output - Heating2 |
| 260 | 1 | 0-255 | - | - | Universal PID Output - Heating3 |
| | | | | | |
| Analog Output Tables (bit0, 1 = analog out1, bit2, 3 = analog out2, 00 = 0%, 01 = 0-100%, 11 = 100%) | | | | | |
| 261 | 1 | 0-255 | - | - | Universal PID Valve Output - Coasting |
| 262 | 1 | 0-255 | - | - | Universal PID Valve Output - Cooling1 |
| 263 | 1 | 0-255 | - | - | Universal PID Valve Output - Cooling2 |
| 264 | 1 | 0-255 | - | - | Universal PID Valve Output - Cooling3 |
| 265 | 1 | 0-255 | - | - | Universal PID Valve Output - Heating1 |
| 266 | 1 | 0-255 | - | - | Universal PID Valve Output - Heating2 |
| 267 | 1 | 0-255 | - | - | Universal PID Valve Output - Heating3 |
| | | | | | |
| 268 | 1 | 0-6 | 3 | 3 | Number of Heating Stages in Universal Table-(Maximum # of total heating and cooling states is 6) |
| 269 | 1 | 0-6 | 3 | 3 | Number of Cooling Stages in Universal Table-(Maximum) # of total heating and cooling states is 6) |
| 270 | 1 | 0-100 | - | - | Universal PID |
| 271 | 2 | 0-65535 | - | - | PID1 Units High byte - Upper 2 bytes of the PID1 units in ASCII |
| 272 | 2 | 0-65535 | - | - | PID1 Units Low byte - Lower 2 bytes of the PID1 units in ASCII |
| 273 | 2 | 0-65535 | - | - | PID2 Units High byte - Upper 2 bytes of the PID2 units in ASCII |
| 274 | 2 | 0-65535 | - | - | PID2 Units Low byte - Lower 2 bytes of the PID2 units in ASCII |
| 275 | 2 | 0-65535 | - | - | Universal Night Setpoint |
| 276 | 1 | 0-6 | 3 | 3 | Number of Heating Stages in Original Table - (Maximum # of total heating and cooling states is 6) |
| 277 | 1 | 0-6 | 3 | 3 | Number of Cooling Stages in Original Table - (Maximum # of total heating and cooling states is 6) |
| 278 | 1 | 0-19 | - | - | PID2 heating or cooling state. 0=coasting, 1=cooling1, 2=cooling2, 3=cooling3, 4=heating1, 5=heating2, 6=heating3, 14=cooling4, 15=cooling5, 16=cooling6, 17=heating4, 18=heating5, 19=heating6. |
| 279 | 1 | 10-255 | - | - | Valve travel time. The time of the valve travel from one end to another end. The units is sencond. |
| 280 | 1 | 0 | 0 | 0 | Determine the output1 mode. Output1 always is ON/OFF mode |
| 281 | 1 | 0 | 0 | 0 | Determine the output2 mode. Output2 always is ON/OFF mode |
| 282 | 1 | 0 | 0 | 0 | Determine the output3 mode. Output3 always is ON/OFF mode |
| 283 | 1 | 0-1 | 0 | 0 | Determine the output4 mode. 0, ON/OFF mode; 1, floating valve for cooling; 2, lighting control; 3, PWM |
| 284 | 1 | 0-1 | 0 | 0 | Determine the output5 mode. 0, ON/OFF mode; 1, floating valve for heating; 2, lighting control; 3, PWM |
| 285 | 1 | 0-100 | - | - | Valve percent. Show the valve opened how much percent. READ ONLY |
| | | | | | |
| Interlock for each output, analog and digital output. 0, interlock always ON; 1, DI1 determine the interlock status; 2, AI1 determine the interlock status, the range of AI1 must be ON/OFF; 3, AI2 determine the interlock status, the range of AI2 must be ON/OFF; 4, TIMER OR, the output OR with the period timer; 5, TIMER AND, the output AND with the period timer. | | | | | |
| 286 | 1 | 0-5 | 0 | 0 | Interlock for output1 |
| 287 | 1 | 0-5 | 0 | 0 | Interlock for output2 |
| 288 | 1 | 0-5 | 0 | 0 | Interlock for output3 |
| 289 | 1 | 0-5 | 0 | 0 | Interlock for output4 |
| 290 | 1 | 0-5 | 0 | 0 | Interlock for output5 |
| 291 | 1 | 0-5 | 0 | 0 | Interlock for output6 |
| 292 | 1 | 0-5 | 0 | 0 | Interlock for output7 |
| | | | | | |
| 293 | 1 | 1-10 | 10 | 10 | Setpoint increment. The value is expanded 10 times, the increment is from 0.1 to 1. |
| 294 | 2 | 0-65535 | 0 | 0 | Last key pressed counter. Hong long time past since the last key pressed. Reset if any key is pressed. The units is minute. |
| 295 | 1 | 0-255 | 5 | 40 | Freeze protect setpoint. If the ambient temperature less than the setpoint, the heating valve will open some time the Delay to off register set . |
| 296 | 1 | 5-255 | 10 | 10 | Delay to open. The heating valve will open if the ambient temp less than the Freeze temp setpoint last the time this register set .The units is second. |
| 297 | 1 | 5-255 | 30 | 30 | Delay to close. The duration the heating valve open. The units is minute. |
| 298 | 1 | 0-5 | 0 | 0 | Analog input1 function selection. 0, normal; 1, freeze protect sensor input; 2, occupancy sensor input; 3, sweep off mode; 4, clock mode; 5, change over mode. Refer to dI1 on page13. |

| | | | | | |
|---|---|---|---|---|---|
| 299 | 1 | 0-5 | 0 | 0 | Analog input2 function selection. 0, normal; 1, freeze protect sensor input; 2, occupancy sensor input; 3, sweep off mode; 4, clock mode; 5, change over mode. Refer to dI1 on page13. |
| 300 | 1 | 0-5 | 0 | 0 | dI1 – Digital input 1 function. Refer to dI1 description in Table 1: Advanced Menu Items |
| 301 | 2 | 0-65535 | 0 | 0 | Period timer ON time. |
| 302 | 2 | 0-65535 | 0 | 0 | Period timer OFF time. |
| 303 | 1 | 0-2 | 1 | 1 | Period timer units. 0, second; 1, minute; 2, hour. |
| | | | | | |
| 304 | 1 | 0-255 | - | - | Keypad encode value. The reverse value read from P0 port when some key is pressed. READ ONLY |
| 305 | 1 | 0-255 | - | - | LED hundred's segment code. Drive the LEDs by manually, the register 203 (display) must be set 5. |
| 306 | 1 | 0-255 | - | - | LED ten's segment code. Drive the LEDs by manually, the register 203 (display) must be set 5. |
| 307 | 1 | 0-255 | - | - | LED digital's segment code. Drive the LEDs by manually, the register 203 (display) must be set 5. |
| 308 | 1 | 0-255 | - | - | LED status's segment code. Drive the LEDs by manually, the register 203 (display) must be set 5. |
| 309 | 1 | 0-255 | 0 | 0 | Input auto/ manual enable. Bit0 correspond to analog input1 (register 180); bit1 to analog input2 (register 181); bit2 to digital input1 (register 311). 0, auto mode, the corresponding input value from sensor; 1, manual mode, the corresponding value from serial port. |
| 310 | 1 | 0-255 | 0 | 0 | Output auto/manual enable. Bit 0 to 4 correspond to output1 to output5, bit 5 correspond to output6 (register 102), bit 6 correspond to output7 (register 103). 0, auto mode; 1, manual mode. |
| 311 | 1 | 0-1 | 1 | 1 | Digital manual input. Write the manual value for digital input when digital input in manual mode. |
| 312 | 1 | 0-1 | 0 | 0 | Output1 manual input. |
| 313 | 1 | 0-1 | 0 | 0 | Output2 manual input. |
| 314 | 1 | 0-1 | 0 | 0 | Output3 manual input. |
| 315 | 1 | 0-1 | 0 | 0 | Output4 manual input. |
| 316 | 1 | 0-1 | 0 | 0 | Output5 manual input. |
| | | | | | |
| 317 | 1 | 0-255 | 0 | 0 | Dead master. The Tstat will go to occupied mode automatically after the time set in the register no serial communication since power on. 0, disable the function. the units is minute. |
| 318 | 1 | 0-5 | 1 | 1 | Rouding display. 0, round the display to digit; 1, round the display to the nearest 1/10 unit; 5, round the display to the nearest 1/2 unit. 2, 3, 4 reserved. |
| 319 | 1 | 0-1 | 0 | 0 | Timer selection. 0. Period timer; 1, Rotation timer. |
| 320 | 1 | 0-255 | 0 | 0 | Rotation flag group. Put the corresponding output into rotation group by setting the corresponding bit. bit 0 correspond to output2; bit1 correspond to output3; bit2 correspond to output4; bit3 correspond to output5. 0, not put into rotation group; 1, put into rotation group. The rotation group at least has two items and they must be consecutive. |
| 321 | 1 | 1-4 | - | - | The output 2 is controlled by which output table in the rotation group. READ ONLY. |
| 322 | 1 | 1-4 | - | - | The output 3 is controlled by which output table in the rotation group. READ ONLY. |
| 323 | 1 | 1-4 | - | - | The output 4 is controlled by which output table in the rotation group. READ ONLY. |
| 324 | 1 | 1-4 | - | - | The output 5 is controlled by which output table in the rotation group. READ ONLY. |
| 325 | 1 | 0-65535 | - | - | Rotation time left. Hong long time left the rotation will happen. READ ONLY. |
| 326 | 1 | 0-1 | - | - | Show the size of E2 chip. 0 = 24c02, 1 = 24c08/24c16. |
| 327 | 1 | 0-3 | 0 | 0 | Assign the timer be used for which feature. 0 = period timer, 1 = rotation timer, 2 = interlock, 3 = PWM timer. |
| 328 | 1 | 0-2 | 0 | 0 | The output1 function, there are three functions for the output1. 0 = normal ON/OFF output, 1 = rotation , 2 = lighting control. |
| 329 | 1 | 2-5 | - | - | Show which output table is using for this output when this output function be set rotation |
| 330 | 1 | 2-5 | - | - | Show which output table is using for this output when this output function be set rotation |
| 331 | 1 | 2-5 | - | - | Show which output table is using for this output when this output function be set rotation |
| 332 | 1 | 2-5 | - | - | Show which output table is using for this output when this output function be set rotation |
| 333 | 2 | 0-65535 | - | - | How much time left before rotation action. |
| 334 | 1 | 0-2 | 0 | 0 | The output2 function, there are three functions for the output2 .0 = normal ON/OFF output, 1 = rotation , 2 = lighting control. |
| 335 | 1 | 0-2 | 0 | 0 | The output3 function, there are three functions for the output3. 0 = normal ON/OFF output, 1 = rotation , 2 = lighting control. |
| 336 | 1 | 0-2 | 0 | 0 | The output4 function, there are three functions for the output4. 0 = normal ON/OFF output, 1 = rotation , 2 = lighting control. |
| 337 | 1 | 0-2 | 0 | 0 | The output5 function, there are three functions for the output5. 0 = normal ON/OFF output, 1 = rotation , 2 = lighting control. |
| 338 | 1 | 0-255 | 20 | 68 | Default occupied setpoint. Works in concert with the "occupied setpoint control register", register 339 |
| 339 | 1 | 0-2 | 0 | 0 | Occupied Setpoint Control Register: 0 = normal, setpoint is managed by the serial port and keypad, the stat will remember the last occupied setpoint and use that during the next occupied period. 1 = Default mode, the last occupied setpoint if forgotten and the occupied setpoint gets reset to the default. 2 = trigger an event, when a master controller writes 2 to this register, the default setpoint will be copied to the occupied setpoint after which the Tstat will set the value back to 1 to show the event has been serviced. |

| | | | | | |
|---|---|---|---|---|---|
| 340 | 1 | 0-1 | 0 | 0 | Enable/disable PIR correspond 1/0 respectively. |
| 341 | 1 | 0-255 | 0 | 0 | PWM output range in COAST mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 342 | 1 | 0-255 | 64 | 64 | PWM output range in COOLING2 mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 343 | 1 | 0-255 | 38 | 38 | PWM output range in COOLING3 mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 344 | 1 | 0-255 | 16 | 16 | PWM output range in COOLING1 mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 345 | 1 | 0-255 | 4 | 4 | PWM output range in HEATING1 mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 346 | 1 | 0-255 | 3 | 3 | PWM output range in HEATING2 mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 347 | 1 | 0-255 | 1 | 1 | PWM output range in HEATING3 mode. 0 = CLOSE, 1 = OPEN, 2 = 0-100%,3 = 50-100%,4 = 0-50%. MSb 4 bits correspond to output4 and LSB 4 bits correspond to output5 |
| 348 | 1 | 0-100 | - | - | The ON period take how many percentage for output4 |
| 349 | 1 | 0-100 | - | - | The ON period take how many percentage for output5 |
| 350 | 1 | 0-255 | 0 | 0 | Free cooling configuration. bit0, free cool enable/disable, 0 = disable, 1= enable. bit1, free cool available decided by local or external master. 0 = local, 1 = NC. bit2, free cool available status, 0 = npt available, 1= available. bit4, show the status if NC is OK when the free cool decided by NC. |
| | | | | | Analog Output Tables (bit0, 1 =analog out1, bit2, 3=analog out2, 00=0%, 01=0-100%, 11=100%) |
| 351 | 1 | 0-255 | 0 | 0 | Analog output OFF table, coasting mode |
| 352 | 1 | 0-255 | 0 | 0 | Analog output OFF table, cooling1 mode |
| 353 | 1 | 0-255 | 0 | 0 | Analog output OFF table, cooling2 mode |
| 354 | 1 | 0-255 | 0 | 0 | Analog output OFF table, cooling3 mode |
| 355 | 1 | 0-255 | 0 | 0 | Analog output OFF table, heating1 mode |
| 356 | 1 | 0-255 | 0 | 0 | Analog output OFF table, heating2 mode |
| 357 | 1 | 0-255 | 0 | 0 | Analog output OFF table, heating3 mode |
| 358 | 1 | 0-255 | 0 | 0 | Register lock.All registers except fan speed and manual inputs/outputs register are not writable. 0 = lock,1 = no lock. |
| 359 | 1 | 0-255 | 0 | 0 | Outside temperature for free cooling,from external sensor or NC. |
| 360 | 2 | 0-255 | 0 | 0 | If outside temp be set from NC.The communication with NC must be set in this time,otherwise will set error status and use external sensor. |
| 361 | 1 | 0-255 | 0 | 0 | If the outside air temp is lower than the room temeprature by this amount, then the free cooling is worthwhile, 350 bit2 = 1.If the OAT is greater than the room temp, then free cooling mode is not worhtwhile. , 350 bit2 = 0 |
| | | | | | Output table in free cooling mode,0 = 0%, 1 = 100%,2 = MIN->100%,3 = MIN\|100%,4 = MIN.Bit7 through 4 correspond to OFF table,bit 3 through 0 correspond to ON table. |
| 362 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.Coasting mode |
| 363 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.Cooling1 mode |

| | | | | | |
|---|---|---|---|---|---|
| 364 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.Cooling2 mode |
| 365 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.Cooling3 mode |
| 366 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.Heating1 mode |
| 367 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.Heating2 mode |
| 368 | 1 | 0-255 | 0 | 0 | Free cooling output configuration.heating3 mode |
| 369 | 1 | 0-255 | 0 | 0 | Min Air,the units is percent.Set the minimum output for free cooling,the default is 15% |
| 370 | 1 | 0-255 | 0 | 0 | Outside air temperature in hottest day |
| 371 | 1 | 0-255 | 0 | 0 | Outside air temperature in coldest day |
| 372 | 1 | 0-255 | 0 | 0 | Offset in hottest day |
| 373 | 1 | 0-255 | 0 | 0 | Offset in coldest day |
| 374 | 2 | 0-65535 | 0 | 0 | Store setpoint in two bytes ,the resolution is 0.1 |
| 375 | 1 | 0-255 | 0 | 0 | Crrent setpoint = user setpoint + offset setpoint |
| 376 | 1 | 0-255 | 0 | 0 | Setpoint offset |
| 377 | 1 | 0-255 | 0 | 0 | Change over sensor mode,1 = cooling mode,0 = heating mode. |

The following register is for Tstat 5E.

| Address | Bytes | Range | Default | | Register and Description |
|---|---|---|---|---|---|
| 359 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = CUSTOMER, 5 = OFF/ON |
| 360 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = CUSTOMER, 5 = OFF/ON |
| 361 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = N/A, 5 = OFF/ON |
| 362 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = N/A, 5 = OFF/ON |
| 363 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = N/A, 5 = OFF/ON |
| 364 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = N/A, 5 = OFF/ON |
| 365 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = N/A, 5 = OFF/ON |
| 366 | 1 | 0-255 | 0 | 0 | ANALOG INPUT RANGE. 0 = raw data, 1 = thermistor, 2 = %, 3 = ON/OFF, 4 = N/A, 5 = OFF/ON |
| 367 | 2 | 0-255 | 0 | 0 | Analog inptu1 value |
| 368 | 2 | 0-255 | 0 | 0 | Analog inptu2 value |
| 369 | 2 | 0-255 | 0 | 0 | Analog inptu3 value |
| 370 | 2 | 0-255 | 0 | 0 | Analog inptu4 value |
| 371 | 2 | 0-255 | 0 | 0 | Analog inptu5 value |
| 372 | 2 | 0-255 | 0 | 0 | Analog inptu6 value |
| 373 | 2 | 0-255 | 0 | 0 | Analog inptu7 value |
| 374 | 2 | 0-255 | 0 | 0 | Analog inptu8 value |
| 375 | 2 | 0-255 | 0 | 0 | Calibration for analog input1 |
| 376 | 2 | 0-255 | 0 | 0 | Calibration for analog input2 |
| 377 | 2 | 0-255 | 0 | 0 | Calibration for analog input3 |
| 378 | 2 | 0-255 | 0 | 0 | Calibration for analog input4 |
| 379 | 2 | 0-255 | 0 | 0 | Calibration for analog input5 |
| 380 | 2 | 0-255 | 0 | 0 | Calibration for analog input6 |
| 381 | 2 | 0-255 | 0 | 0 | Calibration for analog input7 |
| 382 | 2 | 0-255 | 0 | 0 | Calibration for analog input8 |
| 383 | 1 | 0-255 | 0 | 0 | The first character on LCD line 1, ASCII code |
| 384 | 1 | 0-255 | 0 | 0 | The second character on LCD line 1, ASCII code |
| 385 | 1 | 0-255 | 0 | 0 | The third character on LCD line 1, ASCII code |
| 386 | 1 | 0-255 | 0 | 0 | The fourth character on LCD line 1, ASCII code |
| 387 | 1 | 0-255 | 0 | 0 | The fifth character on LCD line 1, ASCII code |
| 388 | 1 | 0-255 | 0 | 0 | The sixth character on LCD line 1, ASCII code |
| 389 | 1 | 0-255 | 0 | 0 | The seventh character on LCD line 1, ASCII code |
| 390 | 1 | 0-255 | 0 | 0 | The eighth character on LCD line 1, ASCII code |
| 391 | 1 | 0-255 | 0 | 0 | The first character on LCD line 2, ASCII code |
| 392 | 1 | 0-255 | 0 | 0 | The second character on LCD line 2, ASCII code |
| 393 | 1 | 0-255 | 0 | 0 | The third character on LCD line 2, ASCII code |
| 394 | 1 | 0-255 | 0 | 0 | The fourth character on LCD line 2, ASCII code |
| 395 | 1 | 0-255 | 0 | 0 | The fifth character on LCD line 2, ASCII code |
| 396 | 1 | 0-255 | 0 | 0 | The sixth character on LCD line 2, ASCII code |
| 397 | 1 | 0-255 | 0 | 0 | The seventh character on LCD line 2, ASCII code |
| 398 | 1 | 0-255 | 0 | 0 | The eighth character on LCD line 2, ASCII code |
| 399 | 1 | 0-255 | 0 | 0 | LCD turn off delay, 0 - 255 minutes |
| 400 | 1 | 0-255 | 0 | 0 | Select what parameter will display, 0 = nothing, 1 =temperature, 2 = setpoint, 3 through 10 correspond to input 1 through 8, 11 = mode |
| 401 | 1 | 0-255 | 0 | 0 | Select what parameter will display, 0 = nothing, 1 =temperature, 2 = setpoint, 3 through 10 correspond to input 1 through 8, 11 = mode |
| 402 | 1 | 0-255 | 0 | 0 | DAY icon control register. 0 = AUTO, 1 = turn OFF, 2 = turn ON. |
| 403 | 1 | 0-255 | 0 | 0 | NIGHT icon control register. 0 = AUTO, 1 = turn OFF, 2 = turn ON. |