

# TEMPTRON 304D OPERATION MANUAL Version 304\_D

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### **Introduction**

The TEMPTRON 304D is a stand alone 4 stage, one 0-10V-output temperature/humidity controller. One remote temperature sensor and one remote humidity sensor may be connected to the TEMPTRON 304D.

The TEMPTRON 304D will display the measured temperature and humidity on its display. It is possible to preset a set point for each relay output and 0-10V output.

### **Program**

Your unit has been designed to run 3 groups of fans, the first fan group working on a minimum ventilation mode. One cooling system may be connected to the unit that will run on an on off mode as programmed by the user.

### **Installation**

Carefully unscrew the four screws on the front panel and carefully remove the cover. Disconnect the flat cable, which connects the base and the front panel. Pay attention to the connection polarity before reconnecting it.

Connect 220V supply and ground to the unit's power input.

Connect the enclosed temperature sensor to the unit's temperature sensor input. The sensor may be connected up to 100 meters away from the main unit with an ordinary two conductors cable. The sensor polarity is not important.

Connect the fan group that is to be used for minimum ventilation to relay out 1.  
 Connect the other two fan groups to relay out 2 & 3.  
 Connect the cooling system to relay out 4.

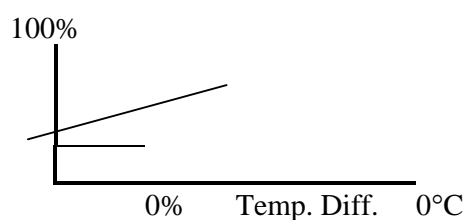
A 0-10V-humidity sensor may be connected to the system. A 13 Volt 50 mA supply is given to the humidity sensor. All relay outputs have a dry change over contacts 220V/2 AMP. (See diagram for connection).

Close the front panel with the four screws.

## OPERATION

Connect the **TEMPTRON 304** to the main power. The unit will calibrate the connected temperature/humidity sensors. It will show "---", after approx. 20 seconds it will display the measured temperature or humidity on its display. If both, temperature and humidity sensor are connected and programmed to the TEMPTRON 304, the unit will display the measured temperature for a few seconds and then the measured humidity in intervals.

The **TEMPTRON 304** will activate its relay according to its 4 preset set points. It is possible to display each set point. It is possible to set a temperature and a temperature difference for the 0-10V out put. The min. Pos. is set on 0-100%.



## Set Points

### Set 1 / Fan 1

Press on the "+" button once. The set 1 / LED will light up and display its value. This is the set point for fan group one. This is the fan group that will be used for minimum ventilation.

This value is set as an **absolute** temperature. As long as the house temperature is less than this setting the unit will run the first fan group in the minimum ventilation mode (see on time/off time for fan 1).

Once the house temperature rises to the set point for fan 1, the fan group will run non-stop.

### Set 2 / Fan 2

Press on the "+" button twice. The set 2 / LED will light up and display its value. This is the set point for the second fan group.

This value is set as an **absolute** temperature.

Once the house temperature rises to the set point for fan 2, the fan group will run non-stop.

### Set 3 / Fan 3

Press on the "+" button three times. The set 3 / LED will light up and display its value.

This is the set point for the third fan group.

This value is set as an **absolute** temperature.

Once the house temperature rises to the set point for fan 3, the fan group will run non-stop.

#### Set 4 / Cooling System

Press on the “+” button four times. The set 4 / LED will light up and display its value. This is the set point for the cooling system.

This value is set as an **absolute** temperature.

Once the house temperature rises to the set point for the cooling system will start to run. The system will run an on/off mode (see on time/off time cooling system).

#### On Time / Set 1 / Fan 1

Press on the “+” button five times. The set 1 and On Time LEDS will light up.

The display will show the On Time for the minimum ventilation mode.

This time is set in minutes.

#### Off Time / Set 1 / Fan 1

Press on the “+” button six times. The set 1 and Off Time LEDS will light up.

The display will show the Off Time for the minimum ventilation mode.

This time is set in minutes.

#### On Time / Set 4 / Cooling system

Press on the “+” button seven times. The set 4 and On Time LEDS will light up.

The display will show the On Time for the cooling system.

This time is set in minutes.

#### Off Time / Set 4 / Cooling system

Press on the “+” button eight times. The set 4 and Off Time LEDS will light up.

The display will show the Off Time for the cooling system.

This time is set in minutes.

#### Humidity

Press on the “+” button nine times. The Humidity LED will light up.

The display will show the humidity setting.

If the humidity reading in the house reaches this setting, the unit will automatically shut off the cooling system.

#### Minimum ventilation timer

In order to see the minimum ventilation timer countdown, follow these steps.

**A.** Press on the “+” button once. The set 1 / Fan 1 LED will light up.

**B.** Press on the Enter button once. The display will now show the minimum ventilation countdown in seconds.

#### Cooling system timer

In order to see the cooling system timer count down, follow these steps.

**A.** Press on the “+” button four times. The set 4 / cooling system LED will light up.

**B.** Press on the Enter button once. The display will now show the cooling system countdown in seconds.

If the "+" or "-" buttons are not touched over a 20 second period, the display will return to show the measured temperature/humidity.

### **Changing set points**

It is possible to change the set point for each relay.

It is possible to change the On times and Off times for the minimum ventilation and the cooling system timers.

**A.** Press on the "+" button until the desired LED lights on.

**B.** Push on **PROG**. The PROG and SET lights will flash

**C.** Press on the "+" or "-" button until you reach the desired value. (Pressing on "+" or "-" for more than a second increases the speed that the value changes on the display.)

Note that the LED light, of the set point that is being changed, is flashing

**D.** When you have reached the desired value, press the "Enter" button. The LED light will stop flashing to indicate that the new set point has been stored into the **TEMPTRON 304** memory.

### **Theory of operation**

The unit is measuring the temperature/humidity from its connected sensor, and will operate its relay according to the preset value of each set point. The hysteresis for the temperature is 0.2 degrees and 1% for the humidity. Each relay has a LED light that will indicate active relay.

**Trouble shooting**

SYMPTOM	CAUSE	SOLUTION
Display Shows: OPEN	Temp. Sensor or cable disconnected	Check wiring or replace Temp. sensor
Display shows: SHRT	Temp. Sensor or Cable shorted	Check wiring or replace Temp. Sensor
Display Black	Fuse burn out	Replace fuse 100 mA

**Connection diagram**

