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# TRION 259942-001 Owner's Manual

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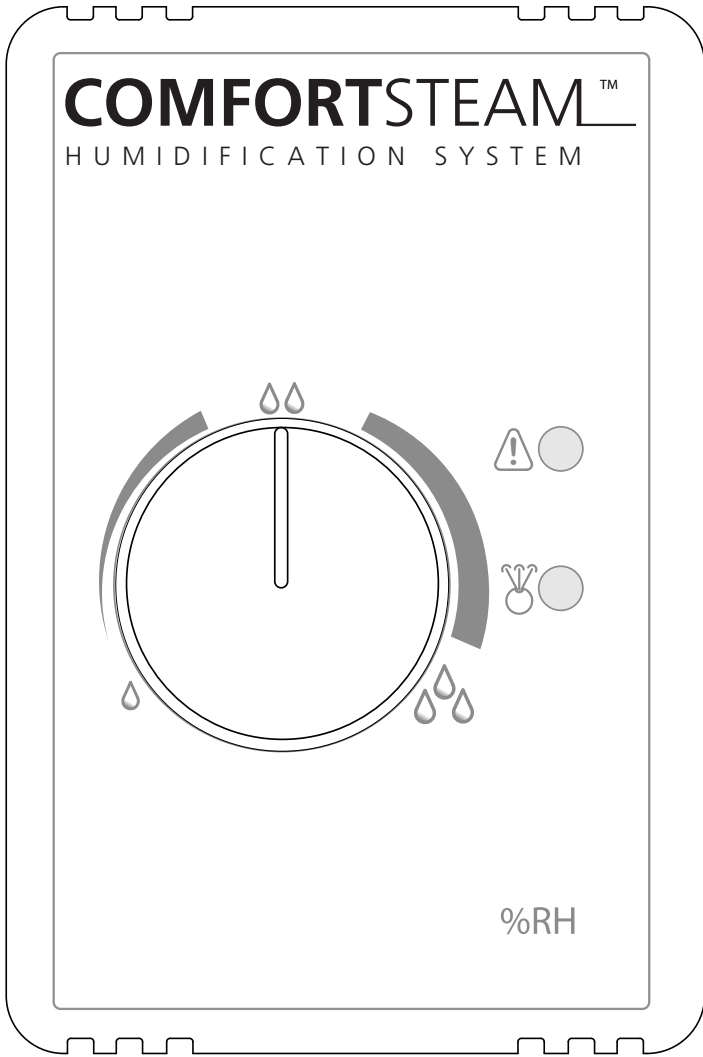


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# COMFORTSTEAM™

HUMIDIFICATION SYSTEM



# COMFORTSTEAM™ ELECTRONIC HUMIDISTAT

## Features

- State of Art digital RH sensor
- ROOM or DUCT mounting
- Reprogrammable Microcontroller
- Potentiometer Set-point setting
- Out-door temperature sensor for Set-point Reset
- Green (ON/OFF) and Red (warning) status LEDs

## Specifications

Set-point range. . . . . 20% to 50% Relative Humidity  
Accuracy. . . . .  $\pm 4.5\%$ , without calibration  
Linearity . . . . .  $\pm 1\%$  in the Set-point range  
Differential % RH. . . . .  $\pm 2\%$   
Outdoor Temp. Reset Range      between  $-9\text{ }^{\circ}\text{F}$  ( $-23\text{ }^{\circ}\text{C}$ ) to  $27\text{ }^{\circ}\text{F}$  ( $-3\text{ }^{\circ}\text{C}$ )

Outdoor reset Temperature vs.	Set point change
28 °F (-2 °C) and warmer	No change
27 °F (-3 °C) to 23 °F (-5 °C)	42% max,
22 °F (-6 °C) to 18 °F (-8 °C)	38% max,
17 °F (-9 °C) to 12 °F (-11 °C)	34% max,
11 °F (-12 °C) to 5 °F (-15 °C)	30% max,
4 °F (-16 °C) to -2 °F (-19 °C)	26% max,
-3 °F (-20 °C) to -9 °F (-23 °C)	22% max,
-9 °F (-23 °C) and colder	20% max.

NOTE: these ranges can vary by  $\pm 2\%$ .

The Outdoor Temperature sets the maximum set point of RH internally.  
If the Dial position is higher, the actual set point will be limited as above.

## Installing and Connecting the COMFORTSTEAM™ Humidistat and the Outdoor Sensor

1.1 The humidity sensor is not located at the same place in a wall mount or in a duct mount humidistat and therefore the two models of humidistats are not interchangeable. Please see [Fig.1a](#) and [Fig.1b](#).

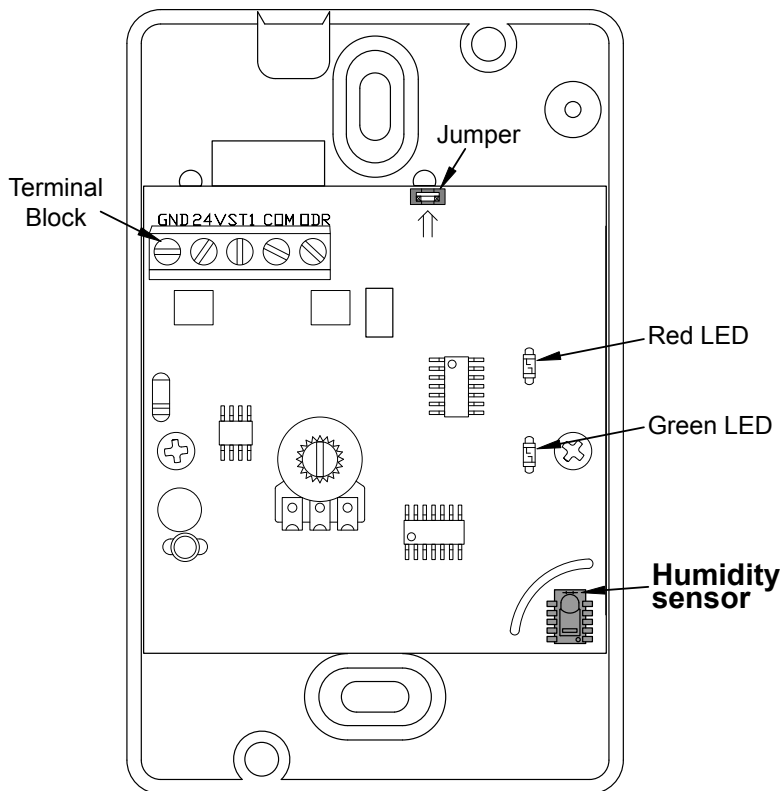


Fig. 1a Wall Mount Humidistat

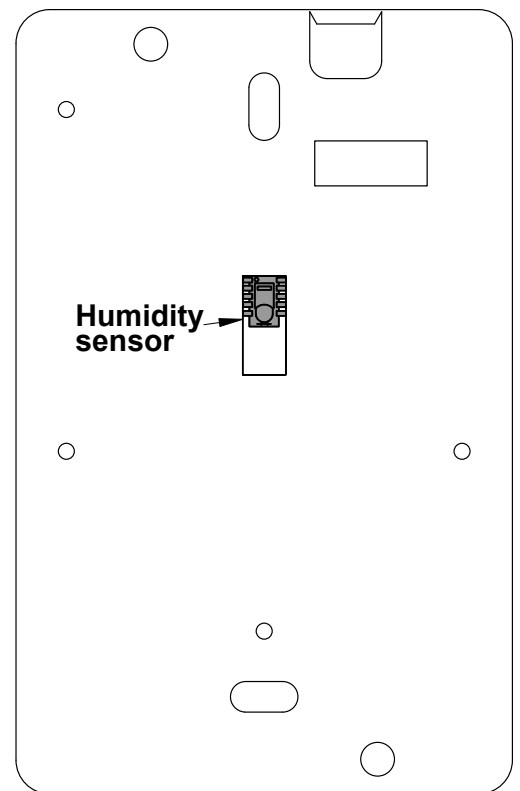


Fig. 1b Back View of a Duct Mount Humidistat

1.2 A three wire control cable (not supplied) has to be connected between the wall (or duct) electronic humidistat and the humidifier electronic board at the three terminals marked "H-STAT".

Please respect the sequence and connect

GND to GND

24V to 24V

ST1 to IN

1.3 The outdoor sensor (please see [Fig.1c](#)) is supplied with the humidistat (wall or duct mount). It ideally should be installed on an outside wall facing North. This outdoor sensor automatically reduces the setting of the humidistat according to the outdoor temperature in order to avoid condensation on windows during extremely cold days. It does the opposite during the mild days without your having to manually adjust the humidistat. The outdoor sensor is a 10 kilo-ohms NTC thermistor (negative temperature coefficient).

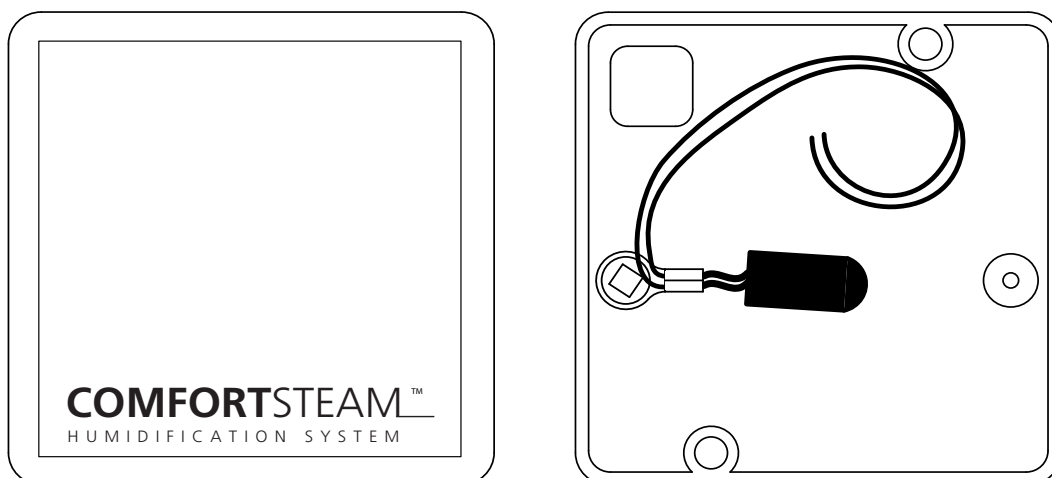
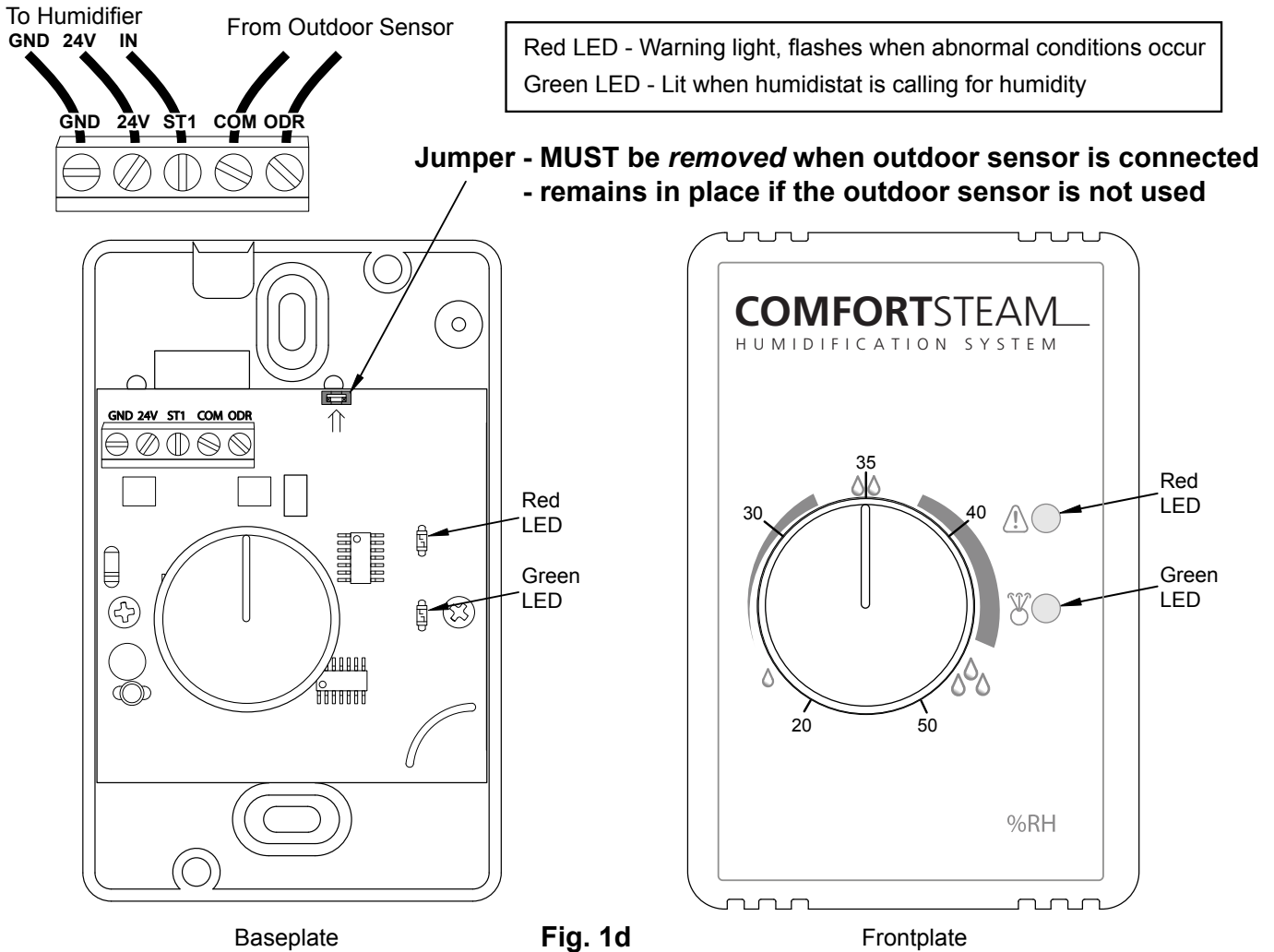


Fig. 1c

1.4 A two wire control cable is required to connect the outdoor sensor to the terminals marked **COM & ODR** on the electronic humidistat. Please see [Fig. 1d](#). The outdoor sensor is not polarized so there is no wiring polarity to follow.



**Fig. 1d**

**IMPORTANT :** Whenever an outdoor sensor is connected to the electronic humidistat, **the jumper located at the top of the electronic board must be removed so that the outdoor sensor becomes operational** (i.e. the jumper short circuits the terminals dedicated to the outdoor sensor). If the outdoor sensor is not installed, **keep the jumper in place.**

1.5 If you decide to use a duct mount humidistat, it has to be installed on the **return duct**. Please use the **drilling template printed at the end of these instructions**. This duct mounting method allows a better “average sensing” of all the air returned to the furnace, thus offering superior humidity control. However, since the humidistat has pilot lights giving information about the humidifier status, they may not be visible if the humidistat is installed in the basement.

Three holes have to be drilled in the duct, two for screws (approx. 1/8” dia.) and one for sensing (approx. 5/8” dia.). The humidity sensor is located in the rectangular opening visible at the back of the humidistat baseplate. This location will prevent potential dust accumulation on the sensor. Please see [Fig. 1b](#).

**Warning :** Before installing anything on a duct, always check that you are not about to cut or drill into an air conditioning coil or electrical accessories.

# Drilling Template for Duct Mount Humidistat

