

# Model- TFH/Hi Limit



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## Gas Pressure Switches

### Specifications

**Sensor Type:** 100K Thermistor (Dual) - Length 15 ft. Other lengths available upon request.

**Accuracy:** +/-3°F of Set Point

**Power Input:** 24 VAC, 120 VAC

**Control Operation:**

**Low Limit:** Closes on Temperature Rise

**High Limit:** Opens on Temperature Rise

**Output Ratings:**

**Low Limit:** 8 Amp SPDT Relay

**High Limit:** 8 Amp SPST Relay  
(Resistive Load)

**Adjustable Temperature Range:**

**Low Limit:** 30°F to 65°F

**High Limit:** 100°F to 220°F

**Adjustable Time Delay Range:**

1 to 8.5 Minutes

(.5 Minute Increments)

**Ambient Operating Temperature:**

-30°F to 140°F

(-35°C to 60°C)

(5 Degree Increments)

**Connections:** 1/4" Quick Connects,

6" Wire Leads (optional)

**Package:** Aluminum "C" Bracket

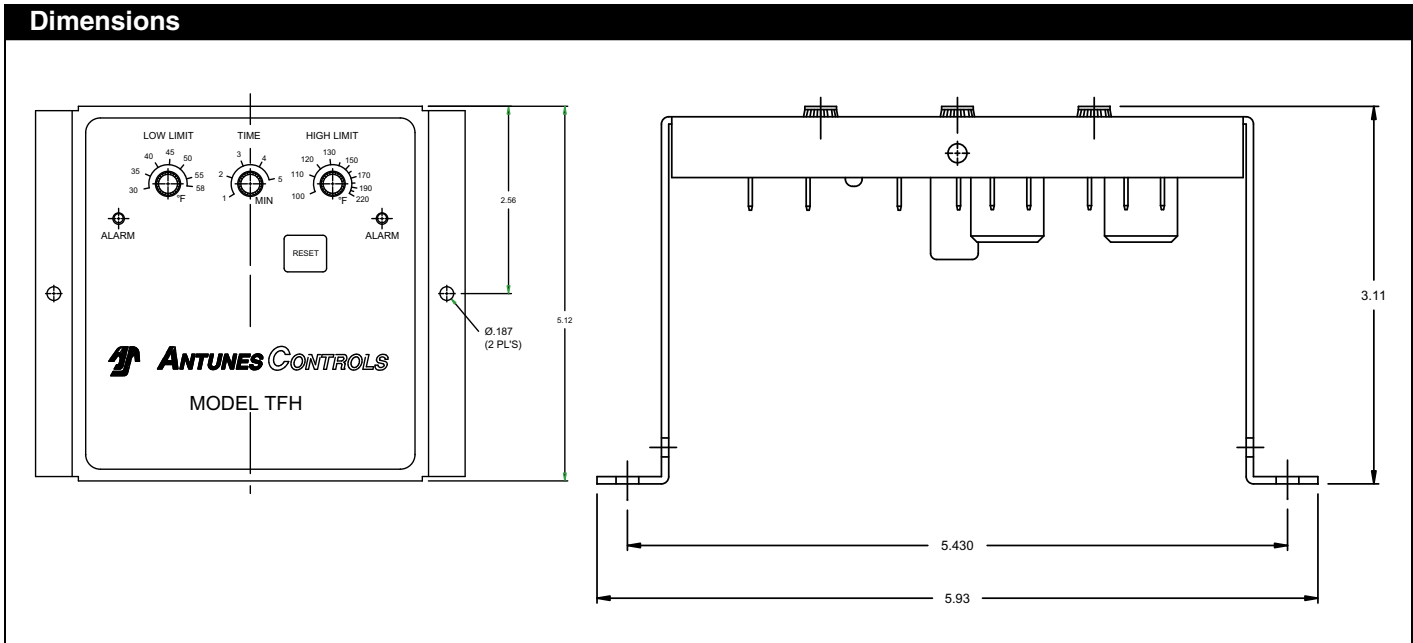
5.1" L x 5.9" W x 3.1" D

This control is compact and easily installed. Please read these instructions carefully to assure correct installation. Prior to being put into operation, check all wiring and function of unit.

Full Enclosure w/conduit knockout (optional)



This unit approved to U.L. 353 and applicable parts of U.L. 991



## Unit Operation: Low Limit / Timer

After power is applied to the TFH, the TFH checks the temperature of the Thermistor Sensor to verify that its temperature is below the Low Limit set point potentiometer. If the thermistor temperature is below the Low Limit temperature then an internal timer is reset and activated. While the timer is activated it will continuously check the thermistor to see if its temperature rises above the Low Limit temperature. If the thermistor temperature stays below the Low Limit set point for longer than the time set on the TFH's time potentiometer, then the unit's Low Limit Relay will be

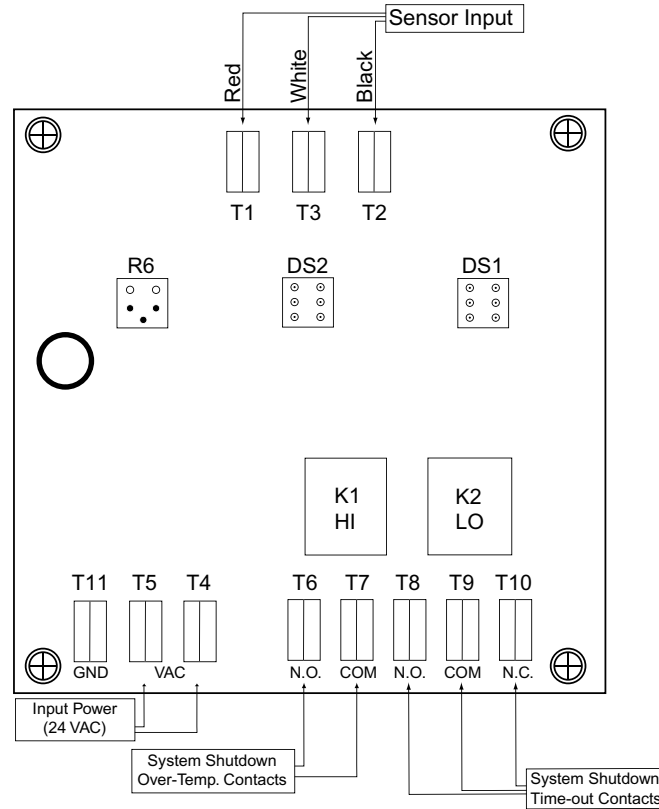
activated (energized) and latched. Note: Once the Low Limit relay has latched only the removal of input power will reset the TFH's Low Limit/timer circuitry. If the thermistor temperature rises above the Low Limit set point before the timer has "timed - out", i.e. Limit Relay activated, then the Timer is held in reset state until the thermistor temperature drops below the Low Limit set point and the timer circuit again is then re-activated. The TFH has a visual front panel indicator for when Low Limit Relay has been activated (lit). This indicator is located on the left hand side of the front panel.

## Unit Operation: High Limit

The High Limit circuitry of the TFH checks for a thermistor temperature above the High Limit set point potentiometer. If the sensor temperature rises above the High Limit potentiometer then the High Limit Relay is de-energized. This relay is normally activated (energized) when power is applied and is de-activated only if the thermistor temperature exceeds the High Limit set point potentiometer. Once the High Limit

Relay is de-activated it will stay de-activated even if the thermistor temperature drops below the High Limit set point. The High Limit Relay can only be re-activated if first the sensor temperature is below the High Limit set point and then the Reset button, on the TFH's front panel, is depressed. The de-activation of the High Limit Relay also results in the right side indicator becoming activated (lit).

## Wiring Diagram

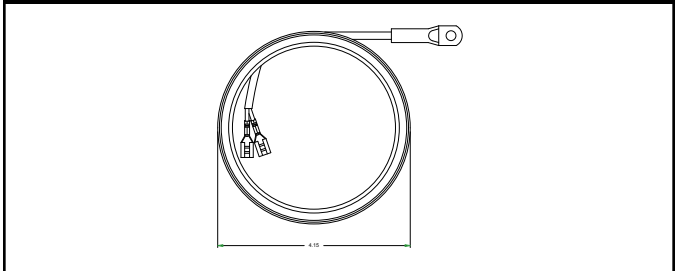


## Connections

- Thermistor Input:** T1, T2 & T3 (100K ohm @25°C)
- Power Input:** T4 & T5 (24-120 VAC)
- Low Limit Relay:** T8 (N.O.), T9 (COM) & T10 (N.C.)
- High Limit Relay:** T6 (N.O.), T7(COM)

**Installation Note:** For optimum accuracy the sensor must be mounted with a minimum of two feet of cable at the sensor lug end being exposed to the same temperature as the sensor lug.

## Sensor Cable



### Limitation of Liability

It is understood and agreed that seller's liability whether in contract, in tort, under any warranty, in negligence or otherwise shall not exceed the return of the amount of the purchase price paid by purchaser and under no circumstances shall seller be liable for special, indirect or consequential damages.

The price stated for the equipment is a consideration in limiting seller's liability. No action, regardless of form, arising out of the transactions may be brought by purchaser more than one year after the cause of action has accrued.

### Warranty

1. Antunes Controls products are guaranteed to be free from mechanical and electrical defects for a period of one year from date of shipment under normal use and service provided installation is made in accordance with manufacturers' recommendations.
2. Parts deemed defective shall be repaired or replaced at manufacturers option and at manufacturers expense but shall not include foreign or federal excise taxes, state or municipal sale or use taxes, all such taxes not limited to the foregoing being responsibility of the purchaser.
3. No charge for travel and/or mileage will be allowed to purchaser.
4. Antunes Controls reserves the right to make changes in design or make any improvements on any products. The right is always reserved to modify our equipment because of new technology, underwriter's requirements and/or government regulations.
5. The following are not covered under warranty:
  - a. Failure from neglect, abuse, careless handling and mis-application of unit.
  - b. Failure to observe guidelines for installation or improper voltage hook-up.
  - c. Failure caused by improper maintenance. (See maintenance guidelines found in operation instructions.)
  - d. Unless specifically allowed by Antunes Controls, no other charges may be included under warranty.

