

HUMIDITY/TEMPERATURE PEN:

OVERVIEW:

Temperature is a measure of the thermal energy content of a living or non-living entity. Many biological processes are affected by temperature in a profound way. As a general rule for every 10 °C rise in temperature there is a doubling of the rate of the biological process. Relative Humidity is also important to many biological and non-biological processes. It is especially important in determining the rate of evaporation from external surfaces (skin, soil, leaf surface, etc.) and from respiratory surfaces (lungs). Relative humidity is expressed as a percentage. Relative humidity (R.H.) represents the amount of water vapor present in the air at a particular temperature relative to the amount of water vapor that the air can hold maximally at that temperature. [Cold air holds less water vapor than warm air. A measure of the actual amount of water vapor held at a particular temperature is termed absolute humidity.]

INSTRUMENTATION:

This humidity/thermometer pen consists of thermistor temperature sensor and a sensor sensitive to water vapor. The instrument takes into account the temperature of the air and the amount of water vapor present and calculates the relative humidity of the air being sample.

INSTRUCTIONS:

To use the thermometer:

1. Slide the top switch to the ON position.
2. Slide the °F/°C switch on the front panel to choose temperature display in °C or °F. This will give you current temperature measurements displayed on the right side of the front panel.
3. To view the minimum or maximum temperatures encountered press the MIN and MAX buttons (Min or MAX are seen on the display panel) located below the front display panel. Press either one of these buttons to return to current temperature measurement status.
4. To purge the MIN/MAX temperatures from memory press the MIN button; then press the RESET button; then press the MAX button; then press the RESET button and then press the MAX button to return to current temperature measurement status.



To use the humidity sensor:

5. Slide the top switch to the ON position.
6. Press the MIN and MAX buttons (labeled Hygro and located at the top of the pen) simultaneously to purge relative humidity values from memory.
7. Leave the pen at the location being measured for a few minutes or longer.
8. Press the MIN and/or MAX switches (labeled Hygro) to view the MIN and MAX relative humidities that the pen stored in memory.

