

# The RHT-V Series Relative Humidity and Temperature Data Recorder/Analyzer

*Designed, built, and supported by InstruQuest, Inc.*



The RHT-V Series is a versatile relative humidity and temperature data transmitter/recorder/analyzer. It consists of RH probe, signal-processing unit w/ LCD, and PC software.

Typically, a high temperature, miniature size RH probe (5mm Dia., 50 mm L) from Rotronic Instruments Corp. is used as the RH and temperature sensing device. Since the calibration data of the probe reside inside the probe electronics and digital protocol is used, a new probe can be used without any need for recalibration of the system.

The data are digitally transferred to the microcontroller (16-bit resolution). The firmware software processes the digital data, displays the current RH and T values on the LCD display, and transmits the same data via serial port.

Using an USB adapter or direct connection to a serial port on the PC, the acquired data are processed by sophisticated Windows based software. A user can define and store templates where important experiment information and several criteria of storing data points can be selected. Time, RH, T, Dew Point, p(H<sub>2</sub>O), and date are stored and graphed during a run. The user can interactively change any criteria at any time. The acquired data are stored in text format for easy transfer to other software packages. Additionally, the RH Calculator software is included in this package.

## **Applications**

This product was designed as an optional equipment for the manually operated models of V-Gen and HumiSys RH generators. Also, it can be used in variety of analytical setups where precise monitoring of RH and temperature is needed, especially in small chambers.

## **Options**

One 16-bit ADC ( $\pm 10$ VDC) can be added for connecting additional sensor, e.g. barometric transducer. Transfer function for the transducer can be implemented in the PC software.

Installation of additional hardware resources and software modifications are possible for custom products.

A snapshot of the data recording protocol screen shows variety of parameters that can be set, saved, and modified during a run. Any combination of data recording criteria can be used.

**Create New Template Form**

Experiment Information

Exp. Data File:  Notes:

Operator ID:

Averaging

Number of readings (every 0.66s) to average for a data point:

Record RH and Temperature Data Point if any checked condition(s) is(are) true

Save Data Point Every:  [min]

|RH(Last Point)-RH(Current Point)| >=  [%]

|T(Last Point) - T(Current Point)| >=  [C]

|DewPoint(Last Point) - DewPoint(Current Point)| >=  [C]

|p[H2O](Last Point) - p[H2O](Current Point)| >=  [mbar]

Save Template Run Experiment Continue after changes Cancel

The Chart screen displays data during run, updates incoming raw data, allows selection of different physical quantity, printing a report, zooming, and terminating recording session, and viewing previous data.

