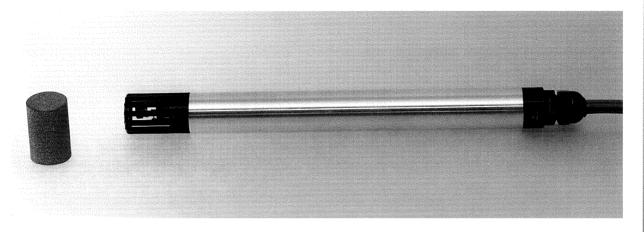


Humidity and Temperature Probe



Product Overview

The Qualimetrics Model 5140 Humidity and Temperature Probe provides accurate temperature and relative humidity measurements using a state-ofthe art design.

This versatile probe is used to measure ambient temperature and humidity in Q-Net systems, where its output is combined with those of other sensors to provide an integrated weather picture.

For relative humidity measurement, the probe features a rugged polymer capacitive humidity sensor constructed directly onto a monolithic interface circuit.

Temperature measurement is provided by a precision thin-film platinum 1,000 ohm RTD, whose resistance changes in response to temperature changes.

Solid state electronic circuits are are built into each probe to produce a buffered 0.4 to 2 Vdc output (nominal) corresponding to 0 to 100% relative humidity. The slight temperature dependence of the polymer sensor is compensated over the temperature range of -40 to +55°C by means of proprietary algorithms designed into the Q-Net system.

Each probe is delivered with three calibration values. When the probe is installed into a Q-Net system, these calibration values are entered via the Q-Net keypad or via a computer running the QSoft PC software. The calibration values are then stored in battery-backed memory and used by the Q-Net system to calculate accurate RH, temperature, and dew point values.

The Model 5140 normally mounts within a self-aspirated radiation shield (SARS), such as the Model 8141-A. For optimum temperature measurement, the sensor can instead be mounted in a motor-aspirated radiation shield (MARS), such as the Model 8152-A. Neither radiation shield is included as part of the 5140, and must be ordered separately.

The sensor elements are protected from environmental contaminants by a removable sintered filter, and the sensor electronics are housed within a rugged, O-ring sealed metal case. The probe comes standard with 20 feet of attached cable.

Specifications

Humidity and Temperature Probe

Operating Temperature: Excitation Voltage: -55° to + 55° C 8–12 Vdc

Current Consumption:

4 mA

Size:

0.75" dia x 8.5" L (19 x 216 mm)

Weight/Shipping:

0.5 lb/1 lb

Humidity

Sensing Element: Measuring Range: Thin film capacitor 0-100% RH 0.4-2.0 Vdc

Output: Accuracy:

+/-3% between 0% and 90% RH +/- 4% between 90% and 100% RH

Response Time:

3 minutes between 0% and 90% RH

Hysteresis:

+/- 0.5% RH

Temperature

Sensing Element: Measuring Range: Thin film platinum RTD -55° to +55° C

Accuracy:

+/- 0.2° C

Ordering Information

Humidity and Temperature Probe

5140 Humidity and Temperature Probe, includes 51140 sintered

filter and 20' cable

51140 Sintered filter, 40 micron



Qualimetrics, Inc.Phone: 916 928-10001165 National DriveUSA Toll Free: 800 824-5873Sacramento, CA 95834Fax: 916 928-1165www.qualimetrics.com