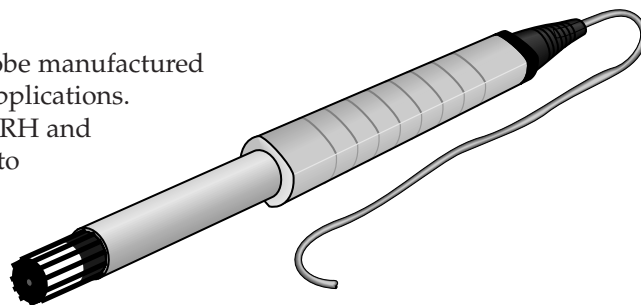


Temperature and Relative Humidity Probe

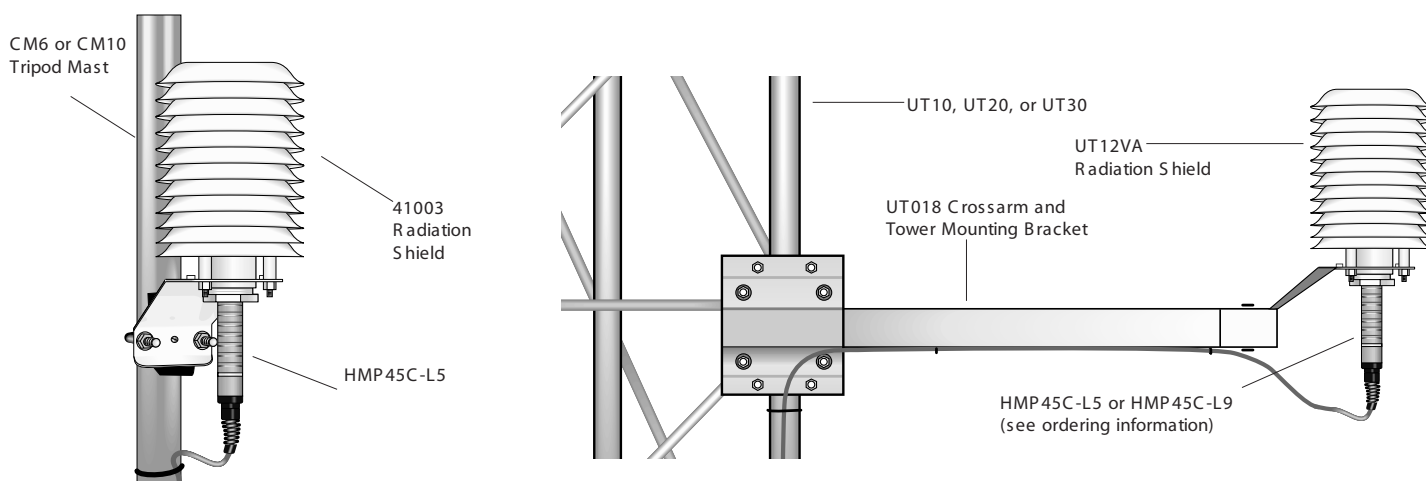
Models HMP45C, HMP41

The HMP45C is a rugged, accurate temperature/RH probe manufactured by Vaisala Inc., that is ideal for long-term, unattended applications. The probe uses a capacitive polymer H chip to measure RH and a PRT to measure temperature. Power is only supplied to the HMP45C during measurement, which reduces the current drain.



For optimum results, the HMP45C should be recalibrated annually. An optional removable sensor head, model HMP41, can replace the HMP45C's sensing element while the sensing element is getting recalibrated. The HMP41 is compatible with any HMP45C. A radiation shield (model 41003 or UT12VA) should be used when the HMP45C is exposed to sunlight.

Sensor Mounts



Ordering Information

HMP45C-L__ = Enter lead length, in feet, after the L. A 5 ft lead length (HMP45C-L5) is recommended for our tripods and UT10 10 ft tower. A 9 ft lead length (HMP45C-L9) is recommended for our UT20 20 ft and UT30 30 ft towers. Maximum lead length is 1000 ft. Note: Each 100 ft of cable increases the apparent RH reading by approximately 0.56% RH and the temperature by 0.56°C.

HMP41 = Optional removable sensor head.

Specifications

Probe Dimensions: 10 inches (25.4 cm) length, 1 inch (2.5 cm) diameter

Filter: 0.2 µm Teflon® membrane

Filter Diameter: 0.75 inches (1.9 cm)

RELATIVE HUMIDITY

Sensor: HUMICAP® H-chip

Measurement Range: 0.8 to 100% RH, non-condensing

Output Signal Range: 0.008 to 1 Vdc

Accuracy at 20°C:

against factory reference: ±1% RH

field calibrated against references: ±2% RH (0-90% RH)

field calibrated against references: ±3% RH (90-100% RH)

Temperature Dependence: ±0.05% RH/°C

Typical Long-Term Stability: Better than 1% RH per year

Response Time (at 20°C, 90% response): 15 s with membrane filter

Settling Time: 500 ms

Supply Voltage: 12 Vdc Nominal

Current Consumption: 4 mA (Active)

Operating Temperature: -40° to +60°C

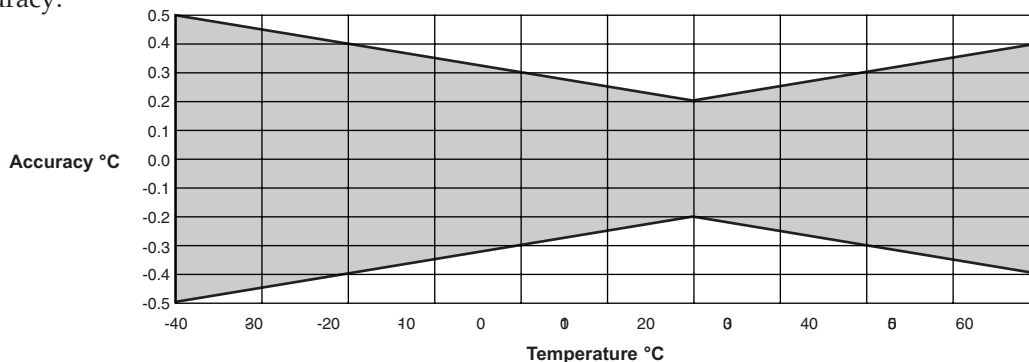
TEMPERATURE

Sensor: 1000 PRT

Measurement Range: -39.2° to +60°C

Output signal range: 0.008 to 1.0 V

Accuracy:



The HMP45C is manufactured by Vaisala, Inc. (Woburn, MA) but cabled and modified by Campbell Scientific for use with our dataloggers.

NOTE: The black outer jacket of the cable is Santoprene® rubber. This compound was chosen for its resistance to temperature extremes, moisture, and UV degradation. However, this jacket will support combustion in air. It is rated as slow burning when tested according to U.L. 94 H.B. and will pass FMVSS302. Local fire codes may preclude its use inside buildings.