

HMP155A

Vaisala Temperature and Relative Humidity Probe



The HMP155A provides reliable relative humidity (RH) and temperature measurements for a wide range of applications. It uses a HUMICAP®180R capacitive thin film polymer sensor to measure RH over the 0 to 100% RH range. A PRT measures temperature over the -80° to +60°C range. This rugged, accurate temperature/RH probe is manufactured by Vaisala.

To reduce the current drain, power can be supplied to the HMP155A only during measurement when the sensor is connected to the datalogger's switched 12 V terminal. Dataloggers that do not have a switched 12 V terminal, such as the CR510 or CR7, can use the SW12V switched 12 V device to switch power to the sensor only during measurement.

Sensor Mounts

The 41005-5 14-plate Gill Radiation Shield should be used when the HMP155A is exposed to sunlight. The 41005-5 can attach directly to a mast or tower leg or to a CM202, CM204, or CM206 crossarm.

Ordering Information

Air Temperature and Relative Humidity Probe

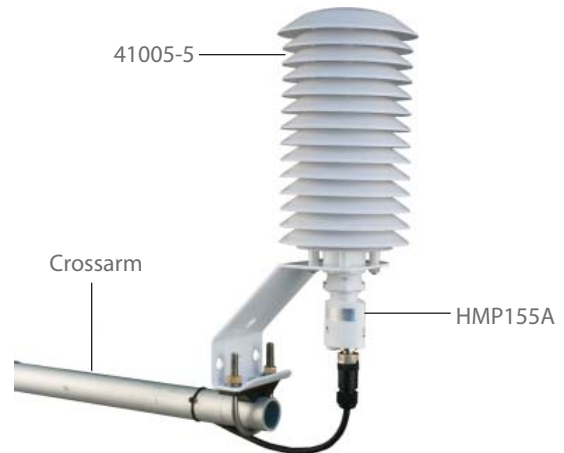
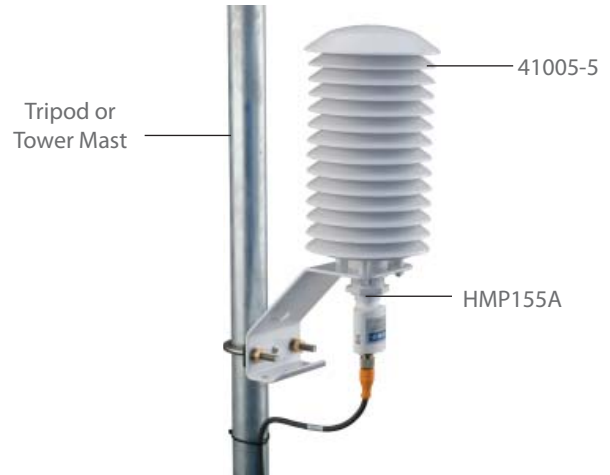
HMP155A-L Vaisala Temperature/RH Probe with user-specified cable length. Enter cable length, in feet, after the -L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in connector for attachment to a prewired enclosure.

Accessories

- SW12V** Switched 12 V device that uses a control port and a 12 V channel to switch power to the HMP155A instead of a switched 12 V terminal.
- 41005-5** 14-Plate Gill Radiation Shield to house the HMP155A



Recommended Cable Lengths

2-m Height		Atop a tripod or tower via a 2-ft crossarm such as the CM202								
Mast/Leg	CM202	CM6	CM106	CM10	CM110	CM115	CM120	UT10	UT20	UT30
9 ft	11 ft	11 ft	14 ft	14 ft	14 ft	19 ft	24 ft	14 ft	24 ft	37 ft

Note: Add two feet to the cable length if mounting the enclosure to the leg base of a CM106, CM110, CM115, or CM120 tripod.

Specifications

Temperature Range	
Operating:	-80° to +60°C
Storage:	-80° to +60°C
Electromagnetic Compatibility:	Complies with EMC standard EN61326-1
Filter:	Sintered PTFE
Housing	
Material:	PC
Classification:	IP66
Weight:	3 oz (86 g)
Voltage Output:	0 to 1 Vdc
Average Current Consumption:	≤3 mA (analog output mode)
Operating Voltage:	7 to 28 VDC
Settling Time at Power Up:	2 seconds

Relative Humidity (RH)

Sensor:	HUMICAP®180R
Measurement Range:	0.8 to 100% RH, non-condensing
Response Time*:	20 s (63% RH), 60 s (90% RH)
Factory Calibration Uncertainty (+20°C)**	
0 to 40% RH:	±0.6% RH
40 to 97% RH:	±1.0% RH

Accuracy (including non-linearity, hysteresis & repeatability)

+15° to +25°C:	±1% RH (0 to 90% RH) ±1.7% RH (90 to 100% RH)
-60° to -40°C:	±(1.4 + 0.032 × reading) % RH
-40° to -20°C:	±(1.2 + 0.012 × reading) % RH
-20° to +40°C:	±(1.0 + 0.008 × reading) % RH
+40° to +60°C:	±(1.2 + 0.012 × reading) % RH

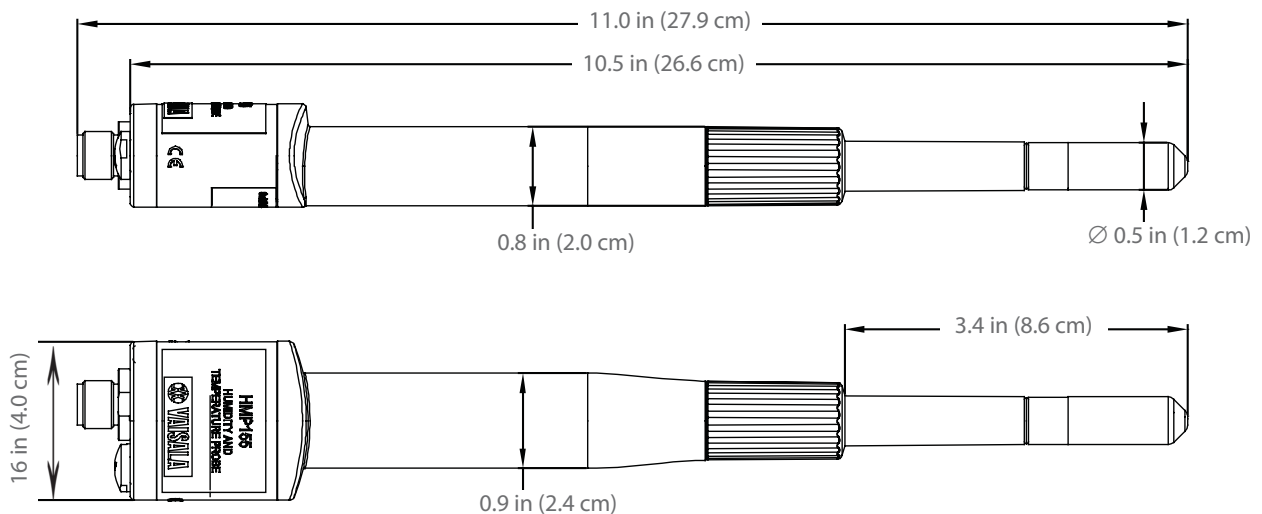
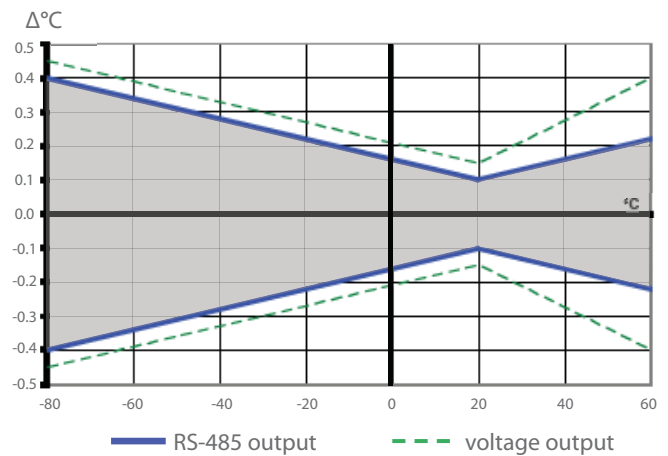
Air Temperature

Temperature Sensor: Pt 100 RTD 1/3 class B IEC 751

Measurement Range: -80° to +60°C

Accuracy with Voltage Output

-80° to +20°C:	±(0.226 - 0.0028 × temperature)°C
+20° to +60°C:	±(0.055 - 0.0057 × temperature)°C
Entire Temperature Range:	see graph below



*The response time for the RH specification is for the HUMICAP®180R© at 20°C in still air with sintered PTFE filter.

**The factory calibration uncertainty is defined as ±2 standard deviation limits. Small variations possible; see also calibration certificate.

