VERSATILE PROBES
The HMP45A and HMP45D humidity and temperature probes are designed for a wide range of instrumentation e.g. recorders, data loggers, laboratory equipment and weather stations.* They interface easily and are simple to service.

RELIABLE PERFORMANCE IN DEMANDING ENVIRONMENTS
The HMP45A and HMP45D provide up to 100% RH measurement with high accuracy. Both feature Vaisala’s HUMICAP®180 sensor, one of the most reliable sensors on the market. The sensor can be used in a wide range of environments, has high accuracy, negligible hysteresis and excellent long-term stability - even in very high humidities. It is insensitive to dust and tolerant to most chemicals.

EASY FIELD MAINTENANCE
Field calibration is easy. The probe head containing the sensor and electronics can be quickly removed from the probe body, a replacement installed and the measurements continued while the other sensor head is calibrated in a laboratory. If necessary, the humidity and temperature readings in the HMP45A can be checked with Vaisala’s HMI41 humidity indicator on site. Routine checks and calibrations can be made without interrupting measurements for long periods of time.

The combined performance of the HUMICAP®180 sensor and improved NEMA 4 protected probe enables you to make accurate and repeatable humidity and temperature measurements with confidence. These probes can be operated from a wide range of supply voltages and have low power consumption. Combine these features with the probes’ wide temperature range, temperature compensation and full-scale humidity range and you have a versatile solution for many applications.

SHIELD PROVIDES SENSOR PROTECTION
Vaisala also offers the 2212HM shield to protect the humidity and temperature sensors from solar radiation and precipitation. It provides excellent ventilation while blocking direct and reflected solar radiation. The 2212HM’s flexible fastening system makes probe installation simple, and an offset U-bolt makes mounting equally as easy.

*The HMP45A/D is an excellent solution for measuring humidity in weather stations. However, the HMP 243, with warmed sensor head, is a better solution if condensation continuously disturbs measurement.
TECHNICAL DATA - HMP45A, HMP45D, 2212 HM

**General**

Operating temperature range  
-40...+140 °F (-40...+60 °C)

Storage temperature range  
-40...+176 °F (-40...+80 °C)

Supply voltage  
7...35 VDC

Settling time  
500 ms

Power consumption  
<4 mA

Output load  
>10kohm (to ground)

Weight  
350 g (incl. package)

Cable length  
3.5 m

Housing material  
ABS plastic

Housing classification (electronics)  
NEMA 4 (IP 65)

Sensor protection  
membrane filter

option  
sintered filter 37 µm

part no. 6685

sintered filter 216 µm

part no. 6686

grid, part no. 6597

**Relative Humidity**

**HMP45A & HMP45D**

Measuring range:  
0.8 to 100% RH

Output scale  
0...100% RH equals 0...1 VDC

Accuracy at +68 °F (+20 °C) (incl. nonlinearity and hysteresis)  
against factory references ±1% RH

field calibration against references  
±2% RH (0...90% RH)

±3% RH (90...100% RH)

Typical long-term stability  
< 1% RH / year

Temperature dependence  
±0.03% RH/°F (±0.05% RH/ °C)

Response time (90% at +68 °F (+20 °C))  
10 s with membrane filter

Humidity sensor  
HUMICAP® 180

**Temperature**

**HMP45A**

Measurement range  
-39.2...+140 °F (-39.2...+60 °C)

Output scale  
-40...+140 °F equals 0...1 VDC

Accuracy at +68 °F (+20 °C)  
±0.36 °F (±0.2 °C)

Accuracy over measurement range:

Temperature sensor  
Pt 1000 IEC 751

1/3 Class B

**HMP45D**

Measurement range  
-40...+140 °F (-40...+60 °C)

Output signal  
resistive four wire connection

Temperature sensor  
Pt 100 IEC 751

1/3 Class B

Specifications subject to change without prior notice.

**HMP45A/D**

Dimensions in mm (inches)