

VAISALA

INTERCAP® Humidity and Temperature Probe HMP60



Features

- Miniature-size humidity probe
- Low power consumption
- Measurement range: 0 ... 100 %RH; -40 ... +60 °C
- Cable detachable with standard M8 connector
- Rugged metal housing
- Interchangeable Vaisala INTERCAP® Sensor
- Optional RS-485 digital output supports Modbus RTU
- Optional dew point output

HMP60 is a simple, durable and cost-effective humidity probe. It is suitable for volume applications, integration into other manufacturers' equipment, incubators, glove boxes, greenhouses, fermentation chambers, and data loggers.

Easy Installation

The probe cable has a screw-on quick connector for easy installation. Different cable lengths are available. Also other compatible M8 series cables can be used. Accessories are available for different installation needs.

Low Current Consumption

HMP60 is suitable for battery-powered applications because of its very low current consumption.

Several Outputs

There are two configurable voltage outputs with relative humidity, temperature or dew point scaling. Four voltage output ranges are available. An optional RS-485 output with Modbus support is also available.

Rugged Design

HMP60 is designed for extreme conditions. The stainless steel body of HMP60 is classified as IP65. The probe has a sealed structure and the sensor is protected by a membrane filter and a plastic grid, or optionally by a stainless steel filter.

Recalibration Not Needed

The Vaisala INTERCAP Sensor is interchangeable. No recalibration is required; the sensor can simply be replaced, also in the field.

Technical Data

Measurement Performance

Relative Humidity

Measurement range 0 ... 100 %RH

Typical Accuracy:

Temperature range 0 ... +40 °C

0 ... 90 %RH ±3 %RH

90 ... 100 %RH ±5 %RH

Temperature range -40 ... 0 °C, +40 ... +60 °C

0 ... 90 %RH ±5 %RH

90 ... 100 %RH ±7 %RH

Humidity sensor Vaisala INTERCAP®

Temperature

Measurement range -40 ... +60 °C

Accuracy over Temperature Range:

+10 ... +30 °C ±0.5 °C

-40 ... +10, +30 ... +60 °C ±0.6 °C

Dew Point

Measurement range -40 ... +60 °C

Typical Accuracy:

Temperature range 0 ... +40 °C

When dew point depression¹⁾ < 15 °C ±2 °C

Temperature range -40 ... 0 °C, +40 ... +60 °C

When dew point depression < 10 °C¹⁾ ±3 °C

Analog Outputs

Accuracy at 20 °C ±0.2 % of FS

Temperature dependence ±0.01 % of FS/°C

¹⁾ Dew point depression = ambient temperature - dew point

Operating Environment

Operating temperature -40 ... +60 °C

EMC compliance EN 61326-1, industrial environment

Mechanical Specifications

IP rating IP65

Body thread M12x1 / 10 mm

Cable connector 4-pin M8 (IEC 60947-5-2)

Materials

Body Stainless steel (AISI 316)

Grid filter Chrome coated ABS plastic

Cable Polyurethane or FEP

Weight

Probe 17 g

Probe with 0.3 m cable 28 g

Inputs and Outputs

Power consumption 1 mA average, max. peak 5 mA

Operating Voltage¹⁾

With 1 V / 2.5 V output 5 ... 28 VDC

With 5 V output 8 ... 28 VDC

With loop power converter 8 ... 28 VDC

With digital output 5 ... 20 VDC

Start-Up Time

Probes with analog output 4 s at operating voltage

13.5 ... 16.5 VDC

2 s at other valid operating voltages

Probes with digital output 1 s

Outputs

2 channels 0 ... 1 VDC / 0 ... 2.5 VDC /
0 ... 5 VDC / 1 ... 5 VDC

1-channel loop-power converter
(separate module, compatible with
humidity accuracy only)

Digital output (optional) RS-485 2-wire half duplex, supports
Modbus RTU

External Loads

0 ... 1 V R_L min. 10 kΩ

0 ... 2.5 V / 0 ... 5 V R_L min. 50 kΩ

¹⁾ (Use Lowest Available Operating Voltage to Minimize Heating)

Spare Parts and Accessories

Vaisala INTERCAP® Sensor, 1 piece 15778HM

Vaisala INTERCAP® Sensor, 10 pcs INTERCAPSET-10PCS

4 ... 20mA loop power converter UI-CONVERTER-1CB

Mounting bracket for converter 225979

Plastic M12 installation nuts, pair 18350SP

USB cable for PC connection 219690

Probe mounting clamp set, 10 pcs 226067

Probe mounting flange 226061

Sensor Protection

Plastic grid DRW010522

Membrane filter DRW010525

Stainless steel sintered filter HM46670SP

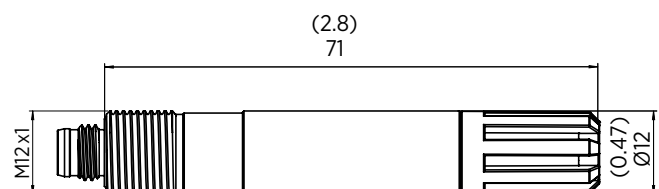
PTFE sintered filter DRW244938SP

Connection Cables

0.3 m PU HMP50Z032SP

3 m PU HMP50Z300SP

180 °C 3 m FEP 226902SP



Dimensions in mm (inches)



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