



INTERCAP® Humidity and Temperature Probe HMP60



Features

- Miniature-size humidity probe
- Low power consumption
- Measurement range:
0 ... 100 %RH; -40 ... +60 °C
(-40 ... +140 °F)
- Cable detachable with standard M8 connector
- Rugged metal housing
- Interchangeable Vaisala INTERCAP® sensor
- Optional RS-485 digital output supports Modbus® RTU
- Optional dew point, wet bulb temperature, absolute humidity, mixing ratio, and enthalpy 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

Temperature measurement is a standard feature in HMP60, with dew point temperature, wet bulb temperature, absolute humidity, mixing ratio, and enthalpy as optional calculated parameters. 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:

at 0 ... +40 °C (+32 ... +140 °F) ±3 %RH (0 ... 90 %RH)
±5 %RH (90 ... 100 %RH)

at -40 ... 0 °C and +40 ... +60 °C
(-40 ... +32 °F and +104 ... +140 °F) ±5 %RH (0 ... 90 %RH)
±7 %RH (90 ... 100 %RH)

Humidity sensor Vaisala INTERCAP®

Temperature

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

Accuracy:

at +10 ... +30 °C (+50 ... +86 °F) ±0.5 °C (±32.9 °F)
at -40 ... +10 and +30 ... +60 °C
(-40 ... +50 and +86 ... +140 °F) ±0.6 °C (±33.08 °F)

Analog outputs

Accuracy at +20 °C (+68 °F) ±0.2 % of FS

Temperature dependence ±0.01 % of FS/°C (±0.006 % of FS/°F)

Operating environment

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

EMC compliance EN 61326-1, industrial environment

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 ... 28 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) 4 ... 20 mA

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

Output parameters

Relative humidity, temperature, dew point temperature, wet bulb temperature,
absolute humidity, mixing ratio, enthalpy

¹⁾ Use lowest available operating voltage to minimize heating.

Mechanical specifications

IP rating IP65¹⁾

Body thread M12x1 / 10 mm (0.4 in)

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 (0.6 oz)

Probe with 0.3 m (1 ft) cable 28 g (1 oz)

¹⁾ Applicable with stainless steel sintered filter and PTFE sintered filter only.

Spare parts and accessories

Sensors

Vaisala INTERCAP® sensor, 1 pc 15778HM

Vaisala INTERCAP® sensor, 10 pcs INTERCAPSET-10PCS

Sensor protection

Plastic grid filter DRW010522SP

Membrane filter DRW010525SP

Stainless steel sintered filter HM46670SP

PTFE membrane filter with stainless
steel grid ASM212652SP

PTFE sintered filter DRW244938SP

Probe installation

Probe mounting clamp set, 10 pcs 226067

Probe mounting flange 226061

Probe holder, 5 pcs ASM213382SP

Plastic M12 installation nuts, pair 18350SP

Flat extension cable 1 m (3 ft)¹⁾ CBL210649SP

Connection adapters

4 ... 20 mA loop power converter UI-CONVERTER-ICB

Mounting bracket for converter 225979

USB cable for PC connection 219690

Connection cable for MI70 indicator 219980SP

Connection cables with open wires

+60 °C 0.3 m (+140 °F 1 ft) HMP50Z032SP

+60 °C 1.2 m (+140 °F 4 ft) HMP50Z120

+60 °C 3 m (+140 °F 9.8 ft) HMP50Z300SP

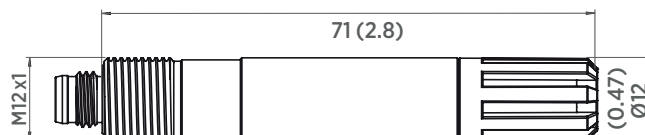
+80 °C 1.5 m (+176 °F 5 ft) 225777SP

+80 °C 3 m (+176 °F 10 ft) 225229SP

+180 °C 1.5 m (+356 °F 5 ft) FEP 238025

+180 °C 3 m (+356 °F 10 ft) FEP 226902SP

¹⁾ Connection cable 219980SP is also needed if this cable is used with MI70 indicator.



Dimensions in mm (inches)



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