VAISALA

INTERCAP® Humidity and Temperature Probe HMP63

Features

- Fast thermal response time
- Low power consumption
- Start-up time < 2 s
- Measurement range:
  0 ... 100 %RH; −40 ... +60 °C
  (−40 ... +140 °F)
- Detachable cable with standard 4-pin M8 connector
- Plastic enclosure with IP54 classification
- 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

Vaisala INTERCAP® Humidity and Temperature Probe HMP63 is a cost-effective humidity probe with plastic enclosure. It is designed for noncondensing indoor environments or integration into other manufacturers' equipment.

Easy installation

The probe fits into tight spaces. The cable has a threaded M8 connector for easy installation. Different cable lengths are available and other compatible M8-series cables can also be used. Accessories are available for different installation needs.

Low power consumption

HMP63 is suitable for battery powered applications thanks to its very low power consumption and fast start-up time.

Several outputs

Temperature measurement is a standard feature in HMP113, with dew point temperature, wet bulb temperature, absolute humidity, mixing ratio, and enthalpy as optional calculated parameters. Four voltage output ranges are available. An alternative RS-485 output with Modbus support is also available.

Fast thermal response time

HMP63 has a PC/ABS plastic enclosure. It is ideal for environments with fast temperature changes where standard measurement accuracy is sufficient.

No recalibration required

HMP63 includes an interchangeable Vaisala INTERCAP® sensor. No recalibration is required – the humidity sensor can simply be replaced, even 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) at −40 ... +10 and +30 ... +60 °C (−40 ... +50 and +86 ... +140 °F)	±0.5 °C (±32.9 °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)

Inputs and outputs

Power consumption	1 mA average, max. peak 5 mA

Operating voltage[1)]

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.

Operating environment

Operating temperature	−40 ... +60 °C (−40 ... +140 °F)
EMC compliance	EN 61326-1, basic immunity test requirements

Mechanical specifications

IP rating	IP54 [1)]
Cable connector	4-pin M8 (IEC 60947-5-2)

Materials

Body	PC/ABS blend
Grid filter	PC (glass reinforced)
Cable	Polyurethane or FEP

Weight

Probe	9 g (0.3 oz)
Probe with 0.3 m (1 ft) cable	20 g (0.7 oz)

1) Not applicable with the plastic grid filter.

Spare parts and accessories

Sensors

Vaisala INTERCAP® sensor, 1 pc	15778HM
Vaisala INTERCAP® sensor, 10 pcs	INTERCAPSET-10PCS

Sensor protection

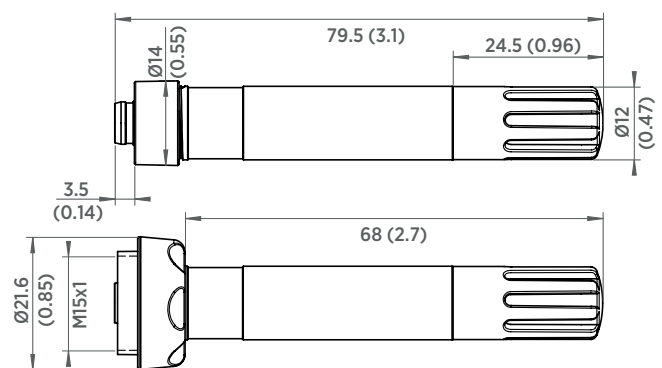|	
Plastic grid filter	DRW240185SP
Plastic grid with membrane filter	ASM210856SP
Stainless steel sintered filter	HM47280SP
Porous PTFE filter	219452SP

Probe installation

Probe mounting clamp set, 10 pcs	226067
Probe mounting flange	226061
Probe holder, 5 pcs	ASM213382SP
Plastic locking bushing (3 pcs) for attaching probe to HM40	DRW238590SP

Connection adapters

4 ... 20 mA loop power converter	UI-CONVERTER-1CB
Mounting bracket for converter	225979
USB cable for PC connection	219690
Connection cable for HM70	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

Ø14 (0.55)   79.5 (3.1)   24.5 (0.96)   Ø12 (0.47)
3.5 (0.14)
Ø21.6 (0.85)   M15x1   68 (2.7)

Dimensions in mm (inches)

CE