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HMP63 Humidity and Temperature Probe

Features

- Fast thermal response time
- Low power consumption
- Start-up time < 2 s
- Measurement range: 0–100 %RH; −40 ... +60 °C (−40 ... +140 °F)
- Cable detachable with standard M8 connector
- IP54-rated plastic housing
- Interchangeable Vaisala INTERCAP® humidity sensor
- Compatible with Vaisala Insight PC software and Vaisala Indigo80 Handheld Indicator
- Optional RS-485 digital output supports Modbus® RTU
- Optional dew/frost point, wet bulb temperature, absolute humidity, mixing ratio, and enthalpy output
- Temperature-only model HMP63T with digital output also available

Vaisala INTERCAP® Humidity and Temperature Probe HMP63 is a cost-effective humidity probe with a plastic housing. It is designed for non-condensing 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 output options

Temperature measurement is a standard feature in HMP63, 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.

Output type, channel assignment of measurement parameters, and other probe features are configured when the probe is ordered.

Flexible connectivity

In addition to analog and digital (Modbus) output options, the probe can also be used with Vaisala Indigo80 Handheld Indicator. For easy-to-use access to configuration and device analytics functionalities, the probe can be connected to Vaisala Insight PC software for Windows®. For more information, see vaisala.com/indigo80 and vaisala.com/insight.

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® humidity sensor. No recalibration is required – the humidity sensor can simply be replaced, even in the field.

Technical data

Models

Model	Measurement	Special features
HMP63	RH + T	INTERCAP® humidity sensor
HMP63T	T	Digital output only, for use with CWL100 data logger

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 (±0.9 °F)
at −40 … +10 and +30 … +60 °C (−40 … +50 and +86 … +140 °F)	±0.6 °C (±1.08 °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 V DC
With 5 V output	8–28 V DC
With loop-power converter	8–28 V DC
With digital output	5–28 V DC
Start-up time	
Probes with analog output	4 s at operating voltage 13.5–16.5 V DC 2 s at other valid operating voltages
Probes with digital output	1 s
Outputs	
2 channels	0–1 V DC / 0–2.5 V DC / 0–5 V DC / 1–5 V DC
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
Other voltage outputs	R_L min. 50 kΩ
Output parameters	
Relative humidity, temperature, dew/frost 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)
IP rating [1)]	IP54

1) Not applicable with the plastic grid filter.

Mechanical specifications

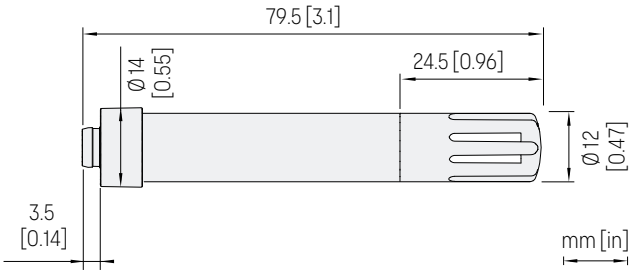
Cable connector	4-pin M8 (IEC 60947-5-2)
Materials	
Body	PC/ABS blend
Grid filter	PC (glass reinforced)
Cable	Polyurethane or FEP
Weight	
Probe	9 g (0.3 oz)
Probe with 0.3 m (1 ft) cable	20 g (0.7 oz)

Compliance

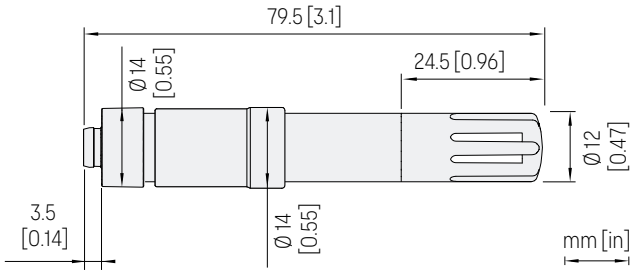
EU directives and regulations	EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU) as amended by 2015/863
Electromagnetic compatibility (EMC)	EN 61326-1, basic electromagnetic environment
EMC emissions	CISPR 32 / EN 55032, Class B
Compliance marks	CE, RCM, UKCA

Spare parts and accessories

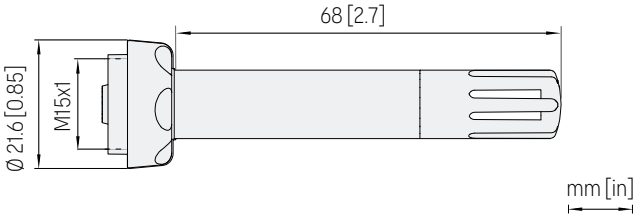
Sensors	
Vaisala INTERCAP® sensor, 1 pc	15778HM
Vaisala INTERCAP® sensor, 10 pcs	INTERCAPSET-10PCS
Sensor protection	
Plastic grid filter	DRW240185SP
Plastic grid with membrane filter	ASM210856SP
Stainless steel sintered filter	HM47280SP
Porous PTFE filter	219452SP
Probe installation	
Probe mounting 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 Indigo80 handheld indicator	262195SP
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



HMP63 probe dimensions



HMP63 and HMP63T probe dimensions with sleeve for CWL100 data logger



HMP63 probe dimensions with plastic locking bushing

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