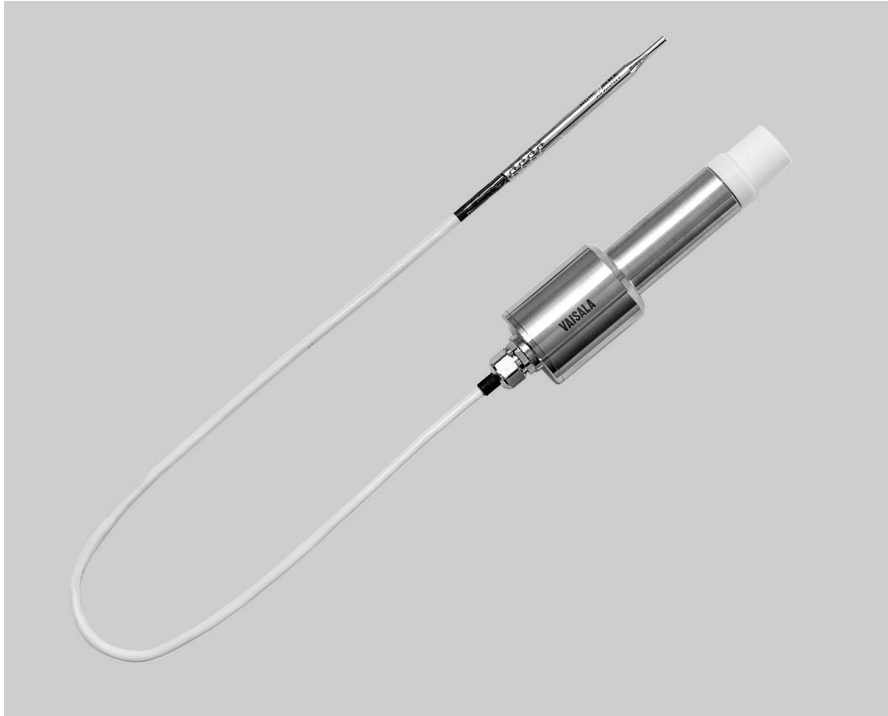




HPP270 Series for Hydrogen Peroxide, Humidity, and Temperature Measurement

Preliminary Datasheet



Features

- Compact 3-in-1 probe with real-time measurement for H_2O_2 vapor concentration, humidity, and temperature
- Superior long-term stability and repeatability with proprietary PEROXCAP® technology
- Corrosion-resistant stainless steel housing (IP65)
- Traceable calibration certificate: 2 points for H_2O_2 , 3 points for humidity, 1 point for temperature
- Standalone probe with digital Modbus RTU over RS-485 or 2 analog outputs
- Compatible with Indigo transmitters with 3 analog outputs, optional display, relays, and smartphone user interface

The Vaisala PEROXCAP® Hydrogen Peroxide, Humidity, and Temperature Probe HPP270 series is designed for demanding hydrogen peroxide bio-decontamination where repeatable, stable, and accurate measurement is essential. The probe is suitable for a variety of applications such as isolator, material transfer hatch and room bio-decontamination.

Up to three measurements in one compact unit

The HPP270 series contains all parameters you need to measure during bio-decontamination process: hydrogen peroxide vapor, temperature, and humidity as relative saturation and relative humidity.

Relative saturation for comprehensive humidity monitoring

In H_2O_2 bio-decontamination processes, the decontaminated air contains H_2O_2 , which influences the humidity level. Vaisala HPP270 humidity measurement provides you relative saturation [%RS],

which indicates the humidity percentage derived from water vapor and H_2O_2 vapor together. Thus, it reliably tells you when bio-decontaminated air starts to condense.

Repeatable measurement for highly condensing environments

Intelligent measurement technology including the chemical purge function helps to maintain measurement accuracy between calibration intervals in challenging hydrogen peroxide environments. The purging process involves rapid heating of the sensor to remove possible contamination.

HPP270 PEROXCAP sensor is warmed, which provides reliable measurement even in environments where humidity is near saturation. The heating prevents condensation from forming on the sensor.

Service you can count on

Every probe and sensor is manufactured and individually calibrated at Vaisala world-class facilities. The probe is delivered with traceable H_2O_2 and RH calibration certificate.

Users can also calibrate and adjust the hydrogen peroxide measurement using a humidity calibrator.

HPP272 Technical Data

Measurement Performance

PARAMETERS

H₂O₂ ppm by volume, relative saturation, relative humidity, temperature,
H₂O ppm by volume, absolute H₂O₂, absolute H₂O, saturation vapor pressure

HYDROGEN PEROXIDE

Sensor	PEROXCAP®
Measurement range	0 ... 2000 ppm
Measurement temperature range	+5 ... +50 °C
Accuracy at +25 °C (77 °F), 10 ... 2000 ppm	± 10 ppm or 5 % of reading (whichever is greater)
Response time (T ₉₀) at 23 °C (73 °F) still air	180 s

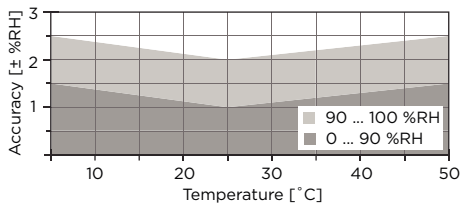
RELATIVE SATURATION

Measurement range	0 ... 100 %RS
Measurement temperature range	+5 ... +50 °C

RELATIVE HUMIDITY

Measurement range	0 ... 100 %RH
Measurement temperature range	+5 ... +70 °C
Non-linearity	0.4 %RH
Accuracy at +25 °C (77 °F) (including non-linearity, hysteresis, and repeatability)	±1 %RH (0 ... 90 %RH)

Accuracy over full measurement range



Factory calibration uncertainty (k=2)	±2 %RH (0 ... 100 %RH)
TEMPERATURE	
Sensor	Vaisala Pt-1000
Accuracy at +25 °C (77 °F)	0.1 °C
Accuracy over full measurement range	0.15 °C

Inputs and Outputs

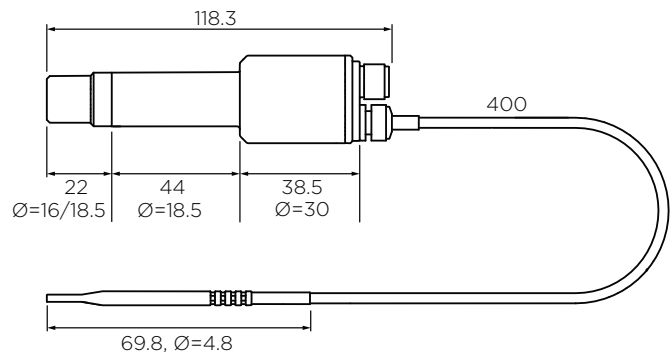
Operating voltage	15 ... 30 VDC
CURRENT CONSUMPTION AT 25 °C	
In digital mode	Max. 15 mA
In analog mode	Max. 50 mA
During purge	Max. 125 mA
DIGITAL OUTPUT	
Interface	RS-485, not isolated, no line termination
Bit rate	9600 bps, 19200 bps (default), or 38400 bps
Communication protocol	Modbus RTU v1.02
ANALOG OUTPUT	
Outputs	2 × 4 ... 20 mA 3-wire current outputs
Max. load	500 Ω

Operating Environment

Operating temperature	+0 ... +70 °C
Storage temperature	-20 ... +70 °C
Ambient pressure	Normal atmospheric pressure
Electromagnetic compatibility (EMC)	EN61326-1, Industrial Environment

Mechanical Specifications

Weight	130 g
IP rating	IP65
Connector	M12/5 male
MATERIALS	
Probe body	AISI316L stainless steel
Filter cap	Porous PTFE
Temperature probe	AISI316L stainless steel
Temperature probe cable	PTFE



HPP272 Dimensions (in mm)

Transmitters and Accessories

TRANSMITTERS

Indigo 200 series	See order form
Connection cable to Indigo (1 m)	INDIGOCABLE1M
Connection cable to Indigo (3 m)	INDIGOCABLE3M
Connection cable to Indigo (5 m)	INDIGOCABLE5M
Connection cable to Indigo (10 m)	INDIGOCABLE10M

ACCESSORIES

Gland M20 x 1.5	HMP247CG
USB cable for PC connection	242659
Probe cable with open wires (1.5 m)	223263SP
Probe cable with open wires (3 m)	26719SP
Probe cable with open wires (5 m)	26720SP
Probe cable with open wires (10 m)	216546SP
Probe cable with open wires and 90° plug (0.6 m)	244669SP
Flat cable (1 m)	CBL210493SP

VAISALA

www.vaisala.com

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