USB-PTH450

Product Description

PTH450: Improved precision (±0.1°C/±1.5 %RH) USB temperature, relative humidity and atmospheric pressure sensor, particle filter and aluminum tip for harsh environments.

Part of the PTH series of measuring instrument, the PTH450 is designed for environmental high-precision pressure, temperature and humidity acquisition where an extended temperature range is required (-40°C to +125°C) or where the sensor needs extra physical protection. With its factory calibrated, linearized and temperature compensated digital sensor chip, it is field interchangeable, and thanks to its precision electronics, extremely small variations in temperature and humidity can be acquired using a standard USB port.

The compact aluminum probe eases integration, even in space-constrained locations, and the internal particle filter provides protection against dust, soot, and other contaminants.

Specifications

Temperature

- Probe operating range:[1] -40°C to 125°C
- Accuracy:
    - ±0.1°C (20°C to 60°C)
    - ±0.2°C (-40C to 20°C)
    - ±0.4°C (60°C to 125°C)
- Resolution: 0.01°C (typical)
- Repeatability: 0.08°C (typical)

Relative humidity

- Operating range: 0 to 100 %RH
- Accuracy: (at 25°C)
    - Typical accuracy from 0 to 80°C: ±1.5% from 0 to 70 %RH
    - Minimum accuracy at 25°C: ±2.0% from 0 to 80 %RH, ±3.0% from 90 to 100 %RH
- Resolution: 0.01 %RH (typical)
- Repeatability: 0.1 %RH

Atmospheric (Barometric) Pressure

- Operating range: 1 to 120 kPa (10 to 1200 mbar)
- Accuracy: ±0.15 kPa at 25°C (1.5 mbar)
- Resolution: 0.0065 kPa (0.065 mbar)
- Internal factory calibrated coefficients
- ADC resolution: 24 bits
- Altitude resolution: approx. 10 cm
- Sensor IC: MS5611

Internal filter

- Material: PTFE membrane
- Efficiency: >99.99% for particles of 200 nm

Miscellaneous

- Sensor cable material: Silicon
- Sensor housing: Anodized aluminium
- USB cable length: 1 meter (3 ft.)
- Operating temperature range (USB cable interface): 0°C to 70°C
- Powered through USB
- This product can operate at 100 %RH but is *not* waterproof. Protect the sensor and CPU against direct exposure to water or snow. Extra housing may be required depending on the application.
- It is recommended to install the probe pointing down to reduce the risk of water infiltration or build-up in the probe.

Available channels

(As displayed in our logging software *DracalView*)

Channel Id[*]	Description	Type	Nature
00	MS5611 Pressure	Pressure	Real
01	SHT31 Temperature	Temperature	Real
02	SHT31 Relative Humidity	Relative Humidity	Real
03	Dew point	Dew point	Virtual
04	Humidex	Humidex	Virtual
05	Heat index	Heat index	Virtual
06	Altitude	Height	Virtual

[*] **Channel Id as it appears in DracalView. Virtual channels Id differs in DracalView and dracal-usb-get.**

[Dracal PTH450 Datasheet](#)