# I2C-TRH320-P180

## Product Description

**I2C-TRH320: Precision temperature and humidity probe with dual dust filter and I$^2$C protocol.**

The I2C-TRH320 is a specifically designed probe for temperature and humidity acquisition, in harsh and extreme humidity conditions. With its factory calibrated, linearized and temperature compensated sensor chip, it is field interchangeable. Thanks to its precision electronics, extremely small variations in temperature and humidity can be acquired.

The sensor communicates using a standard I2C protocol, easing integration with a wide variety of **micro-controllers** and **single-board computers** such as the Raspberry pi, Arduino and compatibles.

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

## Specifications

### Temperature

- Range: -40 to 70°C [1]
- Accuracy: ±0.3°C (-20 to 70°C), max ±0.4°C
- Resolution: 0.015°C (typical)
- Repeatability: 0.06°C (typical)

### Humidity

- Range: 0 to 100 %RH
- Accuracy: (at 25°C)
    - Typical: ±2 %RH from 0 to 90 %RH
    - Max: ±2.5 %RH from 0 to 90 %RH
      ±4.5 %RH from 90 to 100 %RH
- Resolution: 0.01 %RH (typical)
- Repeatability: 0.1 %RH

### Filter:

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

## Miscellaneous

- Supply voltage: 3.3 to 5.0 vdc
- Communication protocol: I$^2$C interface, up to 1 MHz

- $I^2C$ Address: > 0x44
- Housing protection rating: IP64
- Connection: 4 wires
- Sensor housing: Black flexible PET mesh
- Cable: PVC, 3 ft
- Software: Example C and python code for Linux /dev/i2c available (for Raspberry Pi and other single board computers running Linux)
- Weight: 10 g
- Diameter: 0.4″ (10 mm)