

**Datasheet**

# Qosain Scientific PhysTherm

**Introduction:**

PhysTherm measures temperatures in a range as wide as -260 °C to 750 °C with a notable accuracy. It comes with a screw terminal connector that ensures support for a variety of K-type thermocouples. An in-built cold junction compensation scheme adds to the utility, making temperature measurement fast, reliable and as easy as the word “go”!

**Features:**

- Accurate temperature logging and plotting in real-time
- Compatible with K-type thermocouples
- Automatic cold junction compensation
- PhysInstrument class: Analog
- Connects with PhysLogger
- Lego casing and bracket
- Hot pluggable

**Specifications:**

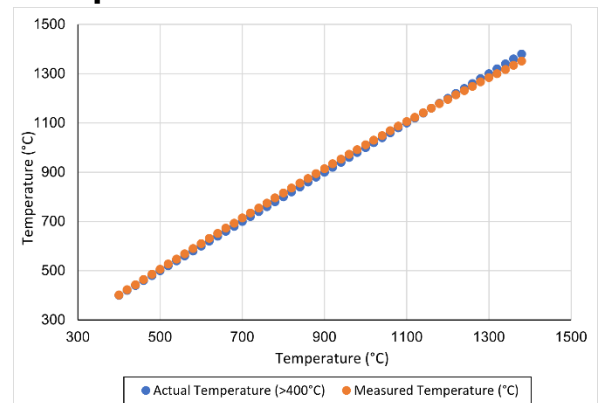
- Based on: Sonnecy CYSJ902
- Amplifier: AD8495
- Range: -260 °C to 750 °C
- Resolution
  - > 4 °C for: -260 to 750 °C
  - < 1°C for: -260 to 200 °C
  - < 0.02 °C for: -20 to 20 °C

- Mechanical
  - Weight:

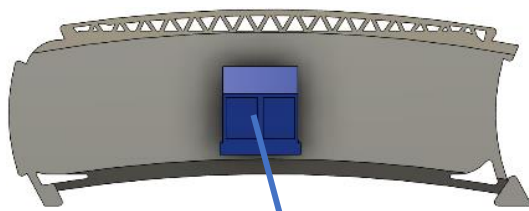
**Typical Applications**

- Temperature measurements in any science lab or the outdoors
- Monitoring temperature of perishable items
- Temperature profiling of the human body
- Warming up of cryogenics
- Model the behavior of thermistor
- The baffling Mpemba effect

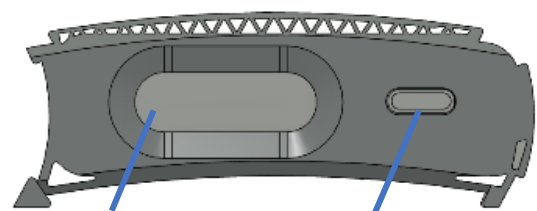
**Sample Results**



Comparison of PhysTherm (measured temperature) readings with actual temperature readings measured with a thermocouple and thermal gun.



5mm Pluggable  
Screw Terminal



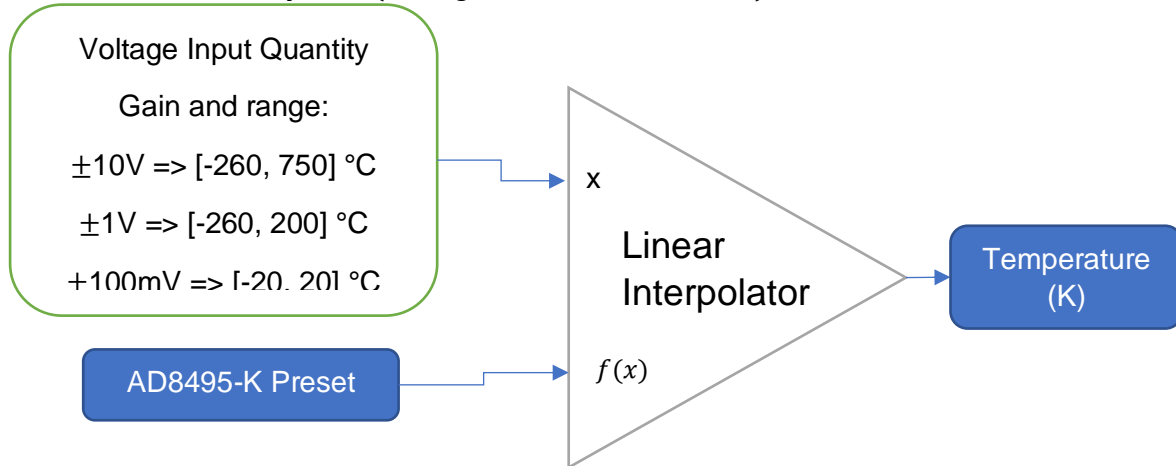
OLED Display

USB-C Receptacle



## Software Block Diagrams:

$T \text{ (In Kelvin)} = \text{Interpolate}(\text{Voltage}, \text{AD8495DataPreset})$



## Resources

- Instrument URL: [www.physlogger.com/PhysTherm.html](http://www.physlogger.com/PhysTherm.html)
- AD8495 Datasheet: [https://www.analog.com/media/en/technical-documentation/datasheets/ad8494\\_8495\\_8496\\_8497.pdf](https://www.analog.com/media/en/technical-documentation/datasheets/ad8494_8495_8496_8497.pdf)
- Discussion: [www.community.physlogger.com/c/physinstruments/physthern/14](http://www.community.physlogger.com/c/physinstruments/physthern/14)

