PyroMiniUSB
USB Infrared Temperature Sensor for Benchtop, Laboratory and Education

- Miniature non-contact temperature sensor with USB communications
- Measures from -20°C to 1000°C
- USB cable and PC software included for data logging and configuration
- Open Modbus protocol - use your own software to communicate with the sensor

The PyroMiniUSB is a miniature infrared sensor that measures the surface temperature of a solid or liquid without contact. It can measure non-metal surfaces between -20°C and 1000°C, with a response time of just 125 ms.

Materials including paper, thick plastics, rubber, food and organic materials, as well as painted metals and most dirty, rusty or oily surfaces, are measured accurately, safely and cleanly.

A choice of optics is available to measure small or large targets at distances ranging from a few millimetres up to tens of metres.

It has a rugged stainless steel housing, sealed to IP65, and is built to withstand ambient temperatures of up to 75°C.

The PyroMiniUSB is ideal for teaching science concepts such as emissivity, reflectivity, thermal conductivity, energy transfer, insulation and internal energy.

SPECIFICATIONS

- **Temperature Range**: -20°C to 1000°C
- **Interface**: USB
- **Accuracy**: ±1% of reading or ±1°C whichever is greater
- **Repeatability**: ± 0.5% of reading or ± 0.5°C whichever is greater
- **Emissivity Setting**: 0.2 to 1.0
- **Response Time, t 90**: 125 ms (90% response)
- **Spectral Range**: 8 to 14 μm
- **Supply Voltage**: 5 V DC (provided by USB)
- **Supply Current**: 50 mA max.

VIRTUAL COM PORT

- **Baud Rate**: 9600 baud *
- **Format**: 8 data bits, no parity, 1 stop bit *
- **Protocol**: Modbus over Serial Line

* Other configurations available upon request

CONFIGURATION

- **Configuration Method**: Via USB using included CalExConfig software or Modbus
- **Configurable Parameters**: Emissivity Setting, Averaging, Reflected Energy Compensation

MECHANICAL

- **Construction**: Stainless Steel
- **Dimensions**: 18 mm diameter x 45 mm long
- **Thread Mounting**: M16 x 1 mm pitch
- **Cable Length**: 1.5 m
- **Weight with Cable**: 85 g

ENVIRONMENTAL

- **Environmental Rating**: IP65
- **Ambient Temperature**: 0°C to 75°C
- **Relative Humidity**: 95% max. non-condensing

CONFORMITY

- **RoHS Compliant**: Yes
- **Electromagnetic Compatibility**: EN61326-1, EN61326-2-3 (Electrical Equipment for Measurement, Control and Laboratory Use - EMC Requirements - Industrial)
**SOFTWARE: CALEXCONFIG**

25.0°C

- Temperature display
- Graph of measured temperature and sensor temperature
- Sensor configuration
- Data logging to an Excel-compatible file
- Connect multiple sensors to the same software
- Simple, touch-friendly interface
- Software included with every sensor
- Free to download from the Calex website
- Or use the provided Modbus details to connect the sensor to your own software

**ACCESSORIES**

- Laser sighting tool
- Adjustable mounting bracket
- Air purge collar
- Fixed mounting bracket

**OPTICS**

Diameter of target spot measured versus distance from sensing head (90% energy)

**MAJOR DIMENSIONS**

- All dimensions in mm

**MODEL NUMBERS**

- PMU201
  - Field of view
    - 21 = 2:1 divergent optics
    - 201 = 20:1 divergent optics
  - Serie s
    - PMU = PyroMiniUSB sensor

- Fixed or Adjustable mounting bracket with continuous laser sighting DLSBF5 / DLSBAS