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

SPECIFICATIONS

Temperature Range	-20°C to 1000°C
Interface	USB
Accuracy	±1% of reading or ±1ºC whichever is greater
Repeatability	± 0.5% of reading or ± 0.5ºC 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	0ºC 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**)

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.

COMPACT

The sensor is just 45 mm long (plus cable gland), so it can fit into very small spaces. The USB interface is built into the sensor, so there is no need for additional bulky interface modules.

BENCHTOP AND LABORATORY

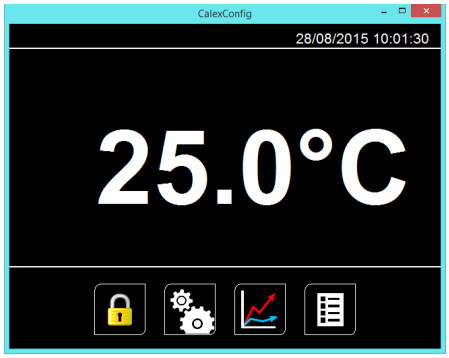
With the precision and robustness of our industrial pyrometers, and the plug-and-play convenience of USB, the PyroMiniUSB is the ideal benchtop temperature sensor for testing and experimentation.

EDUCATION

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

CALEX ELECTRONICS LIMITED

SOFTWARE: CALEXCONFIG

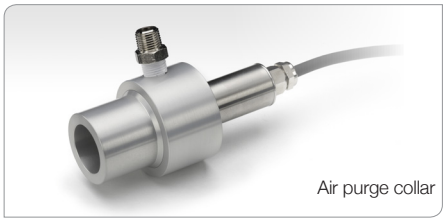


- Temperature display
- Graph of measured temperature and sensor temperature
- Sensor configuration
- Data logging to an Excel-compatible file
- Connect multiple sensors to the same software
- Simple, touch-friendly interface
- Software included with every sensor
- Free to download from the Calex website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

Adjustable mounting bracket **ABS**

Fixed mounting bracket **FBS**

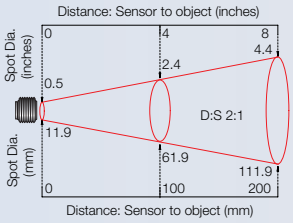
Calibration certificate **CALCERTA**

Laser sighting tool **LSTS**

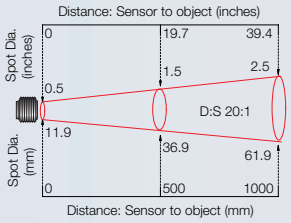
Fixed or Adjustable mounting bracket with continuous laser sighting **DLSBFS / DLSBAS**

OPTICS

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

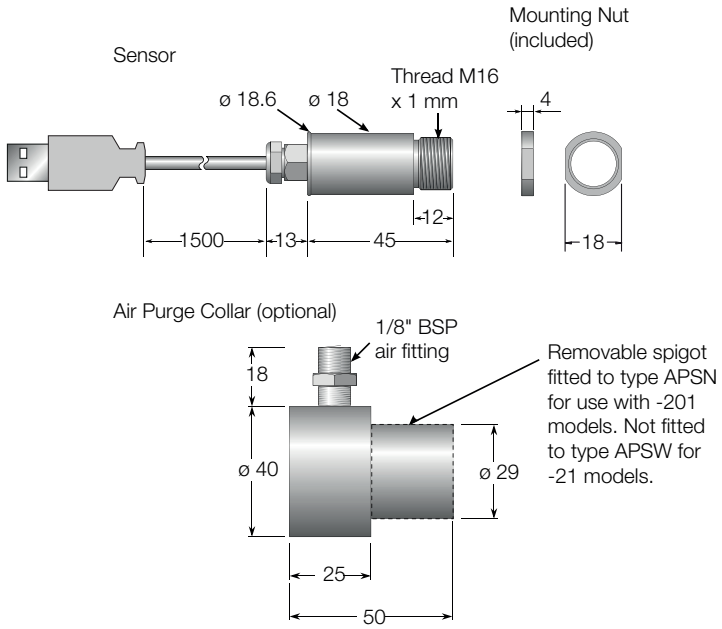


PMU21



PMU201

MAJOR DIMENSIONS



All dimensions in mm

MODEL NUMBERS



PMU **201**

Field of view
21 = 2:1 divergent optics
201 = 20:1 divergent optics

Series
PMU = PyroMiniUSB sensor

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Specifications subject to change without notice