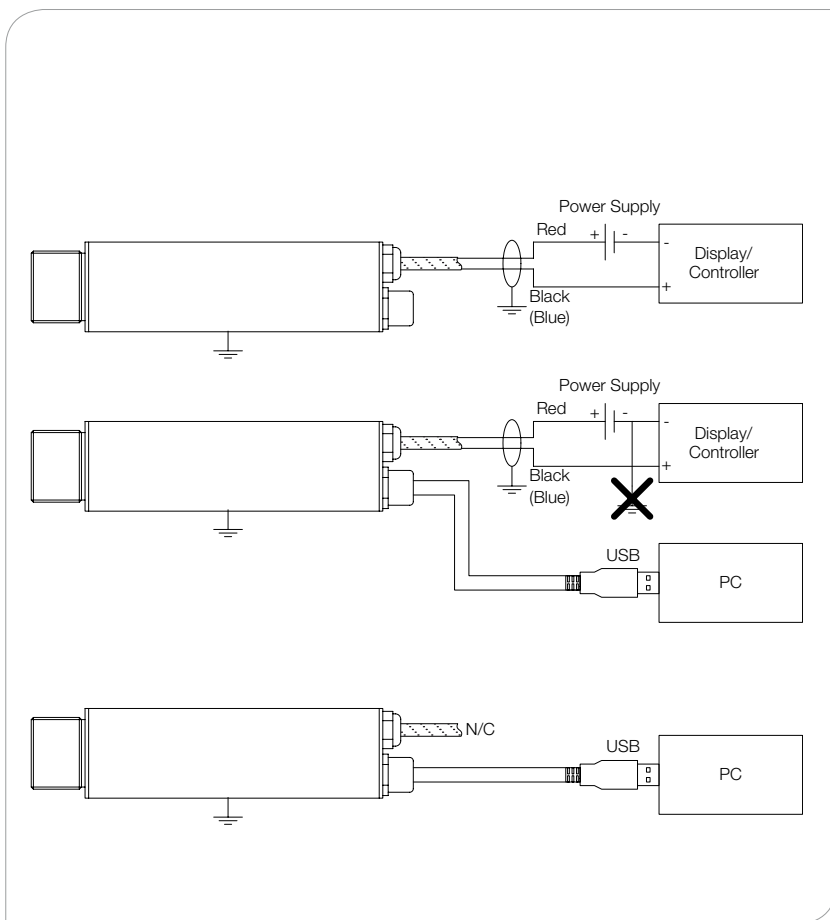


# PyroUSB PC Configurable Non-Contact Temperature Sensor with 4 to 20 mA Output



- Configurable temperature range, emissivity setting etc. from a PC via CalexSoft software and USB cable (supplied)
- Features max; min; average and instantaneous readings; peak or valley hold; reflected energy compensation
- OPC Server capabilities
- Temperature range  $-40$  to  $1000^{\circ}\text{C}$
- Emissivity:  $0.1$  to  $1.0$
- Response time:  $240$  ms to  $90\%$
- Stainless steel housing, sealed to IP65
- Field of view:  $15:1$ ,  $30:1$  or Close Focus
- $4$  to  $20$  mA output
- Quick and easy installation
- Optional air/water cooled housing, air purge collar, laser sighting tool and mounting brackets



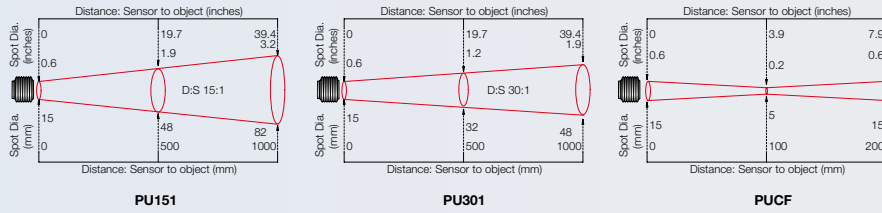
The PyroUSB Series measures temperatures from  $-40^{\circ}\text{C}$  to  $1000^{\circ}\text{C}$  accurately and consistently, with an outstanding response time of  $240$  ms. The  $4$  to  $20$  mA output is compatible with almost any indicator, controller, recorder, data logger etc. without the need for special interfacing or signal conditioning.

Model PU151 has  $15:1$  optics making it suitable for most applications. PU301 is specially designed for distant targets and has an optical resolution of  $30:1$ . PUCF is designed for small targets and measures a spot size of  $\varnothing 5\text{mm}$  at  $100\text{mm}$  distance.

All PyroUSB Series sensors are fully configurable from a PC using the CalexSoft software and USB cable supplied. This user friendly software enables the user to set the range and emissivity, compensate for reflected energy; apply filtering; select max, min, average or instantaneous readings; and peak or valley hold processing. These features can also be monitored and adjusted by an OPC Client. Other features include Data Acquisition, Alarms and a Scrolling Graphical Display.

The sensor will operate with either the  $4$  to  $20$  mA cable connected, the USB cable connected, or both. The USB cable has an IP65 connector at the sensor end. An IP65 cap protects the sensor when the USB cable is not connected.

## DIAMETER OF TARGET SPOT MEASURED VERSUS DISTANCE FROM SENSING HEAD



## GENERAL SPECIFICATIONS

### Temperature Range

-40°C to 1000°C

### Field-of-View

15:1 (PU151)

30:1 (PU301)

ø5mm @ 100mm (PUCF)

### Output

4 to 20 mA (linear with temperature)

### Configuration

Via PC port conforming to USB 2.0

### Accuracy

±1% of reading or ±1°C whichever is greater

### Repeatability

±0.5% of reading or ±0.5°C whichever is greater

### Emissivity

0.1 to 1.0

### Response Time, $t_{90}$

240 ms (90% response)

### Spectral Range

8 to 14  $\mu\text{m}$

### Supply Voltage

24 V DC (28Vdc max)

### Sensor Voltage

6 V DC min

### Max Loop Impedance

900  $\Omega$

### Maximum Span

1000°C

### Minimum Span

100°C

## MECHANICAL

### Construction

Stainless Steel

### Dimensions

25 mm diameter x 106.5 mm long

### Thread mounting

M20 x 1 mm pitch

### Weight with Output Cable

175 g

### Output Cable Length

1 m

### USB Cable Length

1 m

## ENVIRONMENTAL

### Environmental Rating

IP65

### Ambient Temperature Range

0°C to 70°C

### Relative Humidity

95% max. non-condensing

## ACCESSORIES

### FIXED MOUNTING BRACKET



The L-shaped fixed mounting bracket offers a rigid support for the sensor and allows fine adjustment in a single plane.

### ADJUSTABLE MOUNTING BRACKETS



The adjustable mounting bracket consists of a fixed mounting bracket plus another L-shaped bracket. When assembled as shown the adjustable mounting bracket offers a rigid support for the sensor and allows fine adjustment in two planes.

### AIR PURGE COLLAR



The air purge collar is used to keep dust, fumes, moisture and other contaminants away from the lens. Air flows into the fitting on the side and out of the aperture at the front.

### AIR/WATER COOLED HOUSING



The air/water cooled housing allows the sensor to withstand ambient temperatures which exceed the normal 70°C limit. Air or water (depending on the degree of cooling required) flows into one of the fittings on the side and out of the other. To prevent condensation forming on the lens, the air/water cooled housing is supplied complete with an air purge collar. Please note, the air/water cooled housing must be ordered with the sensor and cannot be fitted by the user.

### LASER SIGHTING TOOL



The Laser Sighting Tool screws onto the front of the sensor during installation and indicates precisely where the sensor is aiming. Once the sensor has been aimed at the centre of the target and locked in position the Laser Sighting Tool can be removed. The laser is activated by means of a push button on the front of the tool which has a latching mechanism.

## MODEL NUMBERS

### PUxxx xx

#### Cooling

(blank) = Sensor without cooling  
WJ = Air/water cooled jacket with air purge collar

#### Field of view

151 = 15:1 divergent optics  
301 = 30:1 divergent optics  
CF = Close-focus optics (focal spot size 5 mm at 100 mm distance)

## Calex Electronics Limited

PO Box 2, Leighton Buzzard, Bedfordshire, England LU7 4AZ

Tel: +44 (0)1525 373178/853800 Fax: +44 (0)1525 851319 Lo-call Tel: 0845 3108053

E-mail: mail@calex.co.uk Online: <http://www.calex.co.uk>

Issue C - March 14

Specifications subject to change without notice