# PyroCouple

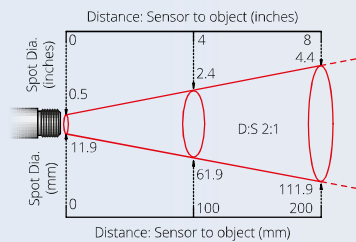## General Purpose Infrared Temperature Sensor with Analogue Output



- Temperature ranges from -20°C to 500°C
- Two-wire 4-20 mA output or four-wire voltage/thermocouple output
- Choice of precision optics for large or small targets
- Fast response with high stability
- Stainless steel housing, sealed to IP65
- Quick and easy installation
- Wide range of accessories
- Fixed emissivity 0.95 for measuring non-reflective non-metals, and painted surfaces (including painted or coated metals)
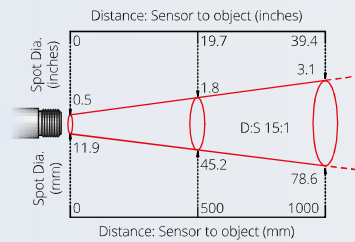- Conforms to industrial EMC standards

The PyroCouple is a simple infrared temperature sensor with a choice of analogue outputs. No complicated setup is required - just connect a temperature indicator and power supply, and instantly start taking measurements.

It is suitable for non-contact temperature measurement on most non-reflective non-metal surfaces, such as paper, thick plastics, asphalt, painted surfaces, food, rubber and organic materials, among many others.
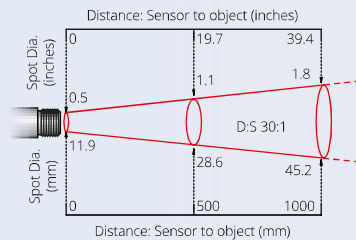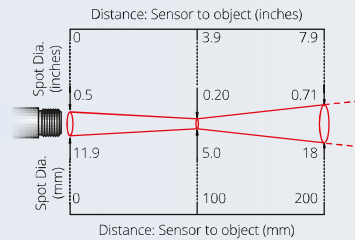
## OPTICS



**21** models



**151** models



**301** models



**CF** models

All models can measure at longer distances than shown, with a larger measured spot size.

Diagrams show the diameter of the measured target spot versus the distance from the sensing head (90% energy).
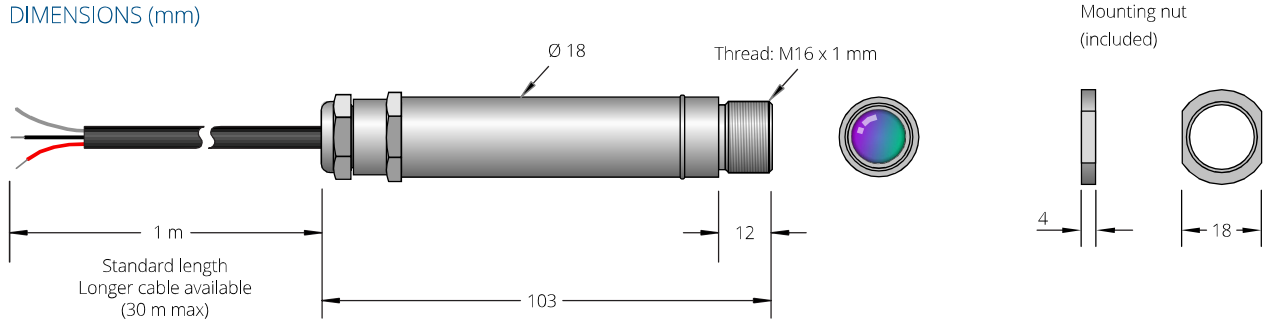
## SPECIFICATIONS

| General | |
|---|---|
| Output | Choice of 4-20 mA, J or K Thermocouple, mV (See "Model Numbers") |
| Temperature Range | LT = -20 to +100 °C<br>MT = 0 to 250 °C<br>HT = 0 to 500 °C |
| Accuracy | ±1% of reading or ±1°C, whichever is greater |
| Repeatability | ± 0.5% of reading or ± 0.5°C, whichever is greater |
| Emissivity Setting | Fixed at 0.95 |
| Response Time | 240 ms (90% response) |
| Spectral Range | 8 to 14 μm |
| Supply Voltage (at Sensor) | 6 V DC to 28 V DC |
| Max. Loop Impedance | 900 Ω ( 4-20 mA output) |
| Output Impedance | 56 Ω (voltage/thermocouple output) |
| Max. Current Draw | 20 mA |

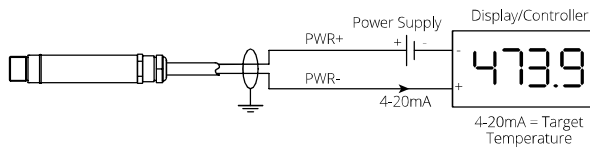| Mechanical | |
|---|---|
| Construction | Stainless Steel |
| Dimensions | 18 mm diameter x 103 mm long |
| Thread Mounting | M16 x 1 mm pitch |
| Cable Length | 1m (longer lengths available to order) |
| Weight with Cable | 95 g |

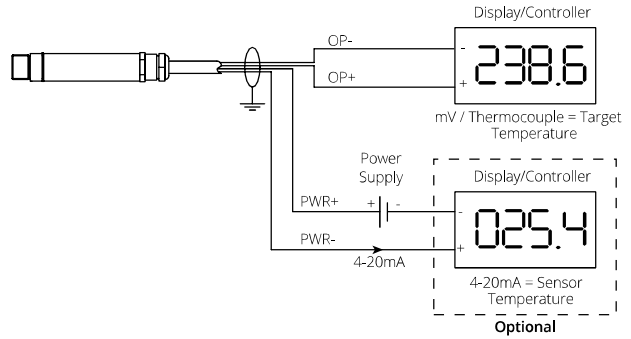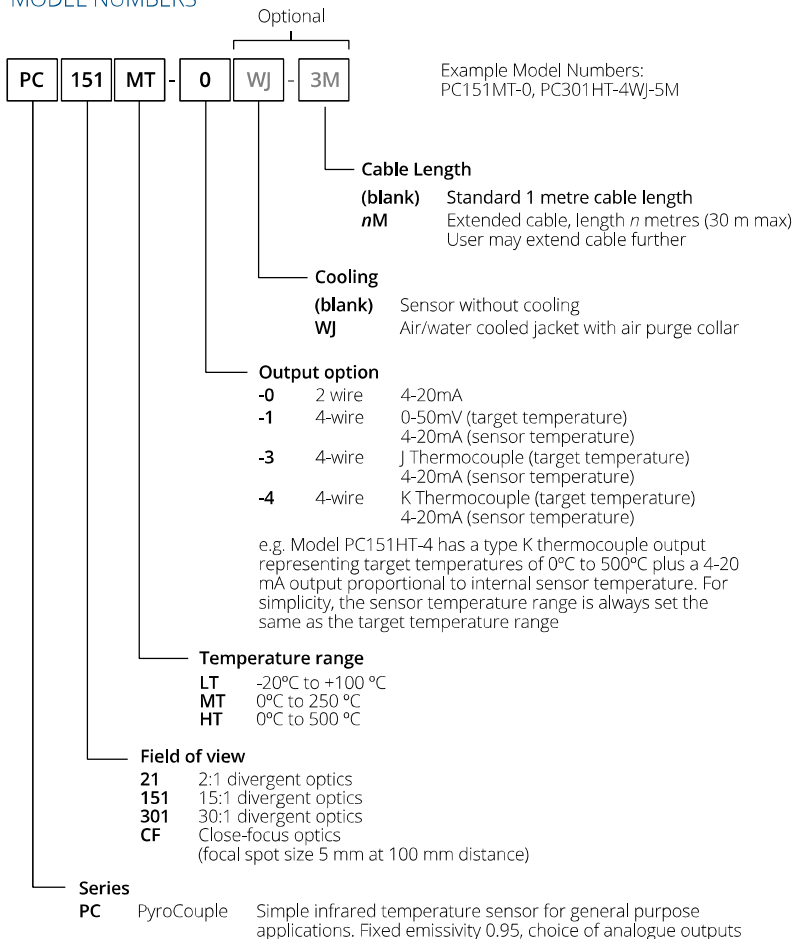| Environmental | |
|---|---|
| Environmental (IP) Rating | IP65 |
| Ambient (Operating) Temperature Range | 0°C to 70°C |
| Ambient (Operating) Humidity | 95% max. non-condensing |

# CALEX
## ELECTRONICS LIMITED

## DIMENSIONS (mm)

Ø 18

Thread: M16 x 1 mm

Mounting nut (included)

12

103

1 m
Standard length
Longer cable available
(30 m max)

4

18

## CONNECTIONS

**Two-wire (option 0)**

PWR+

Power Supply

Display/Controller

PWR-

4-20mA

473.9

4-20mA = Target Temperature

**Four-wire (options 1 to 4)**

OP-

OP+

Display/Controller

238.6

mV / Thermocouple = Target Temperature

Power Supply

PWR+

PWR-

4-20mA

Display/Controller

025.4

4-20mA = Sensor Temperature

**Optional**

## MODEL NUMBERS

Optional

**PC** | **151** | **MT** | **-0** | **WJ** | **3M**

Example Model Numbers:
PC151MT-0, PC301HT-4WJ-5M

**Cable Length**

(blank)   Standard 1 metre cable length
nM   Extended cable, length n metres (30 m max)
         User may extend cable further

**Cooling**

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

**Output option**

-0   2 wire   4-20mA
-1   4-wire   0-50mV (target temperature)
                4-20mA (sensor temperature)
-3   4-wire   J Thermocouple (target temperature)
                4-20mA (sensor temperature)
-4   4-wire   K Thermocouple (target temperature)
                4-20mA (sensor temperature)

e.g. Model PC151HT-4 has a type K thermocouple output representing target temperatures of 0°C to 500°C plus a 4-20 mA output proportional to internal sensor temperature. For simplicity, the sensor temperature range is always set the same as the target temperature range

**Temperature range**

LT   -20°C to +100 °C
MT   0°C to 250 °C
HT   0°C to 500 °C

**Field of view**

21   2:1 divergent optics
151   15:1 divergent optics
301   30:1 divergent optics
CF   Close-focus optics
      (focal spot size 5 mm at 100 mm distance)

**Series**

PC   PyroCouple   Simple infrared temperature sensor for general purpose applications. Fixed emissivity 0.95, choice of analogue outputs

## ACCESSORIES

Laser sighting tool **LSTS**

Dual laser sighting bracket, adjustable **DLSBAS** or fixed **DLSBFS**

Fixed mounting bracket **FBS**

Adjustable mounting bracket **ABS**

Air or water cooled jacket with air purge collar **WJ** (factory-fitted - see Model Numbers)

Air purge collar for 2:1 optics **APSW** or for all other optics (shown above) **APSN**