

# PyroCubeP

## IR Temperature Sensor

### Pyrometer for Thin Film Plastic



- Measures thin films of polyolefin, polyamide, polyethylene, polypropylene, polystyrene, nylon, PVC, acrylic, polyurethane and polycarbonate
- Temperature range 80°C to 350°C
- Measures an area as small as 12 mm
- 10 millisecond response time
- Continuous LED sighting shows the position and size of the measured spot while readings are being taken
- Multilingual touch screen interface (optional)

#### PYROCUBE G SENSOR SPECIFICATIONS

##### MEASUREMENT

**Temperature Range**  
80°C to 350°C

**Response Time (95%)**  
10 ms

Adjustable up to 5 s via averaging function

**Measured Spot Diameter**  
12 mm at distance 200 mm; varies depending on measurement distance (see Field of View Diagrams below)

**Target Sighting**  
Red LED built-in as standard on all models, shows the position and size of the measurement area. Switchable on/off.

**Accuracy of Measurement**  
± 4°C

**Repeatability**  
± 1°C

**Temperature Resolution**  
1°C below 120°C  
0.5°C above 120°C

**Emissivity Setting**  
Adjustable, 0.3 to 1.0, via RS232C or optional touch screen interface

##### MECHANICAL

**Weight (without cable)**  
85g

##### ENVIRONMENTAL

**Environmental rating**  
IP67

**Operating ambient temperature**  
0°C to 50°C

**Storage temperature**  
-15°C to 70°C

**Operating ambient humidity**  
30% to 85% RH non condensing

##### DISPLAY

Optional PM030 touch screen terminal for indication, configuration, data logging and alarm outputs. Sensor is available with or without display.

#### PM030 TOUCH SCREEN INTERFACE

- Optional wall-mounted display, data logging, configuration and alarm unit for PyroCube sensor
- **Read the temperature**  
The large, bright backlit temperature display is visible from a distance and turns red in an alarm condition.
- **Record the temperature history**  
See a graph of the measured temperature, and log more than a year of data to a single MicroSD Card. The data is stored in a simple text format that can be imported easily into Excel.
- **Configure the sensor**  
All the sensor's configuration settings can be adjusted via the intuitive touch screen interface.
- **Trigger temperature alarms**  
Two alarms are individually configurable as high, low, band or error. The screen turns bright red to signal an alarm condition, and the built-in 24 V, 1 A relay outputs can be connected directly to alarm sounders and beacons.
- **Accurate measurements, even with reflections of hot objects**  
Place the sensor outside an oven or furnace and accurately measure the temperature of objects inside by using the Reflected Energy Compensation feature.

#### ELECTRICAL

##### Outputs

1 analogue output and 1 alarm output

##### Analogue Output

4-20 mA (set by default), 0-20 mA, mV/°C or voltage, selectable via optional PM030 touch screen interface

##### Alarm Output

1 open drain alarm output, rated 27 V DC, 0.2 A

##### Supply Voltage

5 to 27 V DC, 100 mA max

##### Digital Communications

RS232C Modbus RTU, non-isolated

##### Output Cable Connection to Sensor

Hardwired

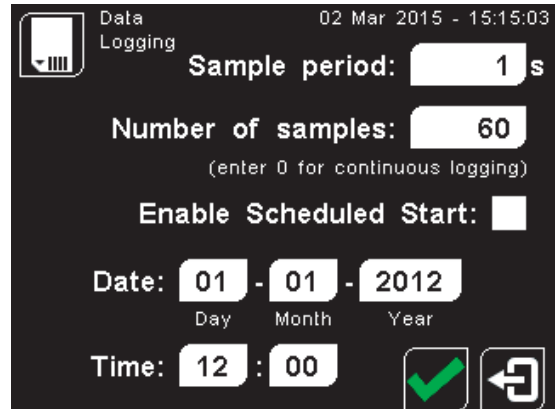
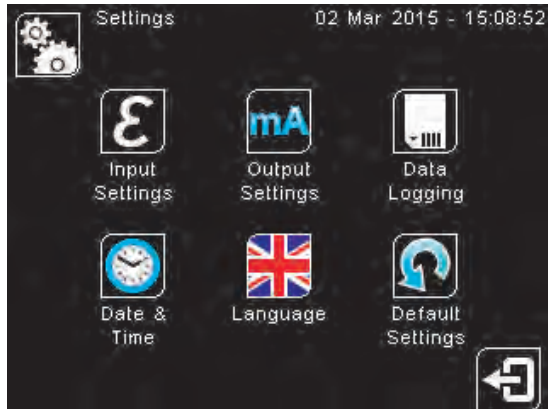
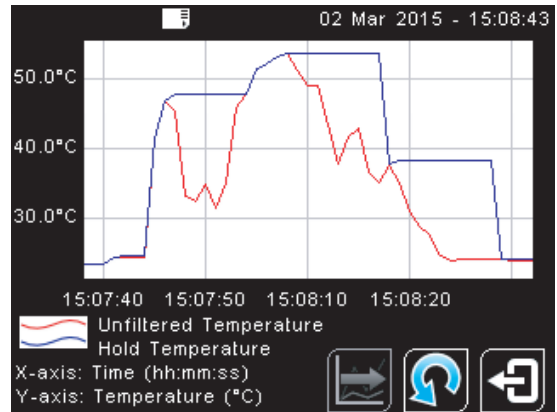
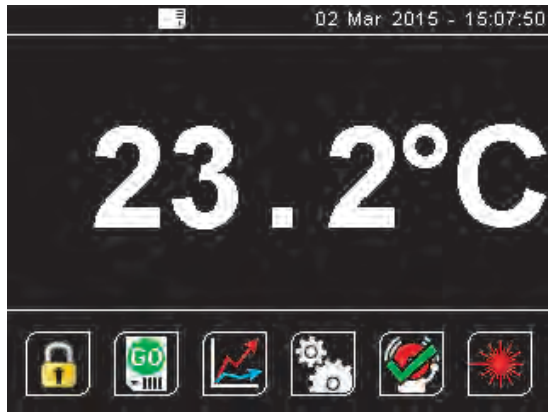
#### Applications

The PyroCube P measures the temperature of thin film plastics from 80°C to 350°C.

Thin-film plastics are often highly transmissive to infrared radiation, which makes them very difficult to measure with most sensors.

The PyroCube P uses a special measurement wavelength of 3.4 µm to accurately measure the temperature of many types of plastic film that cannot be measured with general-purpose sensors (see Features above).

An extremely fast 10 ms response time, small measurement area and continuous LED sighting make the PyroCube suitable for even the most challenging applications.



### PM30 DATA LOGGING SPECIFICATIONS

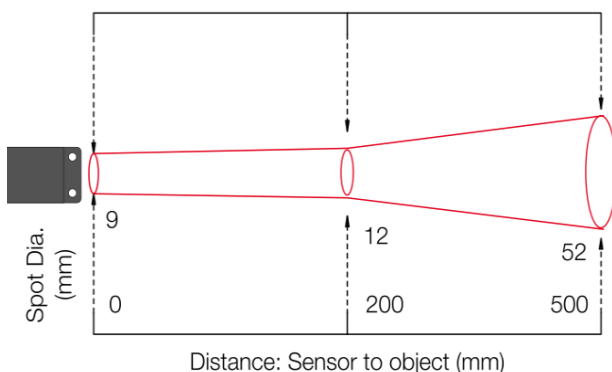
- Storage**  
MicroSD Card (optional), max. 32 GB, equal to 16 years of data at the fastest sample rate of 1 per second
- Sample Interval**  
1 second to 1 day (configurable)
- Internal Clock Battery**  
1 x BR 1225, 3 V (not included)
- Variables Logged**  
Instantaneous measured temperature, hold temperature, alarm events
- Configurable Parameters**  
Data logging: Sample period  
Number of samples  
Scheduled start  
Alarm logging: Log times when triggered, acknowledged, reset Log data while triggered

### PM30 SPECIFICATIONS

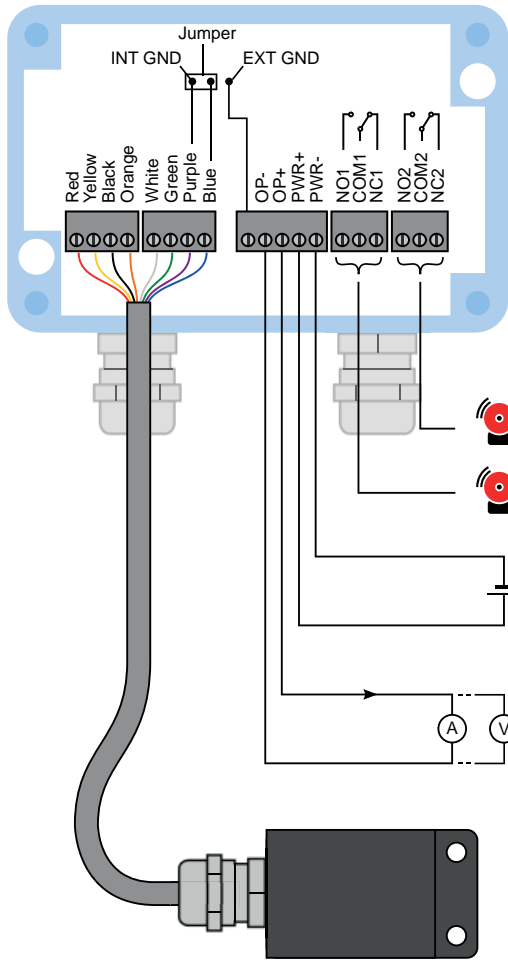
- Display Format**  
2.83" (72 mm) resistive touch TFT, 320x240 pixels, backlit
- Configurable Parameters**  
Language (English, Chinese, Japanese)  
Temperature units °C/°F  
Displayed temperature  
LED sighting on/off  
Password  
Date & time (for data logging time stamps)  
Peak hold period, decay level  
Averaging period  
Correction (gain/offset)  
Emissivity setting (with teach function)  
Reflected energy compensation (with teach function)  
Output type  
Output temperature range  
Polarity on error  
Alarm mode, levels, hysteresis

### Field of View Diagrams

P12.0 Measured spot diameter 12 mm at distance 200 mm



## PM030 CONNECTIONS



Alarm Relays:  
24 V DC, 1 A

Power Supply:  
5 to 27 V DC

Temperature Output:  
0-20 mA  
4-20 mA  
mV/C  
0-1 V DC  
0-5 V DC  
0-10 V DC

PyroCube Sensor

## ACCESSORIES



Mounting bracket



Black ring component



Black cylindrical component with fitting



Black cylindrical component



Black square component with lens



Black rectangular component with lens



Black cable with connector

## MODEL NUMBERS



PCU-P

**PCU - P12.0 - 2M - 1V**

Voltage output option

1V = 0 to 1 V DC

5V = 0 to 5 V DC

10V = 0 to 10 V DC

Note: All models also have 0-20 mA, 4-20 mA, and mV/°C outputs as standard. If voltage output is not required, choose 1V.

Cable length

2M = 2 metres

5M = 5 metres

10M = 10 metres

Field of view

P12.0 = 12 mm measured spot diameter at 200 mm distance

Series

PCU = PyroCube

**PM030**

Touch screen interface module for PyroCube sensor

