PROCESS SENSORS CORPORATION

PSC-PC and PSC-PE Series

Self-Contained Non-Contact IR Temperature Sensors

- Temperature range: -20°C to 500°C
- Choice of precision optics for large or small targets at short or long distances
- Fast response with high stability
- Compact stainless steel housing
- Quick and easy installation
- Wide range of accessories

The Process Sensors IR Compact Pyrometer Series is a group of high quality, low cost non-contact sensors that measure the temperature of moving objects and low reflective materials. All models conform to industrial EMC standards.

PSC-PC with indicator

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

- Suitable for non-contact temperature measurement on most non-reflectivenon-metal surfaces, such as paper,thick plastics, asphalt, painted surfaces, food, rubber and organicmaterials, among many others.
- Linear analog two-wire 4-20 mAoutput for measured temperature

PSC-PE with PSC-Tune emissivity adjuster

The **PSC-PE** is a simple sensor with an adjustable emissivity setting.

- Two-wire 4-20 mA output
- Emissivity adjustment via a separate two-wire 4-20 mA input
- Adjust the emissivity continuously during the process using a variable 4-20 mA source
- Set the emissivity manually with optional PSC-Tune emissivity adjuster

GENERAL SPECIFICATIONS - IR SENSORS

Models PSC-PC and PSC-PE

Model Output Selection (see Model selection guide)	IR Sensor Temperature Output
- 0 (PSC-PC and PE only)	4-20 mA linear

	PSC-PC	PSC-PE
Output	Two-wire 4-20 mA	
Temperature Range	HT = 0 to 500 ºC (32 to 932ºF) MT = 0 to 250 ºC (32 to 482ºF) LT = -20 to 100 ºC (-4 to 212ºF)	
Accuracy	±1% of reading or ±1ºC whichever is greater	
Repeatability	± 0.5% of reading or ± 0.5ºC whichever is greater	
Emissivity Setting	Fixed at 0.95	Variable 0.2 to 1.0 via continuous 4-20 mA input or optional PSC-Tune adjustment
Response Time, t_{90}	240 ms (90% response)	
Spectral Range	8 to 14 µm	
Supply Voltage	6 to 28 V DC (28 V DC max.)	
Min. Sensor Voltage	6 VDC	
Max. Loop Impedance	900 Ω (4-20 mA output)	
Output Impedance	56 Ω (voltage/thermocouple output)	-
Input Impedance	-	50 Ω
Current Draw	20 mA max. 3.2 mA @ 24 V DC)	

* Other configurations available upon request

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 3.3 oz (95 g)

ENVIRONMENTAL

Environmental Rating IP65
Ambient Temperature Range 0ºC to 70ºC
Relative Humidity 95% max. non-condensing

GENERAL SPECIFICATIONS - PSC-TUNE

Output 4-20 mA for emissivity adjustment of PSC-PE sensor
Supply Voltage 24 V DC (13 V to 28 V DC)
Display Format 3.5 digit LCD
Display Units Emissivity (0.2 to 1.0) or current (4 - 20 mA)
Adjustment Push-buttons (raise/lower/set)

MECHANICAL

Construction Polycarbonate with gasket, transparent lid (PC) and quick release screws
Mounting Surface
Dimensions 65 mm tall x 50 mm wide x 35 mm deep
Weight 2.5 oz (72 g)

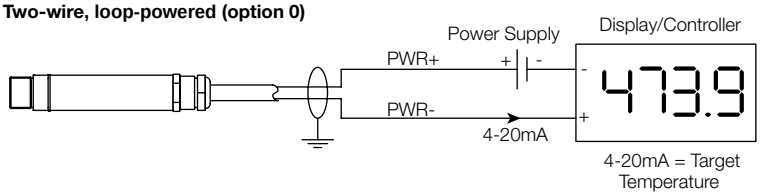
ENVIRONMENTAL

Environmental Rating IP65
Ambient Temperature Range 0ºC to 70ºC
Relative Humidity 95% max. non-condensing

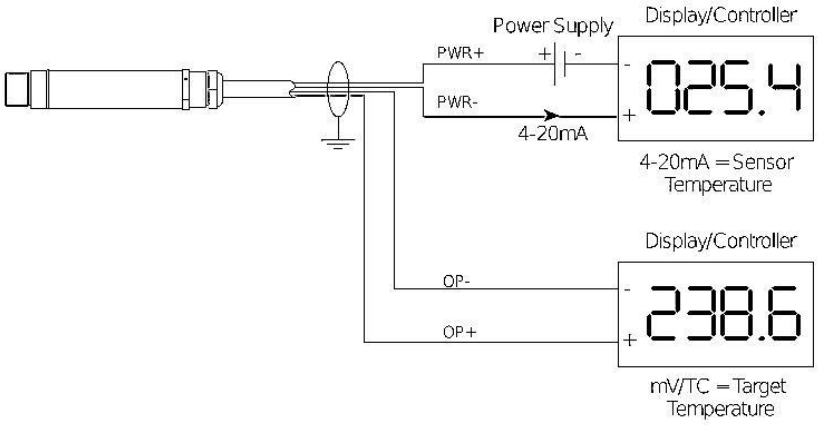
Wiring Configurations

PSC-PC

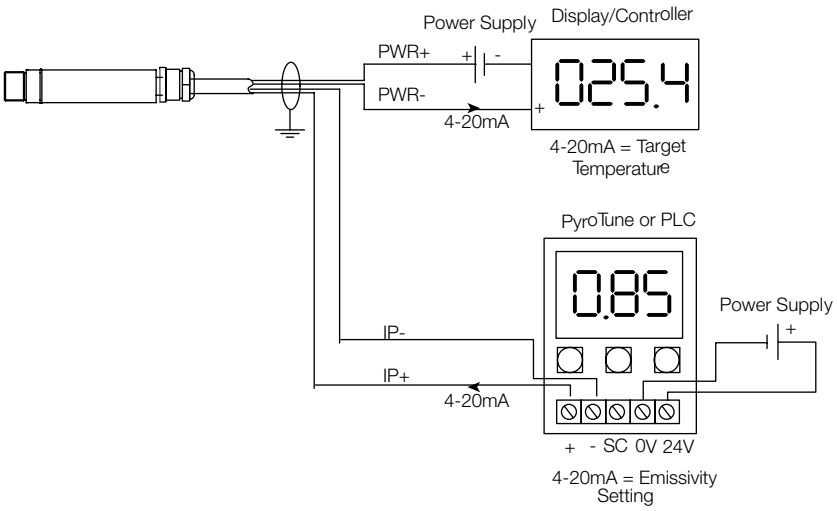
Two-wire, loop-powered (option 0)



Four-wire with J-type thermocouple (option 3)

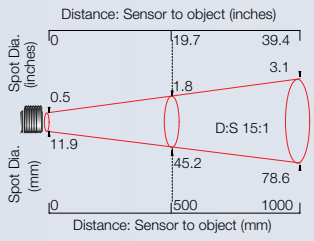


PSC-PE



OPTICS

Distance to spot size ratio (90% energy)



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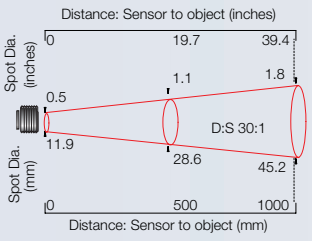

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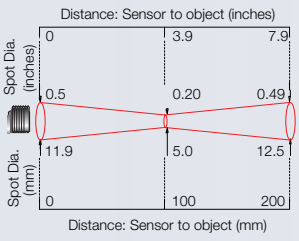


-CF

ACCESSORIES

Fixed mounting bracket **PSC-FBS**

Air purge collar for 30:1 optics **PSC-APSN**

Laser sighting tool **PSC-LSTS**

Adjustable mounting bracket **PSC-A BS**

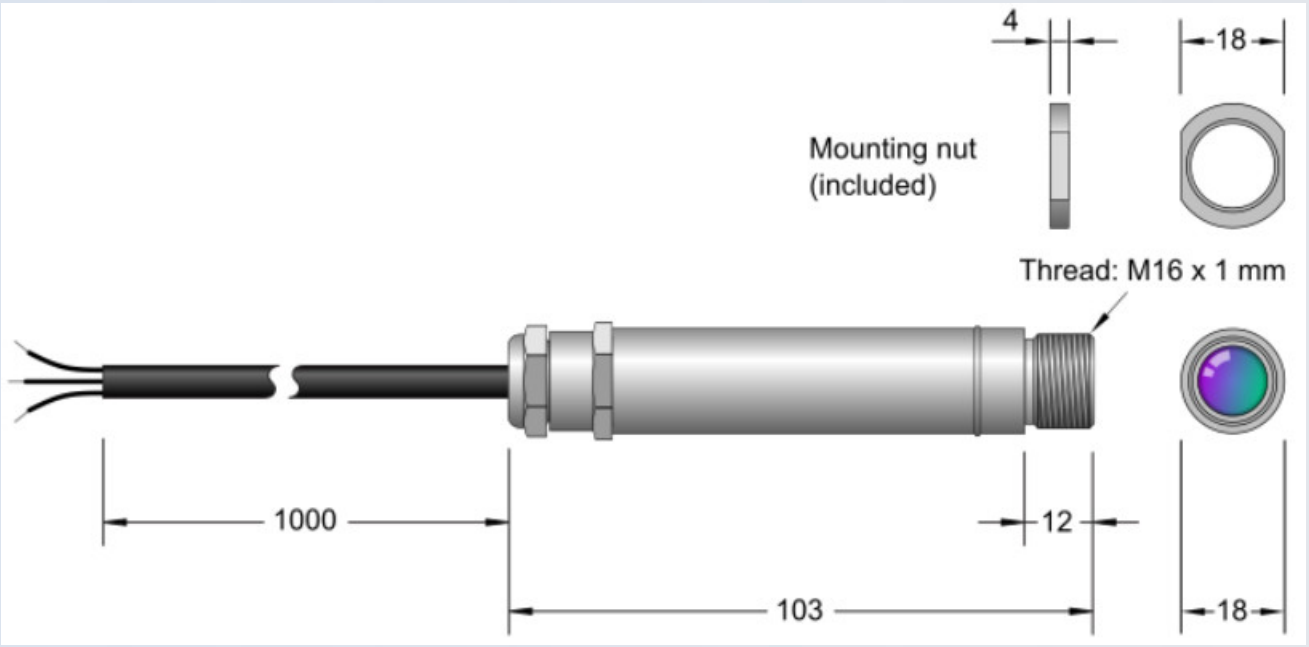
Air or water cooled jacket with air purge collar **PSC-WJ** (see Model Numbers)

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

PSC-Tune emissivity adjuster **PSC-PT** (for PSC-PE only)

Protective plastic window with stainless steel holder **PSC-PWS** (for PSC-PE only)

DIMENSIONS



MODEL SELECTION GUIDE

PSC	PC	30	HT	0	WJ

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

Output
0= 2 wire, linear 4-20mA
3= 4-wire with J-type thermocouple

e.g. Model PSC-PC30HT-0 has a linear 4-20mA output representing target temperatures of 0ºC to 500ºC and a Field of View (F_{OV}) of 30:1

Temperature range (PSC -PC & PSC-PE only)
LT = -20 to 100 ºC
MT = 0 to 250ºC
HT = 0 to 500 ºC

Field of view
15 = 15:1 F OV
30 = 30:1 F OV
CF = Close-focus optics (focal spot size 5 mm at 100mm distance)

PC = fixed emissivity, and 4-20 mA analog output
PE = adjustable emissivity, 4-20 mA output

Example Model Numbers: PSC-PC30-HT-0, PSC-PE30-HT-0,

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Updated: 12/16/21
Specifications subject to change without notice