

PSC-S55N / PSC-G55N

1 Color Pyrometer Series
For Industrial and R&D Applications



The Stand Alone PSC-G55N and PSC-S55N One-Color Pyrometer Series provide pinpoint accuracy over an incredibly wide temperature range with customizable options. Choose from integrated laser aiming light, through lens sighting, or real-time color video camera sighting. The series offers ten distinct temperature ranges and four high-resolution, fixed focus optics choices.

These compact digital sensors are specifically designed for accuracy and reliability in harsh industrial and demanding laboratory applications. The PSC-G55N and PSC-S55N Series' 0/4 to 20mA output allows easy integration to existing measurement and control systems. RS-485 interface capability facilitates connection to a PC to allow all parameter settings to be set and adjusted using the PSCSpot software and optional RS-485 to USB connector.

APPLICATIONS

- Steel and Metals
- Vacuum Furnace
- Semiconductor
- Induction Heating
- Kilns
- Welding
- Ceramics/Composites
- Sintering/Graphite
- Nuclear
- R & D

FEATURES

- Temperature Display and Parameter Controls on IR Sensor Rear Panel
- Thru-lens, Laser or Integrated Color Video
- Temperature Ranges from 200° to 3000°C
- 0/4-20mA linear Analog output
- Choice of Fixed Focus
- Fast Response Time: 2ms adjustable up to 100 seconds
- Compact, Robust Stainless Steel Housing
- RS-485 Modbus Interface Integration into Existing Data Acquisition Systems
- Rugged Hardware Designed for Harsh Industrial Continuous Operations

Table 1: Temperature Range and Spectral Response

Models	PSC-G55NT PSC-G55NL PSC-G55NV	PSC-S55NT PSC-S55NL PSC-S55NV
Spectral Response	1.5µm to 1.8µm	0.8µm to 1.1µm
Temperature Ranges	200° to 1200°C 392° to 2192°F	550° to 1500°C 1022° to 2732°F
	250° to 1500°C 482° to 2732°F	600° to 1800°C 1112° to 3272°F
	350° to 2000°C 662° to 3632°F	800° to 2500°C 1472° to 4532°F
	200° to 2000°C 392° to 3632°F	600° to 3000°C 1112° to 5432°F
	250° to 2500°C 482° to 4532°F	900° to 3000°C 1652° to 5432°F



PSC-G55NT
PSC-S55NT
THRU-LENS SIGHTING



PSC-G55NL
PSC-S55NL
LASER SIGHTING



PSC-G55NV
PSC-S55NV
VIDEO CAMERA

Table 2: Fixed Focus Optics PSC-G55N Series

Temperature Range	Optics Aperture	Distance/Spot Size			
		Focused at 9.84" (250 mm)	Focused at 25.59" (650 mm)	Focused at 78.74" (2000 mm)	Focused at 157.48" (4000 mm)
200° to 1200°C 392° to 2192°F	0.39 inch (10.0 mm)	0.05 in. (1.3 mm)	0.14 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
250° to 1500°C 482° to 2732°F	0.32 inch (8.0 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)
350° to 2000°C 662° to 3632°F	0.19 inch (5.0 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)
200° to 2000°C 392° to 332°F	0.19 inch (5.0 mm)	0.05 in. (1.3 mm)	0.14 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
250° to 2500°C 482° to 4532°F	0.14 inch (3.5 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)

Table 3: Fixed Focus Optics PSC-S55N Series

Temperature Range	Optics Aperture	Distance/Spot Size			
		Focused at 9.84" (250 mm)	Focused at 25.59" (650 mm)	Focused at 78.74" (2000 mm)	Focused at 157.48" (4000 mm)
550° to 1500°C 1022° to 2732°F	0.39 inch (10.0 mm)	0.05 in. (1.3 mm)	0.14 in. (3.5 mm)	0.39 in. (10.0 mm)	0.79 in. (20.0 mm)
600° to 1800°C 1112° to 3272°F	0.24 inch (6.0 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)
800° to 2500°C 1472° to 4532°F	0.31 inch (8.0 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)
900° to 3000°C 1652° to 5432°F	0.16 inch (4.0 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)
600° to 3000°C 1112° to 5432°F	0.16 inch (4.0 mm)	0.03 in. (0.8 mm)	0.086 in. (2.2 mm)	0.26 in. (6.7 mm)	0.51 in. (13 mm)

MODEL SELECTION GUIDE

PSC-G55N Series

Build the model number by selecting instrument specifications required from each column.

1. Select Model Number:	2. Select Temperature Range in °C:	3. Select Fixed Focus Optics in mm:	4. Select Accessories Codes:
 PSC-G55NT Thru-lens	0200° to 1200°C 392° to 2192°F	250	Choose 1 of 2 Jacket Codes:
	0250° to 1500°C 482° to 2732°F	650	JW = Protective Cooling Jacket With integrated Air Purge
	0350° to 2000°C 662° to 3632°F	2000	00 = No Protective Jacket
	0250° to 2500°C 482° to 4532°F	4000	Choose 1 of 2 Air Purge Codes:
	0200° to 2000°C 392° to 3632°F		AP = Air Purge Assembly (connects to IR Sensor)
 PSC-G55NL Laser			00 = No Air Purge Assembly
 PSC-G55NV Video			
Example: Model PSC-G55NV-0250-1500-650-JW-00 includes video camera sighting, temperature range of 250 to 1500°C, 650mm fixed focus optics and protective cooling jacket with integrated air purge. (Refer to Accessories page)			

MODEL SELECTION GUIDE

PSC-S55N Series

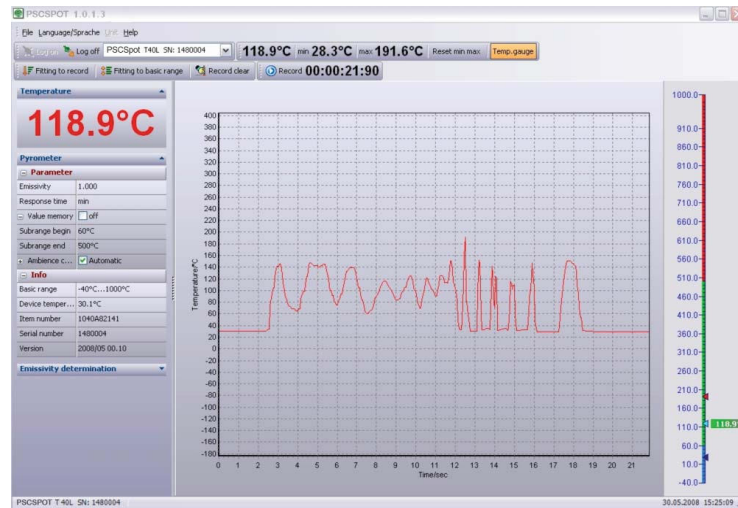
Build the model number by selecting instrument specifications required from each column.

1. Select Model Number:	2. Select Temperature Range in °C:	3. Select Fixed Focus Optics in mm:	4. Select Accessories Codes:
 PSC-S55NT Thru-lens	0550°C to 1500°C 1022° to 2732°F	250	Choose 1 of 2 Jacket Codes:
	0600° to 1800°C 1112° to 3272°F	650	JW = Protective Cooling Jacket With integrated Air Purge
	0800° to 2500°C 1472° to 4532°F	2000	00 = No Protective Jacket
	0900° to 3000°C 1652° to 5432°F	4000	Choose 1 of 2 Air Purge Codes:
	0600° to 3000°C 1112° to 5432°F		AP = Air Purge Assembly (connects to IR Sensor)
 PSC-S55NL Laser			00 = No Air Purge Assembly
 PSC-S55NV Video			
Example: Model PSC-S55NL-0900-3000-4000-JW-00 includes laser sighting, temperature range of 900 to 3000°C, 4000mm fixed focus optics and protective cooling jacket with integrated air purge. (Refer to Accessories page)			

PSCSpot Software for PSC-G55N and PSC-S55N Series

PSCSpot software is used for manual set-up and adjustment of pyrometer parameters that include ratio correction, emissivity, sub-temperature range, data storage settings and response time to the application. The no-cost PSCSpot software is included with the purchase of an optional RS-485 to USB adapter and connection cable. The PSCSpot software facilitates recording, and creation and retention of graphic or table files.

The PSC-G55N and PSC-S55N Series is equipped with 0/4 to 20mA analog output and RS-485 interface, so that files can be utilized and evaluated for quality assurance purposes. The PSCSpot software allows data recording in real-time via a PC with minimum computer requirements of 500MHz clock frequency and any Windows® operating system.



Typical Industrial Applications



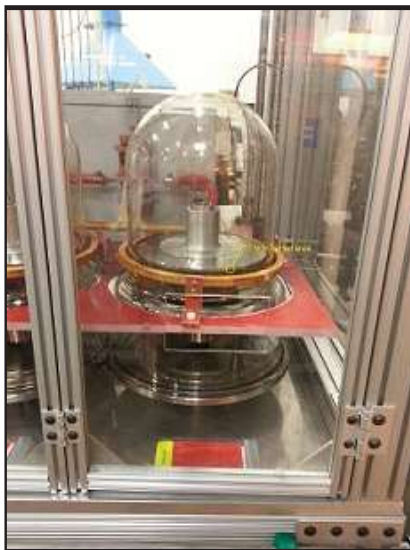
Pipe Casting



Induction Heating



Steel



Bell Jar - R & D / Laboratory

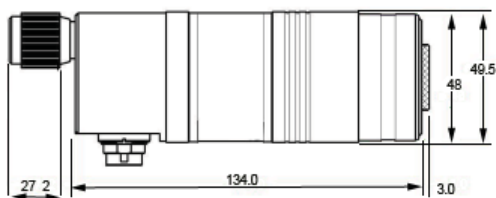


Molten Glass Stream

SPECIFICATIONS PSC-G55N and PSC-S55N Series

Temperature Range PSC-G55N Series	200° to 1200°C	250° to 1500°C	350° to 2000°C	250° to 2500°C	200° to 2000°C
	392° to 2192°F	482° to 2732°F	622° to 3632°F	482° to 4532°F	392° to 3632°F
Temperature Range PSC-S55N Series	550° to 1500°C	600° to 1800°C	800° to 2500°C	900° to 3000°C	600° to 3000°C
	1022° to 2732°F	1112° to 3272°F	1472° to 4532°F	1652° to 5432°F	1112° to 5432°F
Sub Temperature Range	Adjustable Within Overall Temperature Range, Minimum Span 50°C (122°F)				
Field of View Ratio	200:1	300:1	300:1	300:1	200:1 / 300:1
Accuracy	0.5% of Measured Value in °C				
Reproducibility	0.1% of Measured Value in °C				
Aiming	PSC-G56NT and PSC-S56NT: Optical Through Lens Sighting PSC-G56NL and PSC-S56NL: Laser Aiming Light, 630...680 nm, Class II, <1 mW PSC-G56NV and PSC-S56NV: Video Camera, Composite Video Signal NTSC (M), 60Hz or PAL (B), 50Hz				
Choice of Optics Types	250mm, 650mm, 2000mm, 4000mm				
Spectral Range	PSC-G55N 1.5µm to 1.8µm		PSC-S55N 0.8µm to 1.1µm		
Ratio Correction K	0.800 to 1.200				
Emissivity ε	0.050 to 1.000				
Response Time (t95)	5 ms (min.) Adjustable up to 100 seconds				
NETD	0.1K				
Transmissivity	50% to 100%				
Output	0/4 mA to 20 mA, Temperature Linear, Max. Load 500 Ω (Galvanically Isolated)				
Interface	RS-485 (Galvanically Isolated), Half Duplex, Max. 115 kBd, Modbus RTU				
Switching Output/Threshold	1 Opto Relay, R _{Load} Min. 48Ω (Galvanically Isolated) Adjustable Within Temperature Range				
Parameters	Adjustable Via Interface and Software, or at Device: Ratio Correction, Emissivity, Transmissivity, Response Time, Data Storage Settings, Sub Range of Measurement Output, Switching Thresholds of Switching Output				
Power Supply	24 V DC ± 25%, Residual Ripple 500 mV				
Power Consumption	Max. 1.5W (Without Load at Switching Output)				
Operating Temperature	0° to 70°C (32° to 158°F)				
Storage Temperature	-20° to 70°C (-4° to 158°F)				
Weight	750 grams (1 lb. 10.45 oz.)				
Housing	Stainless Steel Cylindrical Housing with Connector 140mm (w/o through lens sighting), 50mm O.D.				
Safety Class	IP65 According to DIN EN 60529 and DIN 40050				
Test Regulation	EN 55 011: 1998, Limit Class A				
CE Symbol	According to EU Regulations				
Standard Equipment	PSC-G55N or PSC-S55N, Operation Manual, Inspection Sheet, PSC Spot Software, Without Connection Cable (Must be ordered separately)				

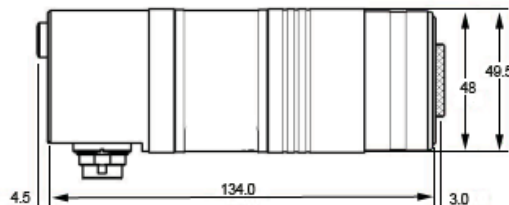
Product Dimensions in mm



Through-Lens
Sighting



Laser Sighting



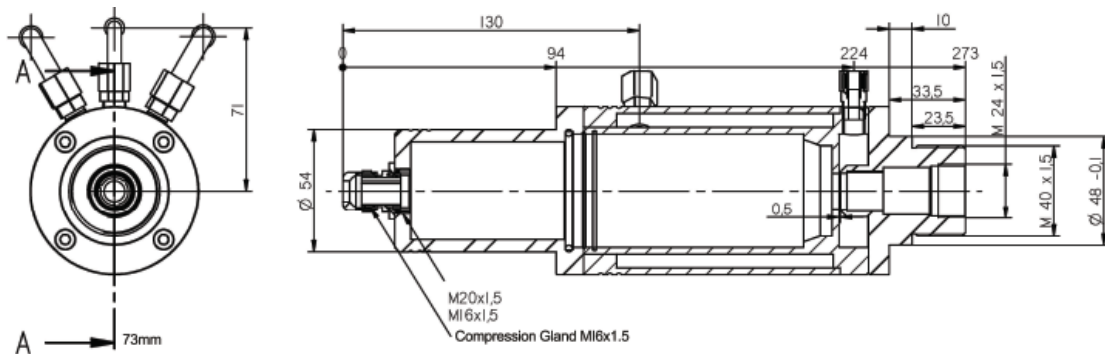
Video Camera Sighting

ACCESSORIES PSC-SR55N and PSC-S55N Series

The circumstances under which Process Sensors pyrometers are used are many and varied. In order to accommodate these differences and to ensure reliable, trouble-free operation, we have designed a large comprehensive family of accessories. Some are purely protective, while others simplify a measurement that would be difficult or impossible otherwise. Pictured below is a sampling.

		
STAINLESS STEEL COOLING JACKET WITH INTEGRATED AIR PURGE PSC-3310A23057	STAINLESS STEEL COOLING JACKET WITH ADJUSTABLE AIMING FLANGE PSC-3310A24020	STAINLESS STEEL BALL AND SOCKET AIMING FLANGE PSC- 3310A11132
		
AIR PURGE PSC-3310A22050	REMOVABLE SEALED WINDOW ASSEMBLY Part number dependant upon window material	ADJUSTABLE MOUNTING BRACKET PSC-3310A21050
		
DHP1040 HAND HELD PROGRAMMER PSC-331A17010	CONNECTION CABLE WITH STRAIGHT CONNECTOR PSC-3310A1111	CONNECTION CABLE WITH RIGHT ANGLE CONNECTOR PSC-310A11132

Cooling Jacket with integrated Air Purge Dimensions (in mm)



PROCESS SENSORS CORPORATION

IR Temperature Sales Office: 787 Susquehanna Avenue, Franklin Lakes, NJ USA • Tel: 774-399-0461

Corporate Headquarters: 8 Technology Drive, Westborough MA 01581 USA • Tel: 774-399-0500

Global Offices—Sales and Support: Americas, Asias, Europe

www.ProcessSensorsIR.com • irtemp@kpmanalytics.com