

# PSC-G56N / PSC-S56N

1 Color Pyrometer Series  
For Industrial and R&D Applications



The Stand Alone PSC-G56N and PSC-S56N 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 as well as an electronic viewfinder. 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-G56N and PSC-S54N 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, Electronic Viewfinder Sighting
- Temperature Ranges Spanning from 200° to 3000°C
- 0/4-20mA and RS-485 Interface
- Choice of Fixed Focus Optics
- Fast Response Time from 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
- Custom Optics Available

**Table 1: Temperature Range and Spectral Response**

Models	PSC-G56NT PSC-G56NL PSC-G56NV PSC-G56NEV	PSC-S56NT PSC-S56NL PSC-S56NV PSC-S56NEV
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
	250° to 2500°C 482° to 4532°F	900° to 3000°C 1652° to 5432°F
	200° to 2000°C 392° to 3632°F	600° to 3000°C 1112° to 5432°F



PSC-G56NT  
PSC-S56NT  
THRU-LENS SIGHTING



PSC-G56NL  
PSC-S56NL  
LASER SIGHTING



PSC-G56NEV  
PSC-S56NEV  
ELECTRONIC VIEWFINDER



PSC-G56NV  
PSC-S56NV  
VIDEO CAMERA

**Table 2: Fixed Focus Optics PSC-G56N 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	<b>0.39 inch (10.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
250° to 1500°C 482° to 2732°F	<b>0.32 inch (8.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
350° to 2000°C 662° to 3632°F	<b>0.19 inch (5.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
250° to 2500°C 482° to 4532°F	<b>0.19 inch (5.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
200° to 2000°C 392° to 332°F	<b>0.13 inch (3.5 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)





**Table 3: Fixed Focus Optics PSC-S56N 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	<b>0.39 inch (10.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
600° to 1800°C 1112° to 3272°F	<b>0.32 inch (8.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
800° to 2500°C 1472° to 4532°F	<b>0.19 inch (5.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
900° to 3000°C 1652° to 5432°F	<b>0.19 inch (5.0 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
600° to 3000°C 1112° to 5432°F	<b>0.13 inch (3.5 mm)</b>	0.05 in. (1.3 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)

# MODEL SELECTION GUIDE

## PSC-G56N 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-G56NT 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
 PSC-G56NL Laser	0350° to 2000°C 662° to 3632°F	2000	00 = No Protective Jacket
	 PSC-G56NV Video	0250° to 2500°C 482° to 4532°F	4000
 PSC-G56NEV Electronic Viewfinder		0200° to 2000°C 392° to 3632°F	
<b>Example:</b> Model PSC-G56NV-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-S56N Series

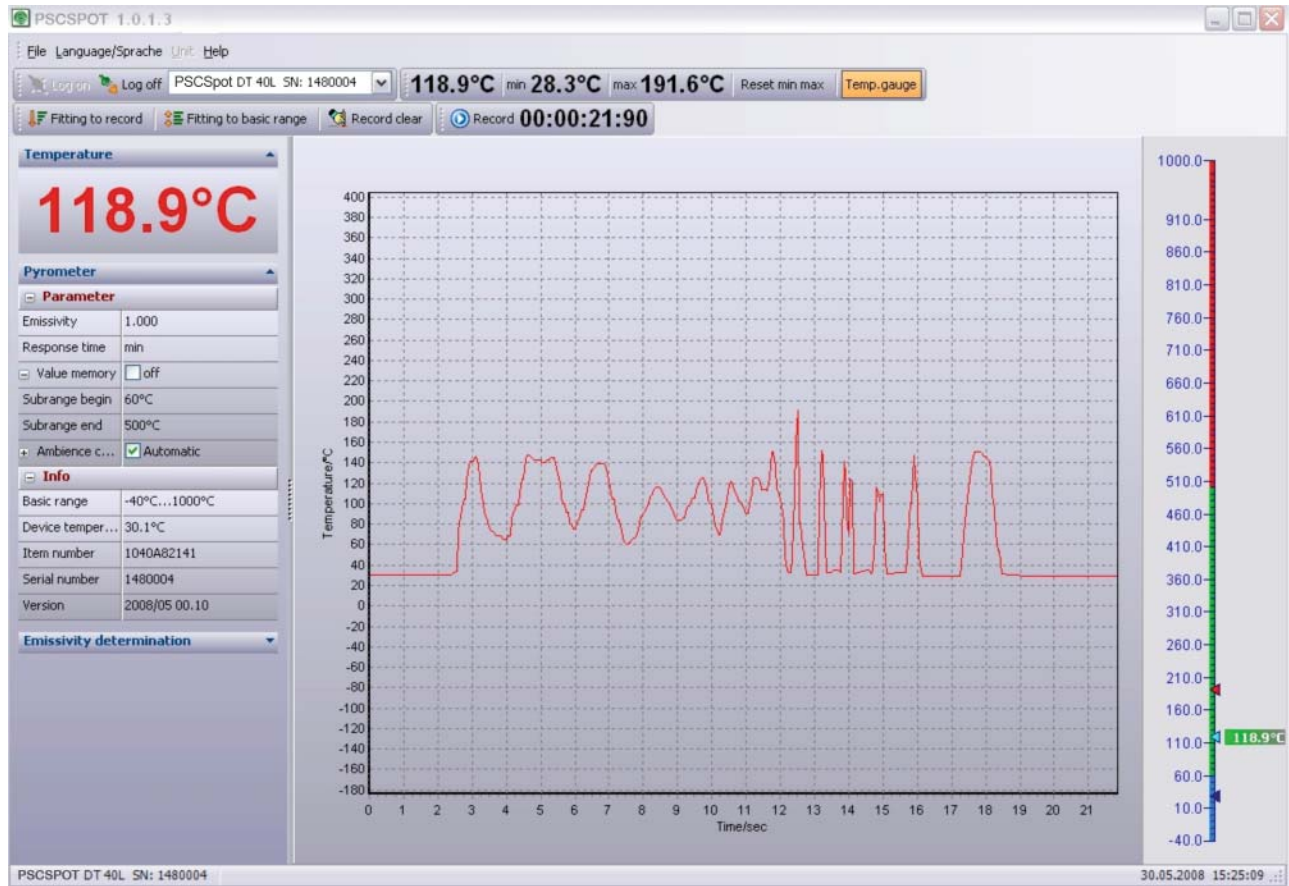
Build the model number by selecting instrument specifications required from each column.

1. Select Model Number:	2. Select Temperature Range in °C:	3. Select Fixed Focus Optics in mm:	4. Select Accessories Codes:
 PSC-S56NT 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
 PSC-S56NL Laser	0800° to 2500°C 1472° to 4532°F	2000	00 = No Protective Jacket
	 PSC-S56NV Video	0900° to 3000°C 1652° to 5432°F	4000
 PSC-S56NEV Electronic Viewfinder		0600° to 3000°C 1112° to 5432°F	
<b>Example:</b> Model PSC-S56NL-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-G56N and PSC-S56N 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-G56N and PSC-S56N 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.

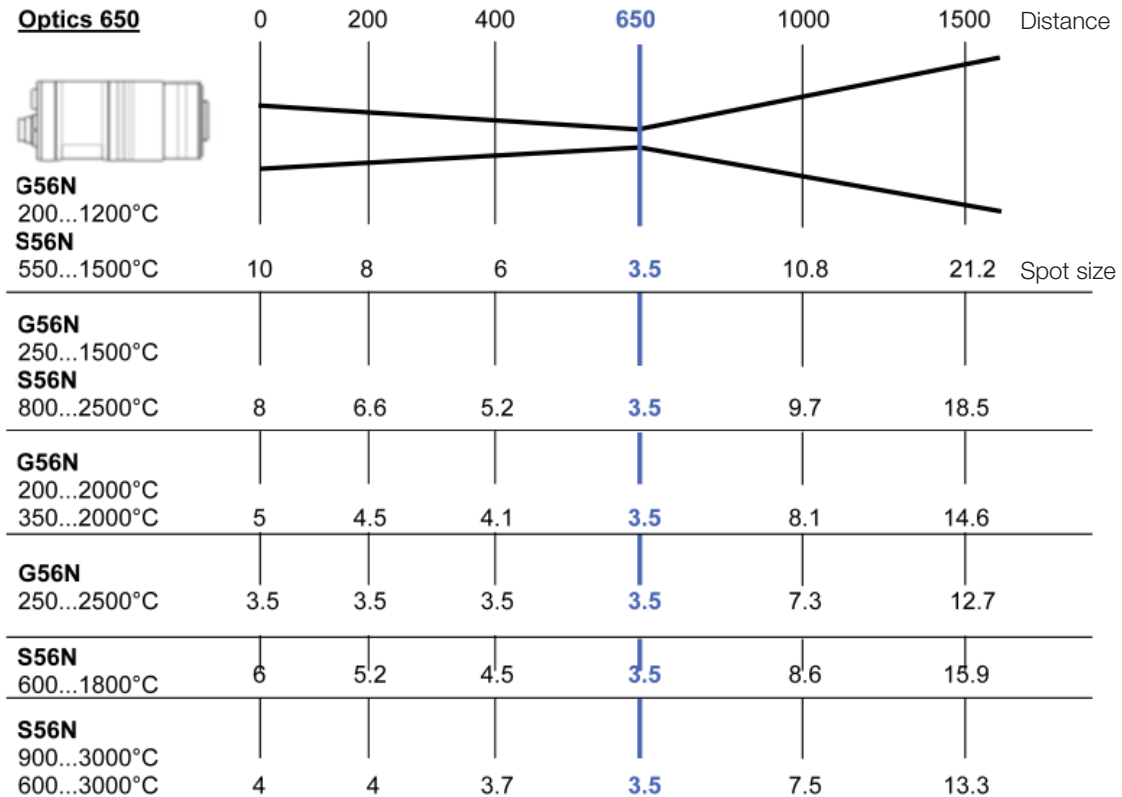
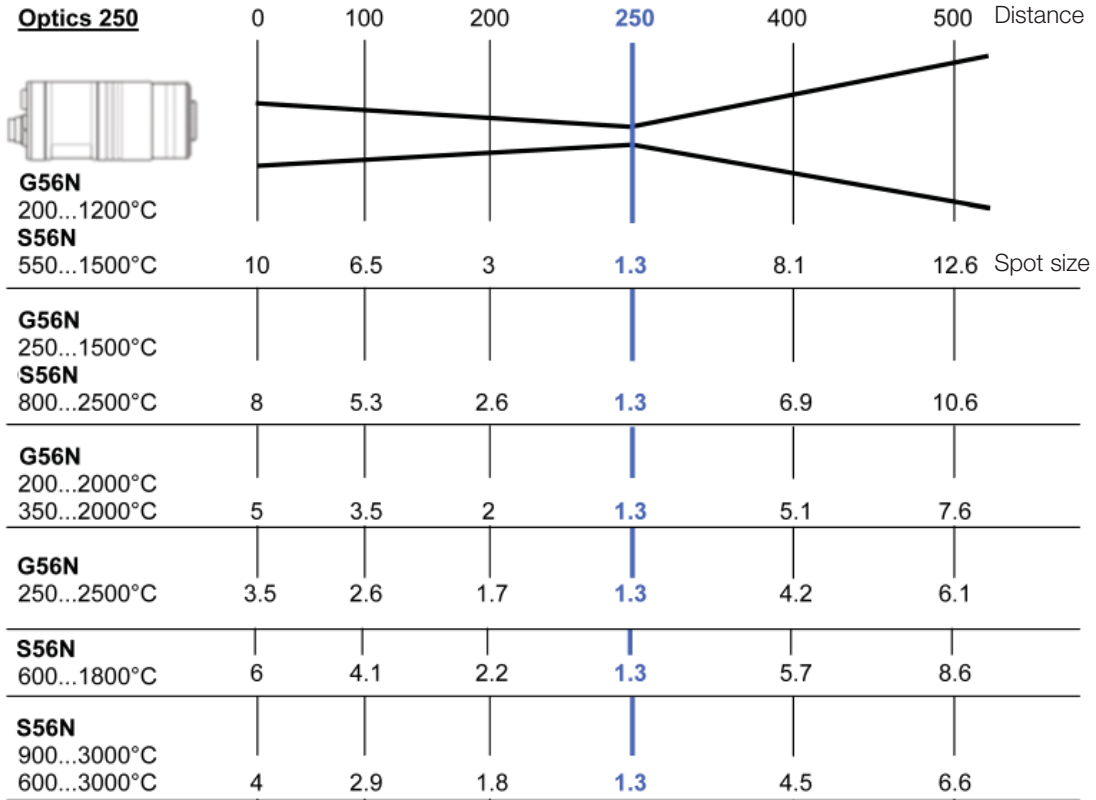


## Typical Industrial Applications



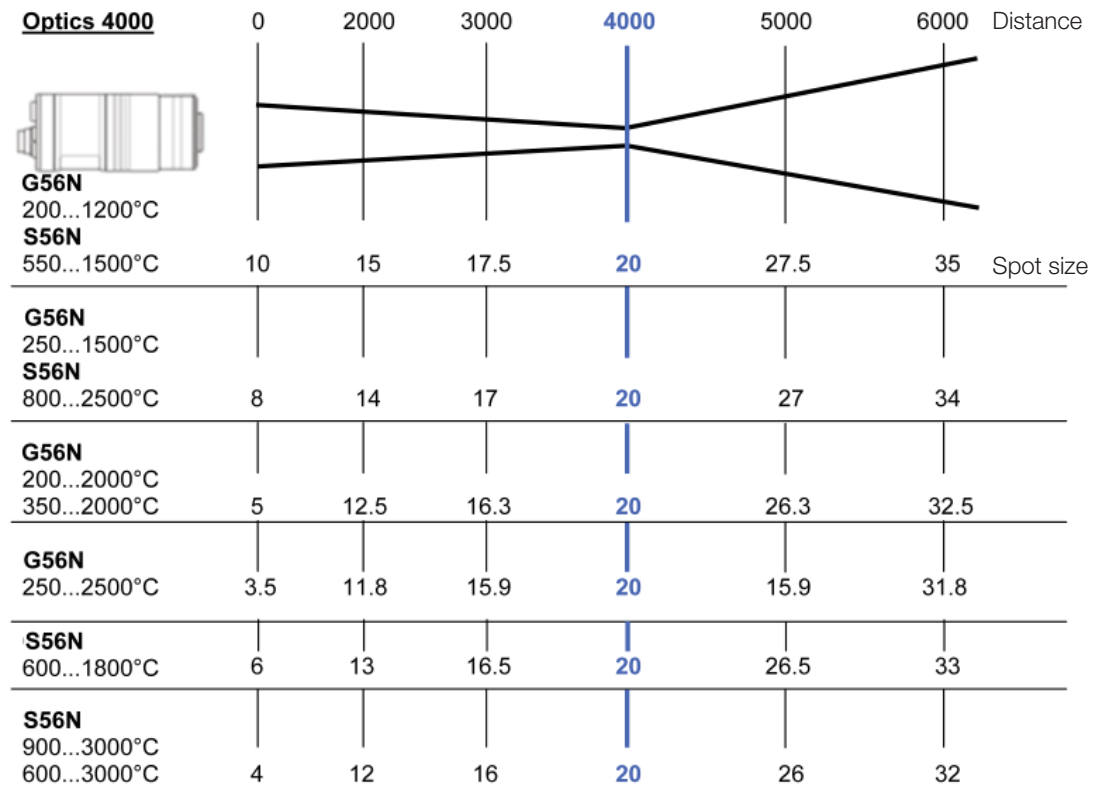
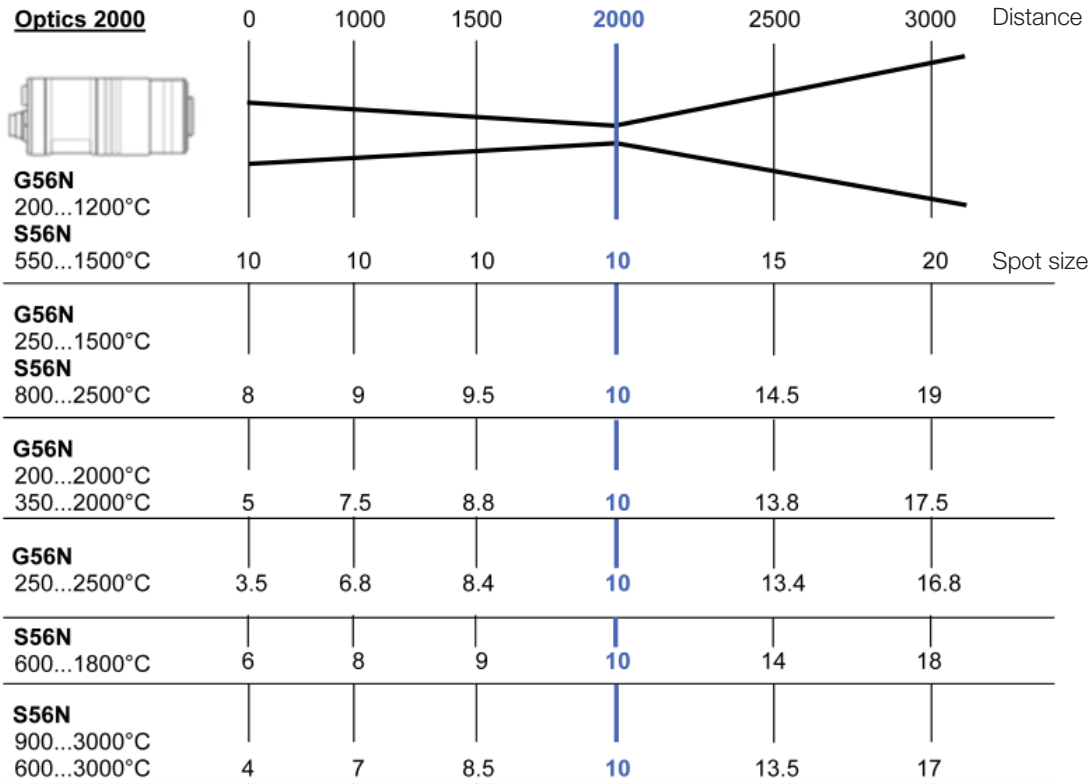
# FOV DIAGRAMS

## PSC-G56N and PSC-S56N Series (All measurements in mm)





# FOV DIAGRAMS

## PSC-G56N and PSC-S56N Series (All measurements in mm)

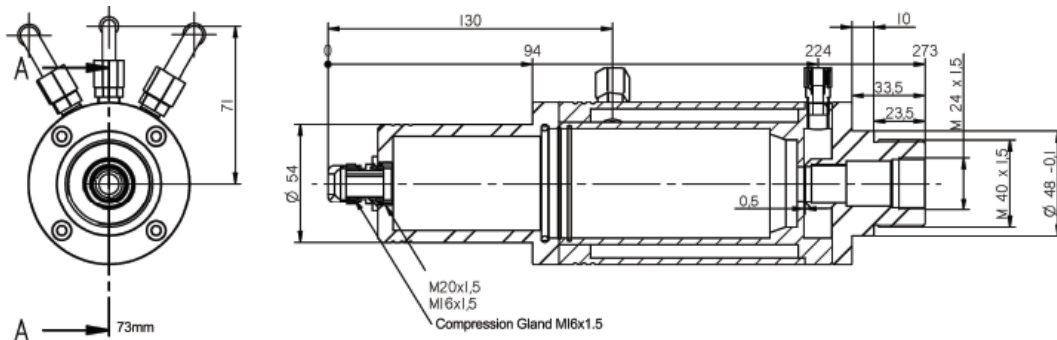


# ACCESSORIES PSC-SR56N and PSC-S56N Series

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.

		
<p>STAINLESS STEEL COOLING JACKET WITH INTEGRATED AIR PURGE PSC-3310A23056</p>	<p>STAINLESS STEEL COOLING JACKET WITH ADJUSTABLE AIMING FLANGE PSC-3310A24020</p>	<p>STAINLESS STEEL BALL AND SOCKET AIMING FLANGE PSC- 3310A11132</p>
		
<p>AIR PURGE PSC-3310A22050</p>	<p>REMOVABLE SEALED WINDOW ASSEMBLY Part number dependant upon window material</p>	<p>ADJUSTABLE MOUNTING BRACKET PSC-3310A21050</p>
		
<p>DHP1040 HAND HELD PROGRAMMER PSC-331A17010</p>	<p>CONNECTION CABLE WITH STRAIGHT CONNECTOR PSC-3310A1111</p>	<p>CONNECTION CABLE WITH RIGHT ANGLE CONNECTOR PSC-310A11132</p>

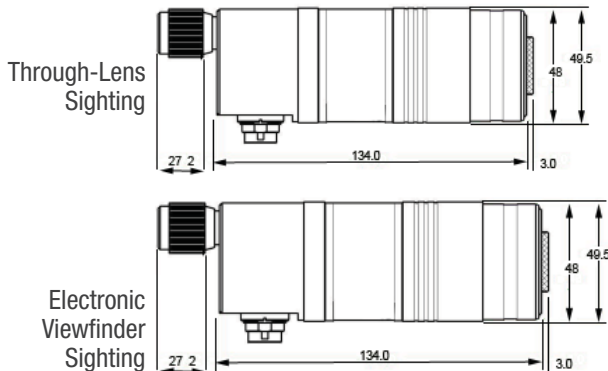
Cooling Jacket with integrated Air Purge Dimensions (in mm)



# SPECIFICATIONS **PSC-G56N** and **PSC-S56N** Series

<b>Temperature Range PSC-G56N Series</b>	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
<b>Temperature Range PSC-S56N Series</b>	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	50:1	100:1	200:1	200:1	200:1
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 PSC-G56NEV and PSC-S56NEV: Electronic Viewfinder				
Choice of Optics Types	250mm, 650mm, 2000mm, 4000mm				
Spectral Range	<b>PSC-G56N</b> 1.5µm to 1.8µm		<b>PSC-S56N</b> 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 <sub>Load</sub> 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	S.S. Cylindrical Housing w/Plug Connector 140mm (w/o through lens sighting or electrical viewfinder), Ø 50mm				
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	<b>PSC-G56N</b> or <b>PSC-S56N</b> , Operation Manual, Inspection Sheet, PSC Spot Software, Without Connection Cable (Must be ordered separately)				

Product Dimensions in mm



## PROCESS SENSORS CORPORATION

IR Temperature Sales Office: 787 Susquehanna Avenue, Franklin Lakes, NJ USA • Tel: 201-485-8773, 8772 • Fax: 201-485-8770

Corporate Headquarters: 113 Cedar Street, Milford, MA USA • Tel: 508-473-9901 • Fax: 508-473-0715

Global Offices—Sales and Support: United Kingdom, Poland, Malaysia

www.ProcessSensorsIR.com • irtemp@processsensors.com