

PSC-SR54NL PSC-SR54NV

2-Color Pyrometer Series
For Industrial and R&D Applications



Two-Color or Ratio Pyrometers measure temperatures from the ratio of radiation signals of two adjacent wavelengths as opposed to measuring the absolute intensity within one wavelength, as with one-color pyrometers. The advantages and benefits of using two-color sensors are the following:

- ⇒ Automatic compensation for viewing through dirty windows, dust and partial smoke between sensor and target.
- ⇒ Compensation for changes in target emissivity i.e. gray bodies—targets with the same emissivity on both wavelengths.
- ⇒ Measures smaller target than sensor's field of view (FOV/Spot Size) i.e. measures weighted peak temperature within FOV.
- ⇒ Unaffected by moving targets within FOV.

APPLICATIONS

- Induction Heating
- Steel Industry
- Heat Treating of Metals
- Kilns
- Vacuum Furnaces
- Welding
- Composites
- Sintering
- Nuclear
- Research and Development

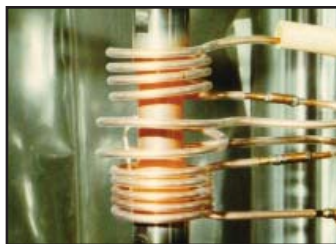
FEATURES

- High Accuracy/Repeatability with Self-Contained Stand Alone Operation
- Wide Temperature Ranges from 500° to 3000°C (932° to 5432°F)
- Integrated Red Laser or Video Camera Sighting
- High Resolution Optics Up to FOV 200:1
- Fixed Focus Optics
- Fast Response Time – 5 milliseconds, adjustable
- Simultaneous Analog and Digital Outputs
- 4-20mA and Digital RS-485 Communications
- Durable, Compact Stainless-Steel Housing
- Innovative, Rugged Design Accessories

Typical Applications



Steel Processing



Induction Heating



Kilns

Process Sensors 2-Color Non-contact Infrared Thermometers have universal applications and can also be switched and operated in a one-color or single wavelength mode. In one-color mode, operators have the choice of deriving the analog output signal from the shorter or longer wavelength or both. Using digital communication, these temperature measurement results can be recorded and compared to quickly determine whether the target is a gray body radiator or not.

The PSC-SR54NL (Laser) and PSC-SR54NV (video) two-color pyrometers are available with five versatile temperature ranges.

Table 1: Temperature Range and Spectral Response

Models	PSC-SR54NL PSC-SR54NV
Spectral Response	0.8 to 1.1 μ m
Temperature Ranges	500° to 1200°C 932° to 2192°F
	600° to 1400°C 1112° to 2552°F
	700° to 1800°C 1292° to 3272°F
	800° to 2500°C 1472° to 4532°F
	900° to 3000°C 1652° to 5432°F



Laser Aiming



Video Camera



Table 2: Fixed Focus Optics

Temperature Range	Optics Aperture	Distance/Spot Size		
		Focused at 25.59" (650 mm)	Focused at 78.74" (2000 mm)	Focused at 157.48" (4000 mm)
932° to 2192°F (500° to 1200°C)	0.32 inch (8.0 mm)	0.51 in. (13.0 mm)	1.57 in. (40.0 mm)	3.14 in. (80.0 mm)
1112° to 2552°F (600° to 1400°C)	0.24 inch (6.0 mm)	0.25 in. (6.5 mm)	0.78 in. (20.0 mm)	1.57 in. (40.0 mm)
1292° to 3272°F (700° to 1800°C)	0.24 inch (6.0 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
1472° to 4532°F (800° to 2500°C)	0.24 inch (6.0 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)
1652° to 5432°F (900° to 3000°C)	0.24 inch (6.0 mm)	0.13 in. (3.5 mm)	0.39 in. (10.0 mm)	0.78 in. (20.0 mm)

MODEL SELECTION GUIDE

PSC-SR54NL and PSC-SR54NV

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:
<p style="text-align: center;">PSC-SR54NL LASER SIGHTING</p>  <p style="text-align: center;">or</p> <p style="text-align: center;">PSC-SR54NV VIDEO CAMERA</p> 	0500° to 1200°C 932° to 2192°F	650	Choose 1 of 2 Jacket Codes:
	0600° to 1400°C 1112° to 2552°F	2000	JW = Protective Cooling Jacket With integrated Air Purge
	0700° to 1800°C 1292° to 3272°F		00 = No Protective Jacket
	0800° to 2500°C 1472° to 4532°F	4000	Choose 1 of 2 Air Purge Codes:
	0900° to 3000°C 1652° to 5432°F		AP = Air Purge Assembly (connects to IR Sensor)
		00 = No Air Purge Assembly	

Example: Model PSC-SR54N-0700-1800-650-JW-00 includes laser sighting, temperature range of 700 to 1800°C, 650mm fixed focus optics and Protective Cooling Jacket with integrated Air Purge. (Refer to Accessories page.)

PSCSpot Software for PSC-SR54NL and PSC-SR54NV

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 RS485 to USB adapter and connection cable. The PSCSpot software facilitates recording, and creation and retention of graphic or table files.

The PSC-SR54 Series is equipped with 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.

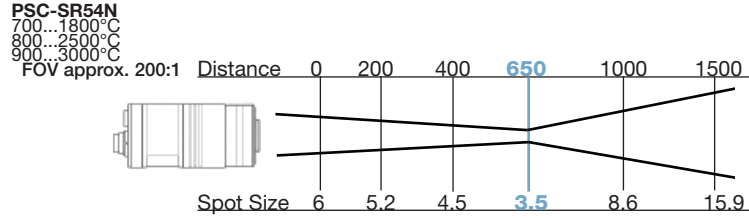
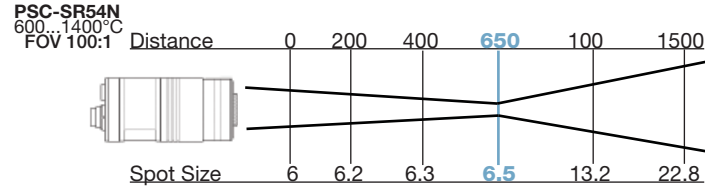
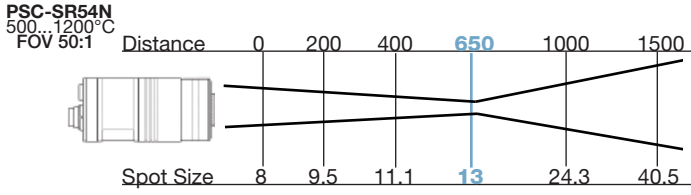


FOV DIAGRAMS

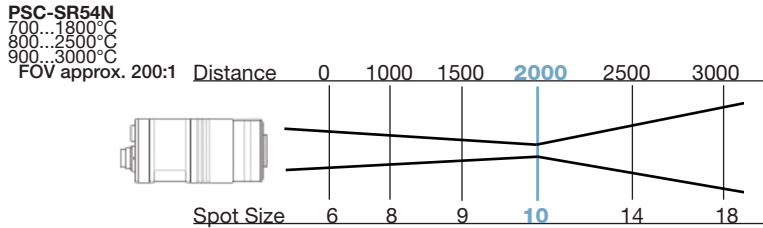
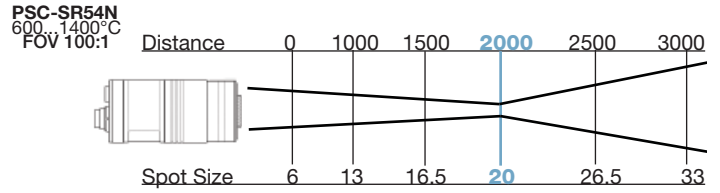
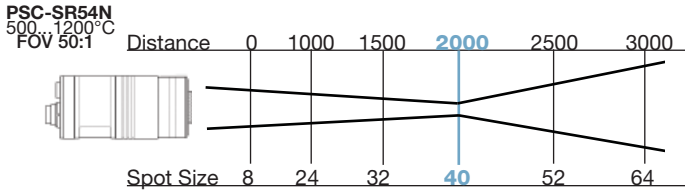
PSC-SR54NL and PSC-SR54NV

(All measurements in mm)

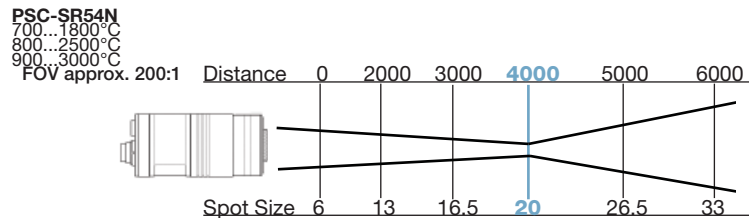
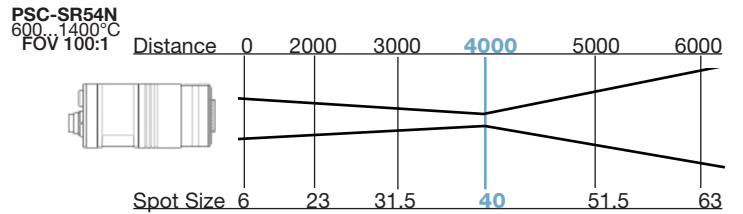
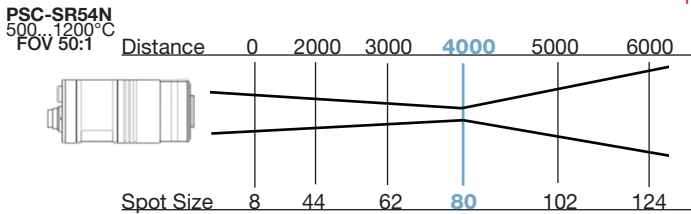
Optics 650



Optics 2000



Optics 4000



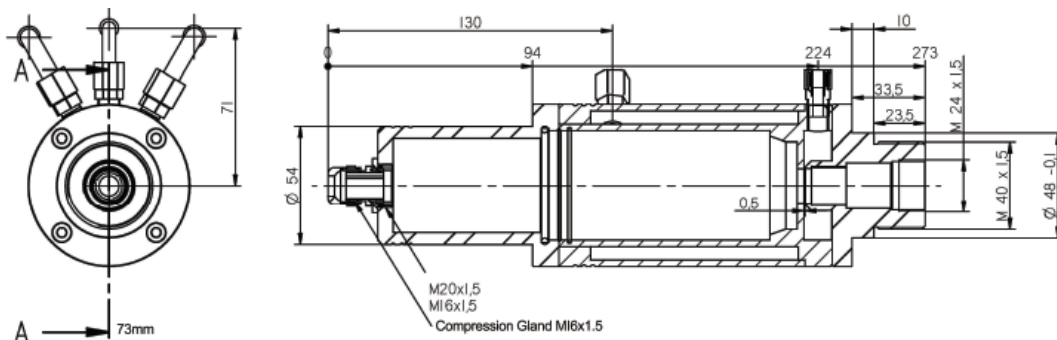
ACCESSORIES

PSC-SR54NL and PSC-SR54NV

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. Pictured below is a sampling.

		
<p>STAINLESS STEEL COOLING JACKET with INTEGRATED AIR PURGE PSC-3310A23050</p>	<p>STAINLESS STEEL COOLING JACKET WITH ADJUSTABLE AIMING FLANGE</p>	<p>STAINLESS STEEL BALL and SOCKET AIMING FLANGE (adjustable) PSC-3310A24020</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 PSC-3310A1111</p>	<p>CONNECTION CABLE WITH RIGHT ANGLE CONNECTOR PSC-3310A11132</p>

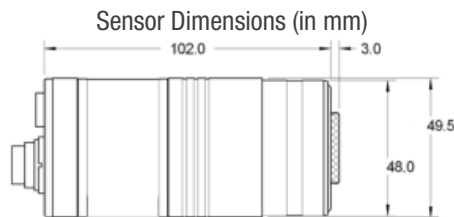
Cooling Jacket with integrated Air Purge Dimensions (in mm)



SPECIFICATIONS

PSC-SR54NL and PSC-SR54NV

Temperature Range	500° to 1200°C	600° to 1400°C	700° to 1800°C	800° to 2500°C	900° to 3000°C
	932° to 2192°F	1112° to 2552°F	1292° to 3272°F	1472° to 4532°F	1652° 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-SR54NL: Laser, 630...680 nm, Class II, <1 mW PSC-SR54NV: Video Camera, Composite Video Signal NTSC (M), 60Hz or PAL (B), 50Hz				
Choice of Optics Types	650mm, 2000mm, 4000mm				
Spectral Range	0.8µm to 1.1µm				
Ratio Correction K	0.800 to 1.200				
Emissivity	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, 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 using handheld programmer: 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	600 grams (1 lb. 5.16 oz.)				
Housing	Stainless Steel Cylindrical Housing with Plug Connector 4.1" (105 mm)L x 2" (50mm) OD				
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-SR54N/PSC-SR54NV, Operation Manual, Inspection Sheet. No-cost PSCSpot Software is included with the purchase of an optional RS485 to USB adapter and connection cable that must be ordered separately				



PROCESS SENSORS CORPORATION

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PSC-G54NL/NV and PSC-S54NL/NV 1-Color Pyrometer Series



The Stand Alone PSC-G54NL/NV and PSC-S54NL/NV One-Color Pyrometer Series provide pinpoint accuracy over an incredibly wide temperature range with customizable options. Choose from integrated laser aiming light or real-time color video camera sighting, ten distinct temperature ranges and four high-resolution, fixed focus optics.

These compact digital sensors are specifically designed for accuracy and reliability in harsh industrial and demanding laboratory applications. The PSC-G54N and 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
- Induction Heating
- Ceramics/Composites
- Soldering
- Sintering/Graphite
- Welding
- Semiconductor
- Kilns
- Vacuum Furnace
- R & D

FEATURES

- Compact, Self-Contained with Rugged Stainless Steel Housing
- Laser or Integrated Color Video Camera Sighting
- 10 Temperature Ranges Spanning from 200° to 3000°C
- Analog 4-20mA and Digital RS-485 Interface
- Choice of 4 Fixed Focus, High Resolution Optics
- Fast Response Time from 2ms, Adjustable up to 100 seconds
- Small Spot Size with Fixed Focus Optics
- Connect to PC to Adjust Parameters with PSCSpot Software
- RS-485 Modbus Interface Integration into Existing Data Acquisition Systems
- Robust Hardware Designed for Harsh Industrial Continuous Operations

Table 1: Temperature Range and Spectral Response

Models	PSC-G54NL PSC-G54NV	PSC-S54NL PSC-S54NV
Spectral Response	1.5 μm to 1.8 μm	0.8 μm to 1.1 μm
Temperature Ranges	200° to 1200°C 392° to 2192°F	550° to 1500°C 1022° to 2732°F
	200° to 2000°C 392° to 3632°F	600° to 1800°C 1112° to 3272°F
	250° to 1500°C 482° to 2732°F	800° to 2500°C 1472° to 4532°F
	350° to 2000°C 662° to 3632°F	900° to 3000°C 1652° to 5432°F
	250° to 2500°C 482° to 4532°F	600° to 3000°C 1112° to 5432°F



Laser Aiming



Video Camera

Table 2: Fixed Focus Optics: PSC-G54NL and PSC-G54NV

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	10.0mm (0.393 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
200° to 2000°C 392° to 3632°F	8.0mm (0.314 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
250° to 1500°C 482° to 2732°F	5.0mm (0.196 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
350° to 2000°C 662° to 3632°F	5.0mm (0.196 inch)	1.3mm (0.051 inch)	3.5 mm (0.13 in.)	10.0 mm (0.39 in.)	20.0 mm (0.78 in.)
250° to 2500°C 482° to 4532°F	3.5mm (0.137 inch)	1.3mm (0.051 inch)	3.5 mm (0.13 in.)	10.0 mm (0.39 in.)	20.0 mm (0.78 in.)



Table 3: Fixed Focus Optics: PSC-S54NL and PSC-S54NV

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	10.0mm (0.393 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
600° to 1800°C 1112° to 3272°F	6.0mm (0.236 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
800° to 2500°C 1472° to 4532°F	8.0mm (0.314 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
900° to 3000°C 1652° to 5432°F	4.0mm (0.157 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)
600° to 3000°C 1112° to 5432°F	4.0mm (0.157 inch)	1.3mm (0.051 inch)	3.5mm (0.13 inch)	10.0mm (0.39 inch)	20.0mm (0.78 inch)

MODEL SELECTION GUIDE



PSC-G54NL/NV

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-G54NL Laser Sighting  or PSC-G54NV Video Camera Sighting 	200° to 1200°C 392° to 2192°F	250	Choose 1 of 2 Jacket Codes:
	200° to 2000°C 392° to 3632°F	650	JW = Protective Cooling Jacket With Integrated Air Purge
	250° to 1500°C 482° to 2732°F	2000	00 = No Protective Jacket
	350° to 2000°C 662° to 3632°F	4000	Choose 1 of 2 Air Purge Codes: AP = Air Purge Assembly (Connects to IR Sensor)
250° to 2500°C 482° to 4532°F	00 = No Air Purge Assembly		
Example: Model PSC-G54NL-0200-2000-650-JW-00 includes laser sighting, temperature range of 200 to 2000°C, 650mm fixed focus optics and Protective Cooling Jacket with Integrated Air Purge. (Refer to Accessories page.).			

PSC-S54NL/NV

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-S54NL Laser Sighting  or PSC-S54NV Video Camera Sighting 	550° to 1500°C 1022° to 2732°F	250	Choose 1 of 2 Jacket Codes:
	600° to 1800°C 1112° to 3272°F	650	JW = Protective Cooling Jacket With Integrated Air Purge
	800° to 2500°C 1472° to 4532°F	2000	00 = No Protective Jacket
	900° to 3000°C 1652° to 5432°F	4000	Choose 1 of 2 Air Purge Codes: AP = Air Purge Assembly (Connects to IR Sensor)
	600° to 3000°C 1112° to 5432°F		00 = No Air Purge Assembly
Example: Model PSC-S54NV-0800-2500-650-JW-00 includes video sighting, temperature range of 800 to 2500°C, 650mm fixed focus optics and Protective Cooling Jacket with Integrated Air Purge. (Refer to Accessories page.).			

SPECIFICATIONS PSC-G54NL/NV and PSC-S54NL/NV

Temperature Range PSC-G54NL / NV	200° to 1200°C	200° to 2000°C	250° to 1500°C	350° to 2000°C	250° to 2500°C
	392° to 2192°F	392° to 3632°F	482° to 2732°F	662° to 3632°F	482° to 2732°F
Temperature Range PSC-S54NL / NV	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	200:1	200:1	200:1	200:1
Accuracy	0.5% of Measured Value in °C				
Reproducibility	0.1% of Measured Value in °C				
Method of Aiming	PSC-G54NL and PSC-S54NL: Laser Aiming Light, 630...680 nm, Class II, <1 mW PSC-G54NV and PSC-S54NV: Video Camera, Composite Video Signal NTSC (M), 60Hz or PAL (B), 50Hz				
Choice of Optics Types	250mm, 650mm, 2000mm, 4000mm - Refer to FOV Diagrams				
Spectral Range:	PSC-G54NL / NV 1.5µm to 1.8µm PSC-S54NL / NV 0.8µm to 1.1µm				
Emissivity ε	0.050 to 1.000				
Response Time (t95)	2ms 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				
Alarm Output	1 Opto Relay, R _{Load} Min. 48Ω (Galvanically Isolated) Adjustable Within Temperature Range				
Parameters	Adjustable Via Interface and Software, or at Device: Emissivity, Transmissivity, Ambient Radiation, 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	Approx. 600 grams (1 lb. 5.16 oz.)				
Housing	Stainless Steel Cylindrical Housing w/Plug Connector Approx. 105mm, 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	PSC-G54NL / NV or PSC-S54NL/NV, Operation Manual, Inspection Sheet, PSC Spot Software, Without Connection Cable (Must be ordered separately)				

PSCSpot Software for PSC-G54NL/NV and PSC-S54NL/NV Series

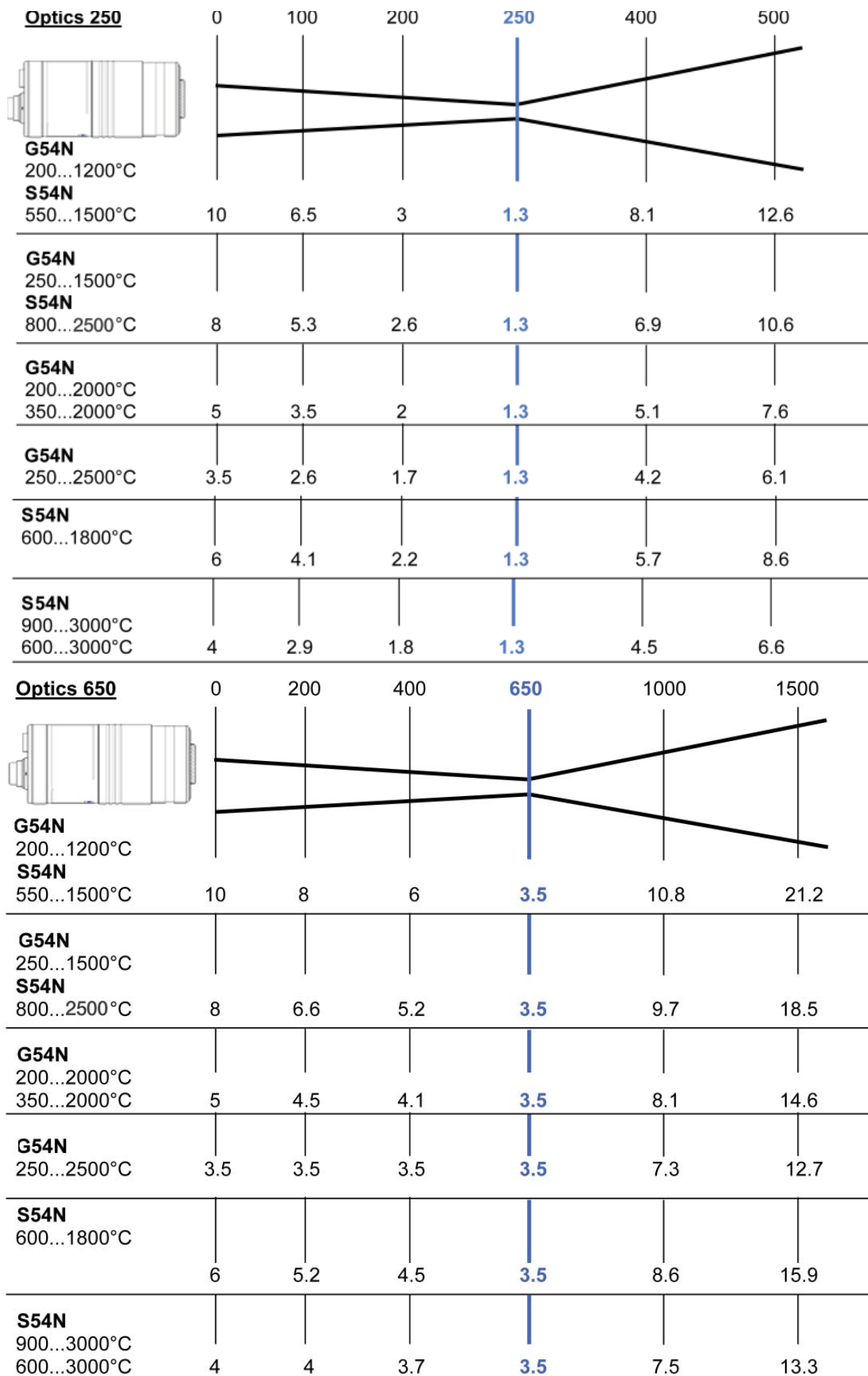
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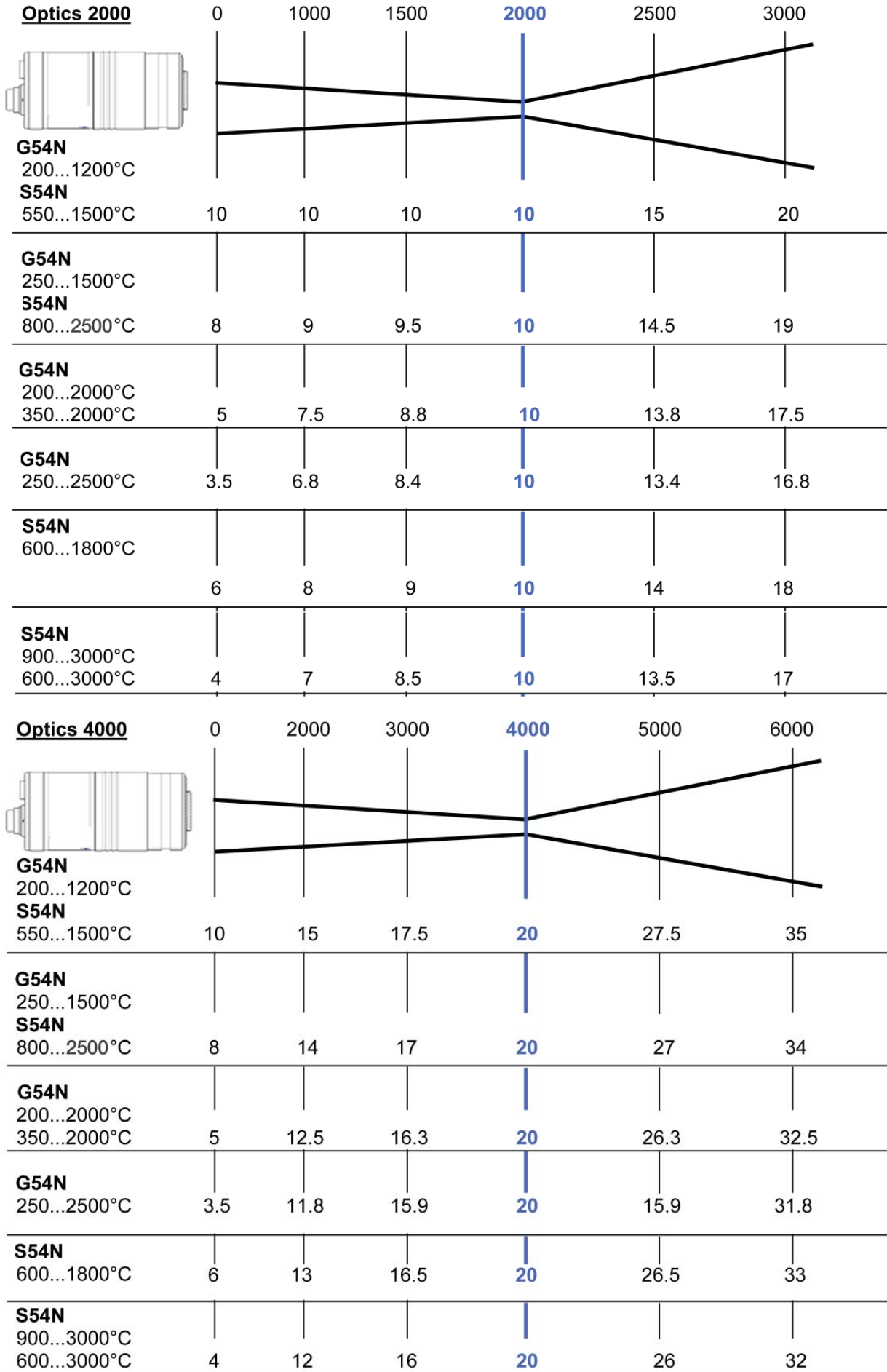
FOV DIAGRAMS **PSC-G54NL/NV** and **PSC-S54NL/NV**

(All measurements in mm)



FOV DIAGRAMS **PSC-G54NL/NV** and **PSC-S54NL/NV**

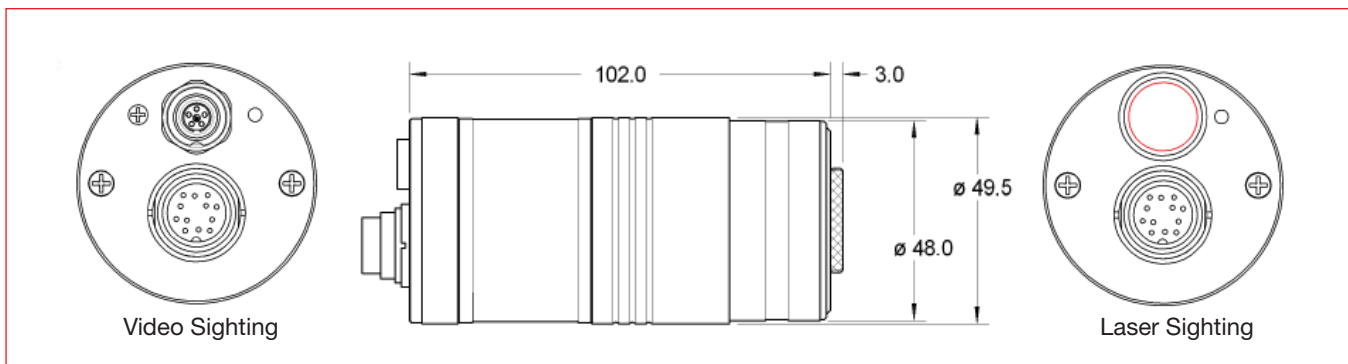
(All measurements in mm)



ACCESSORIES PSC-G54NL/NV and PSC-S54NL/NV

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STAINLESS STEEL COOLING JACKET WITH INTEGRATED AIR PURGE PSC-3310A23050	STAINLESS STEEL COOLING JACKET WITH ADJUSTABLE AIMING FLANGE	STAINLESS STEEL BALL AND SOCKET AIMING FLANGE PSC- 3310A24020
		
AIR PURGE PSC-3310A22050	REMOVABLE SEALED WINDOW ASSEMBLY Part number dependant upon window material	ADJUSTABLE MOUNTING BRACKET PSC-3310A21050
		
DHP1040 HAND HELD PROGRAMMER PSC-3310A17010	CONNECTION CABLE PSC-3310A11112	CONNECTION CABLE WITH RIGHT ANGLE CONNECTOR PSC-3310A11132



PROCESS SENSORS CORPORATION

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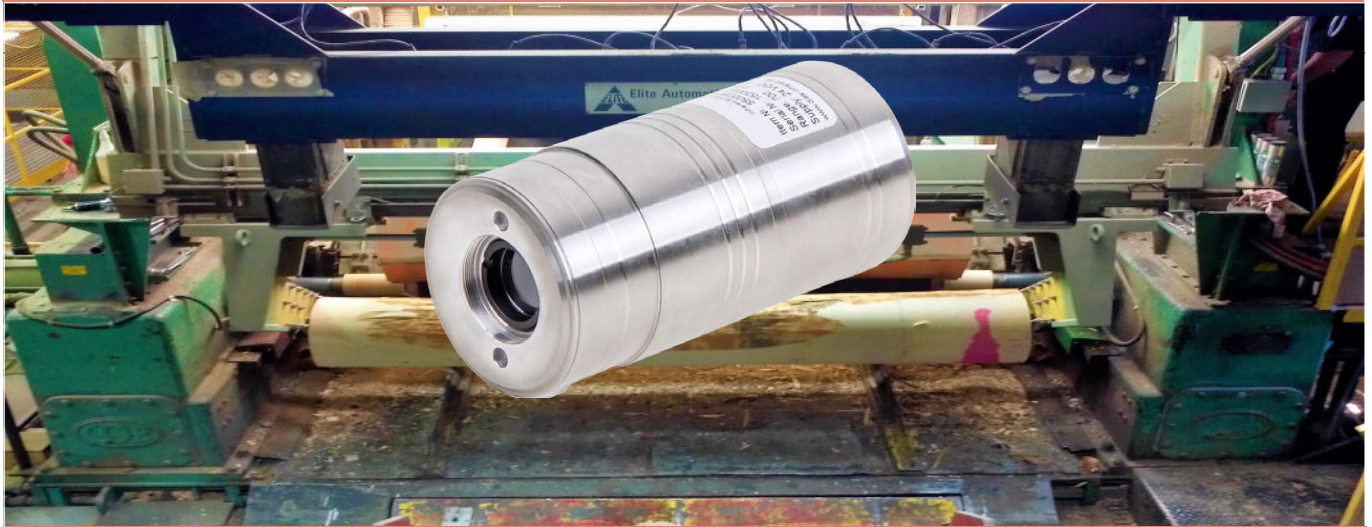
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PSC-T54L

Self-Contained 1-Color Pyrometer for General Purpose Applications

Digital pyrometer with 4-20mA output and RS-485 Modbus RTU Protocol



Special features

- Temperature ranges between -40°C and 1000°C
- 0/4 to 20 mA linear output, switchable
- Fast response time (10 ms)
- Small spot sizes with high resolution optics-FOV 100:1
- Dual lasers for aiming
- Integrated RS-485 interface and Modbus RTU

Description and application

The digital model PSC-T54L series pyrometers are specifically designed for general purpose applications. They are suitable for temperature measurement between -40 to 1000°C on non-metallic or coated metallic surfaces.

The compact, rugged stainless steel housing with companion cooling jacket facilitates operation under even the most difficult ambient conditions. The PSC-T54L can measure small spot sizes starting from 0.028" (0.7 mm).

With a quick response time of 10 ms (adjustable) the PSC-T54L can pick up the tiniest changes in temperature faster than other devices, i.e., thermocouples.

The IR sensor provides dual lasers to determine focus distance and is used to aim and pinpoint the target under measurement. The laser can be activated remotely via RS-485 communication interface.

The standard 0/4 to 20 mA linear temperature output signal allows for easy implementation into existing measurement and control systems.

The PSC-T54L possesses a galvanically isolated RS-485 interface. As such, the devices are bus-compatible and use the Modbus RTU protocol.

The pyrometer can be connected to a computer via an optional RS-485 to USB interface adapter. By connecting the IR sensor with a PC using PSCSpot software, parameters such as emissivity, sub-temperature range, data storage settings, and response time can be adjusted.

The IR sensor parameters can also be adjusted via RS-485 interface or through the optional available handheld programming device DHP 1040.

Typical Industry Applications:

- Paper & Packaging
- Powders & Bulk solids
- Ceramics
- Wallboard
- Food
- Thermoforming
- Glass & Composites



PSC-T54L

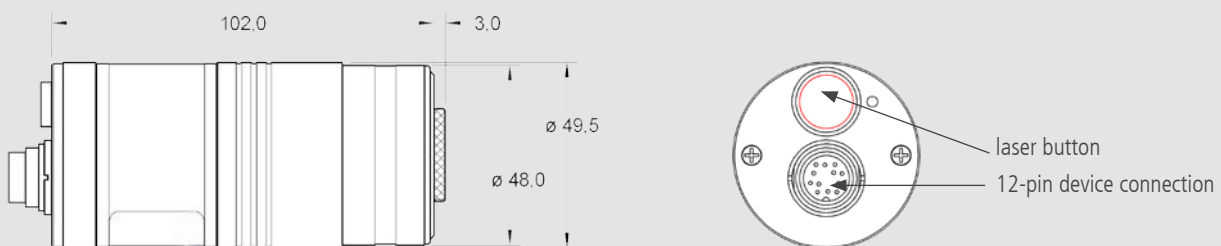
Self-Contained 1-Color Pyrometer for General Purpose Applications

Technical data

Model	PSC-T54L			
Temperature ranges	0 °C to 1000 °C / 32°F to 1832°F	-40 °C to 1000 °C / -40°F to 21832°F		
Fixed optics	75	200	600	1500
Part number	PSC-4548261202	PSC-4548262201	PSC-4548263201	PSC-4548264201
Sub temperature range	adjustable via RS-485 interface within temperature range, minimum span 50 °C			
Spectral range	8 to 14 μm			
Distance ratio	approx. 75 : 1 (fixed optics 200, 600, 1500) or approx. 100 : 1 (fixed optics 75)			
Measurement accuracy ¹	0.6 % of measured value in °C or 1 K ²			
Reproducibility ¹	0.3 % of measured value in °C or 0.5 K ²			
NETD ³	< 0.15 K ⁴			
Response time (t90)	10 ms (min.), adjustable via RS-485 interface			
Emissivity	0.200 to 1.000, adjustable via RS-485 interface			
Data storage	minimum/maximum data storage, adjustable via RS-485 interface			
Output	0/4 to 20 mA, temperature linear, max. burden: 700 Ω			
Interface	RS-485 (galvanically isolated), half duplex, max. baud rate 115 kBd, data protocol Modbus RTU			
Aiming	double laser, 645 nm to 660 nm, class II, < 1 mW			
Switching output/ threshold	1 opto relay, R _{Load} mind. 48 Ω (galvanically isolated)/adjustable within temperature range			
Software	PSCSpot for Windows			
Parameters	emissivity, response time, data storage, sub temperature range, transmissivity, ambient radiation, adjustable via RS-485 interface			
Power supply	24 V DC ± 25 %, residual ripple 500 mV			
Power consumption	max. 1.5 W			
Operating temperature	0 °C to 70 °C (32 °F to 158 °F)			
Storage temperature	-20 °C to 70 °C (-4 °F to 158 °F)			
Weight	approx. 600 g (11.5 lbs)			
Housing	stainless steel round housing with plug connector, length approx. 105 mm, diameter 50 mm			
Protection class	IP 65 (according to DIN EN 60529 und DIN 40050)			
CE symbol	according to EU regulations (EN 50 011)			
Scope of delivery	PSC-T54L, manual, inspection sheet, PSCSpot for Windows® (without connection cable, please order separately)			

¹ Specifications for black bodies, T_{ambient} = 23 °C, t95 = 1 s. ² Whichever is higher value. ³ Noise equivalent temperature difference. ⁴ T_{ambient} = 23 °C, ε = 1, t95 = 100 ms, T_{Object} = 300 °C

Pyrometer Dimensional drawing (mm)



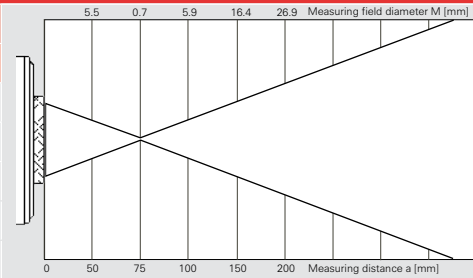
PSC-T54L

Self-Contained 1-Color Pyrometer for General Purpose Applications

Optics types 75, 200, 600 and 1500 (aperture D = 15 mm)

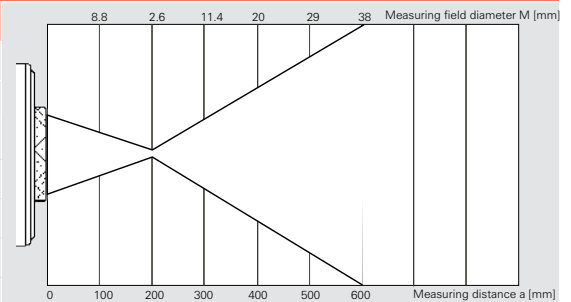
Optics 75 (focus point at 75 mm measuring distance, marked in bold)

Measurement distance a [mm]	0	50	75	100	150	200	250
Temperature range	Measuring field diameter M [mm]						
PSC-T54L (0 to 1000 °C)	15.0	5.5	0.7	5.9	16.4	26.9	37.3



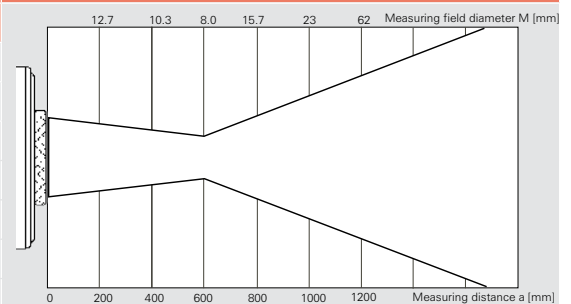
Optics 200 (focus point at 200 mm measuring distance, marked in bold)

Measurement distance a [mm]	0	100	200	300	400	500	600
Temperature range	Measuring field diameter M [mm]						
PSC-T54L (-40 to 1000 °C)	15.0	8.8	2.6	11.4	20	29	38



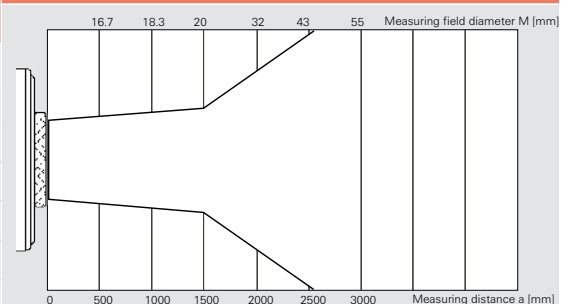
Optics 600 (focus point at 600 mm measuring distance, marked in bold)

Measurement distance a [mm]	0	200	400	600	800	1000	2000
Temperature range	Measuring field diameter M [mm]						
PSC-T54L (-40 to 1000 °C)	15.0	12.7	10.3	8.0	15.7	23	62



Optics 1500 (focus point at 1500 mm measuring distance, marked in bold)

Measurement distance a [mm]	0	500	1000	1500	2000	2500	3000
Temperature range	Measuring field diameter M [mm]						
PSC-T54L (-40 to 1000 °C)	15.0	16.7	18.3	20.0	32	43	55



PSCSpot Software

Free PSCSpot Software is provided for the storage, processing, and evaluation of real time measured data obtained by the PSC-T54L pyrometer series. It is connected to the computer via an optional RS-485 to USB interface adapter.



Functions:

- Measurement data logging with real-time display, parameterization of pyrometers
- Trigger functions^{*)} and auto save^{*)}
- Extensive statistical analysis of measurement data
- Measurement cursor, print functions, automatic emissivity determination
- Export of measured data as text file and automatic creation of Microsoft Excel[®] spreadsheets
- Integrated report function with customized templates for Microsoft Word[®]
- Integrated calculator for easy calculation of optics parameters

PSC-T54L

Self-Contained 1-Color Pyrometer for General Purpose Applications

Electrical, mechanical and optical accessories		Part number
Connection cable, straight plug, 12 pin	Length 2 m	PSC-3310A11111
	Length 5 m	PSC-3310A11112
	Length 10 m	PSC-3310A11113
	Length 15 m	PSC-3310A11114
	Length 20 m	PSC-3310A11115
	Length 25 m	PSC-3310A11116
	Length 30 m	PSC-3310A11117
Connection cable, right angle plug, with aiming light button, 12 pin	Length 2 m	PSC-3310A11151
	Length 5 m	PSC-3310A11152
	Length 10 m	PSC-3310A11153
	Length 15 m	PSC-3310A11154
	Length 20 m	PSC-3310A11155
	Length 25 m	PSC-3310A11156
	Length 30 m	PSC-3310A11157
Mounting bracket	adjustable	PSC-3310A21050
Cooling jacket	including air purge unit, without mounting angle	PSC-3310A23050
Ball flange	M40 × 1.5	PSC-3310A24020
Air purge		PSC-3310A22050
Power supply	24 V DC, 1.0 A	PSC-950-004
DHP 1040	handheld programming device for pyrometer parameterization	PSC-3310A17010

¹ Further accessories on request.

Accessories

Adjustable mounting angle	Cooling jacket	Air purge
Part number: PSC-3310A21050 	Part number: PSC-3310A23050  *rated for up to 450°F	Part number: PSC-3310A22050 
Ball flange	Coupling for ball flange	Handheld programming device DHP 1040
Part number: PSC-3310A24020 	Part number: PSC-3310A24021 	Part number: PSC-3310A17010 

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PSC-T54U

Infrared Pyrometer for Glass Industry Applications

- Designed for non-contact temperature measurement of ultra-thin glass < 1mm thickness
- Temperature Range: 350° to 1200°C
- High Resolution Optics – Field of View 70:1
- Compact, Rugged Stainless Steel Housing with Protective Hardware for Harsh Environments
- Digital RS-485 and Analog 4-20mA Interfaces for Ease of Installation in Existing Measurement & Control Systems
- Worldwide Application Specialist Support



The digital PSC-T54U is designed specifically for glass surface applications. Offering a wide temperature range from 350° to 1200°C, it is essential for thin glass surface measurement.

The robust and compact stainless steel housing ensures operation under even the most difficult ambient conditions.

With a minimum response time of only 60 ms, the PSC-T54U is ideal for fast measuring tasks and spot sizes from 5mm.

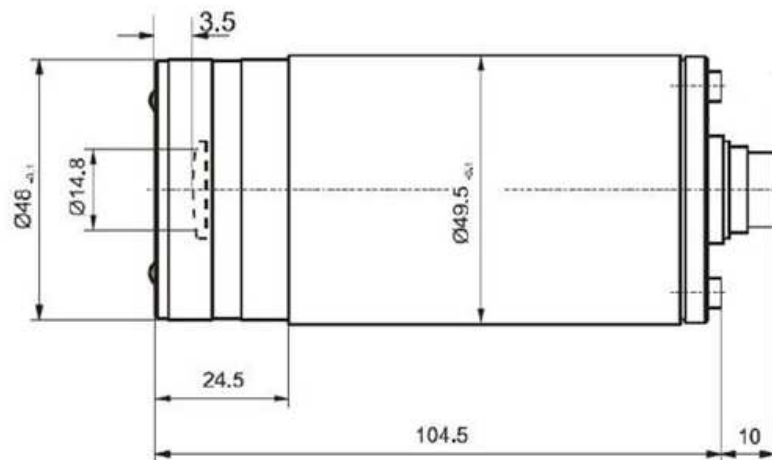
The standard 0/4 to 20 mA linear output signal allows seamless integration into existing measurement and control systems. The PSC-T54U boasts a galvanically isolated RS-485 interface and therefore is bus-compatible and uses Modbus RTU protocol.

PSC-Spot software enables simple parameter adjustment of emissivity, sub temperature ranges, response time and data storage when joined to a PC through an RS-485 to USB connection.

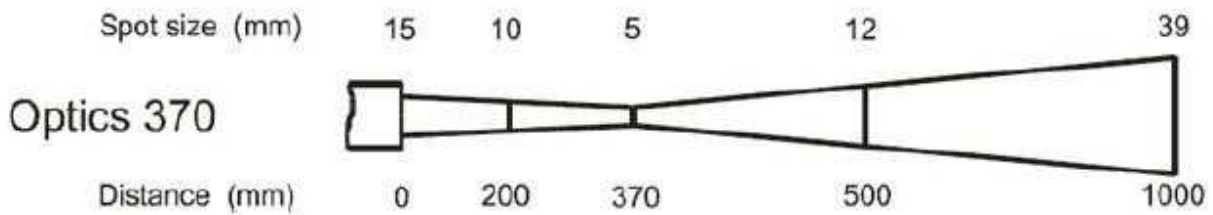
PSC-T54U Specifications

Temperature Range	350° to 1200°C (662° to 2192°F)
Sub Temperature Ranges	Adjustable via RS-485 Interface Within Overall Temperature Range, Minimum Span 50°C
Spectral Range	7.8µm
Distance Ratio	Approximately 70:1 5.3mm at 370mm
Accuracy	0.6% of Measured Value in °C or 1K
Reproducibility	0.3% of Measured Value in °C or 0.5K
NETD	<0.15K
Response Time (t90)	60 ms (min.), Adjustable via RS-485 with PSC Spot Software
Emissivity	0.200 to 1.000, Adjustable via RS-485
Peak/Valley Picker	Maximum/minimum data storage, Adjustable via RS-485
Output	0/4 to 20 mA, Temperature Linear, Max Load 700 Ω
Interface	RS-485 (galvanically isolated), half duplex, max. baud rate 115 kBd, data protocol Modbus RTU
Alarm Relay	1 opto relay, R _{Load} mind. 48 Ω (galvanically isolated) adjustable within temperature range
Software	PSC Spot for Windows®
Parameters	Emissivity, Response Time, Data Storage, Sub Temperature Range, Transmissivity, Ambient Radiation, adjustable via RS-485
Power Requirement	24 V DC ±25%, Residual ripple 500 mV
Power Consumption	Max. 1.5W
Operating Temperature	0° to 70°C (32° to 158°F)
Storage Temperature	-20°C to 70°C (-4° to 158°F)
Weight	Approx. 600g (1.32 lb.)
Housing	Stainless Steel Round Housing with Connector
Dimensions	Length: Approx. 105mm Diameter : 50mm
Protection Class Rating	IP 65 (According to DIN EN 60529 and DIN 40050)
CE Symbol	According to EU Regulations (EN 50 011)
Standard Equipment	PSC-T54U, Operation Manual, Inspection Sheet, PSC Spot for Windows® Software (Without Connection Cable – Must Be Ordered Separately.)

Dimensions in mm



Optical Field of View (FOV)



PSC-T54U Accessories



Stainless Steel Cooling Jacket



Air Purge



Removable Sealed Window



Adjustable Mounting Bracket

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