

PSC Model 42 Series

Self-Contained Pyrometers for Industrial Applications



- ⇒ 2-wire, loop powered (simple installation)
- ⇒ On-board emissivity adjustment
- ⇒ Selection of wavelength and temperature ranges
- ⇒ Temperature ranges from -40°F (-40°C) to 4532°F (2500°C)
- ⇒ Variety of fixed focus optics
- ⇒ Integrated or optional battery operated laser aiming light
- ⇒ Stainless steel housing
- ⇒ Protective cooling/air purge assemblies for harsh industrial applications
- ⇒ IP65 Rating
- ⇒ Factory preset temperature range to customer specification available within overall range

Typical Applications

PSC-T42L



- Non-metals, coated metals
- Paper and packaging
- Building materials
- Food industry
- Plastics

PSC-T42G



- Glass industry
- Flat glass
- Glass bottle manufacture
- Liquid glass
- Glass forms

PSC-S42N and PSC-G42N



- Steelmaking
- Glass
- Ceramics
- Furnace
- Metal industry

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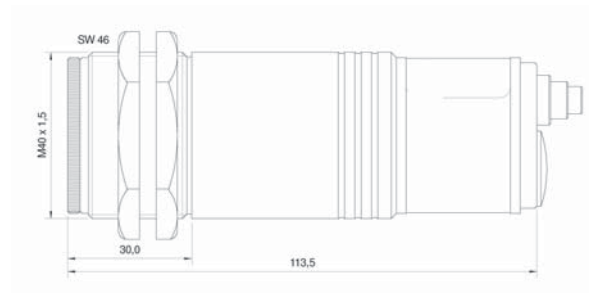
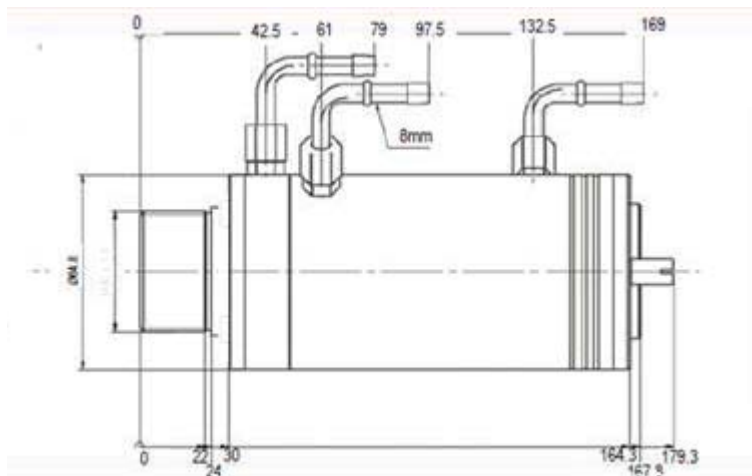
TECHNICAL SPECIFICATIONS FOR PSC MODEL 42 SERIES

Model	PSC-T42L	PSC-T42G	PSC-S42N	PSC-G42N
Temperature Range	-40°C to 1000°C (-40°F to 1832°F)*	100°C to 1300°C (212°F to 2372°F) 500°C to 2500°C (932°F to 4532°F)	600°C to 1800°C (1112°F to 3272°F) 800°C to 2500°C (1472°F to 4532°F)	250°C to 1300°C (482°F to 2372°F) 350°C to 1800°C (662°F to 3272°F)
Spectral Range	8 μm to 14 μm	5 μm	0.8 μm to 1.1 μm	1.5 μm to 1.8 μm
Sub Temperature Range	Adjustable Within Temperature Range, Minimum Span 50°C (122°F)			
Fixed Optics (See Table page 3)	300, 2000	300, 800	210, 290, 650, 4000	210, 290, 650, 4000
Measurement Accuracy	1 % Of Measured Value In °C		0.5 % Of Measured Value In °C	
Repeatability ¹	0.5 % Of Measured Value °C		0.1 % Of Measured Value In °C	
NETD ²	< 0.1 C ³		< 0.1 C ¹	
Response Time (t95)	100 ms, Optional Adjustable Up to 100 s (Factory-Provided)		10 ms, Optional Adjustable Up to 100 s (Factory-Provided)	
Emissivity	0.20 to 1.00, Adjustable (Factory Setting: 1.00)		0.05 to 1.00, Adjustable (Factory Setting: 1.00)	
Output	4 to 20 mA, Temperature Linear, Max. Load: 500 Ohms At 24 V			
Aiming	Laser Aiming Light (Optional)		Integrated Laser Aiming Light	
Power Supply	24 VDC ± 25 %, Residual Ripple 500 mV, Laser Aiming Light: 7 V to 30 VDC, < 200 mW			
Power Consumption	Max. 0.6 W (Without Aiming Light)			
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	Appr. 450 G (15.87 oz)			
Dimensions	Length 4.92in (125mm), Thread M40x1.5			
Housing	Stainless Steel with Plug Connector			
Safety Class	IP 65 (According to DIN En 60529 and DIN 40050)			
CE Symbol	According To Eu Regulations			
Standard Equipment	PSC Model 42 Series Sensor, Manual, Inspection Sheet, Two Mounting Screw Nuts, Connecting Cable 5 M, 5 Pin. More Cable Lengths Available.			

¹ Details for black body radiator, T_u = 23°C, t95 = 1 s, ² Noise equivalent temperature difference.

³ At T_u = 23°C, T_{object DT 42L} = 100°C, T_{object DT 42G} = 250°C respectively 700°C

*Temperature range can be factory preset to a sub temperature range within the selected IR sensor's overall temperature range span. Minimum temperature span is 50°C. The temperature range cannot be changed in the field.



Fixed optics types

Optics 300 (focal point at a = 295 mm measuring distance), aperture D = 15 mm

Measuring distance a [mm]	0	100	200	260	295	400	500
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	Measuring field diameter M [mm]						
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PSC-T42L	15.0	11.8	8.6	6.6	5.5	13.0	20.0
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Optics 2000 (focal point at a = 2000 mm measuring distance), aperture D = 15 mm

Measuring distance a [mm]	0	800	1200	1800	2000	3000	4000
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	Measuring field diameter M [mm]						
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PSC-T42L	15.0	24.0	28.0	34.0	36.0	57.0	80.0
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Optics 300 (focal point at a = 260 mm measuring distance), aperture D = 15 mm

Measuring distance a [mm]	0	100	200	260	295	400	500
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	Measuring field diameter M [mm]						
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PSC-T42G	15.0	10.8	6.7	4.2	5.5	15.0	22.0
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Optics 800 (focal point at a = 800 mm measuring distance), aperture D = 15 mm

Measuring distance a [mm]	0	300	600	800	1000	1500	2000
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	Measuring field diameter M [mm]						
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PSC-T42G	15.0	14.6	14.3	14.0	18.0	32.0	48.0
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Optics 210 (focal point at a = 210 mm measuring distance), aperture D = 12.5 mm

Measuring distance a [mm]	0	100	210	300	400	500	600
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Temperature range	Measuring field diameter M [mm]						
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PSC-S42N (600°C - 1800°C)	12.5	7.5	2.0	8.2	15.1	22.0	28.9
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PSC-S42N (800°C - 2500°C)	12.5	7.1	1.2	7.1	13.6	20.1	26.6
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PSC-G42N (250°C - 1300°C)	12.5	7.5	2.0	8.2	15.1	22.0	28.9
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PSC-G42N (350°C - 1800°C)	12.5	7.1	1.2	7.1	13.6	20.1	26.6
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Optics 290 (focal point at a = 290 mm measuring distance), aperture D = 11.8 mm

Measuring distance a [mm]	0	100	200	290	400	500	600
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Temperature range	Measuring field diameter M [mm]						
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PSC-S42N (600°C - 1800°C)	11.8	8.8	5.7	3.0	8.6	13.7	18.8
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PSC-S42N (800°C - 2500°C)	11.8	8.2	4.7	1.5	6.5	11.1	15.7
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PSC-G42N (250°C - 1300°C)	11.8	8.8	5.7	3.0	8.6	13.7	18.8
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PSC-G42N (350°C - 1800°C)	11.8	8.2	4.7	1.5	6.5	11.1	15.7
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Optics 650 (focal point at a = 650 mm measuring distance), aperture D = 10.8 mm

Measuring distance a [mm]	0	200	400	650	800	1000	2000
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Temperature range	Measuring field diameter M [mm]						
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PSC-S42N (600°C - 1800°C)	10.8	9.5	8.2	6.5	10.5	15.8	21.1
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PSC-S42N (800°C - 2500°C)	10.8	8.6	6.3	3.5	6.8	11.2	15.6
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PSC-G42N (250°C - 1300°C)	10.8	9.5	8.2	6.5	10.5	15.8	21.1
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PSC-G42N (350°C - 1800°C)	10.8	8.6	6.3	3.5	6.8	11.2	15.6
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Optics 4000 (focal point at a = 4000 mm measuring distance), aperture D = 10.4 mm

Measuring distance a [mm]	0	400	800	1600	2400	3200	4000
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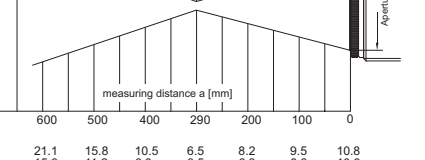
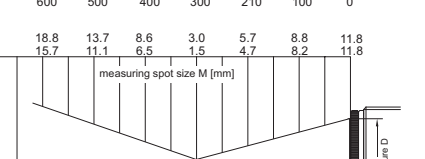
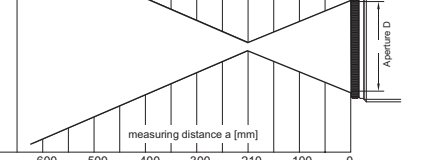
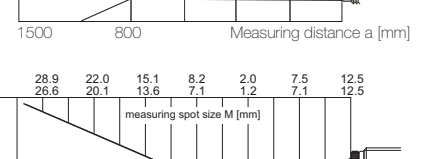
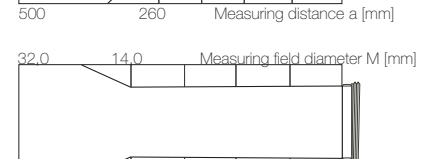
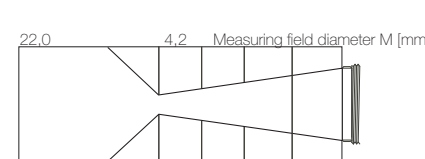
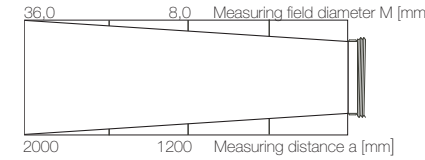
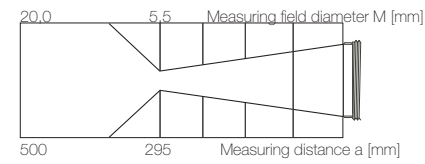
Temperature range	Measuring field diameter M [mm]						
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PSC-S42N (600°C - 1800°C)	10.4	13.4	16.3	22.2	28.2	34.1	40.0
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PSC-S42N (800°C - 2500°C)	10.4	11.4	12.3	14.2	16.2	18.1	20.0
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PSC-G42N (250°C - 1300°C)	10.4	13.4	16.3	22.2	28.2	34.1	40.0
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PSC-G42N (350°C - 1800°C)	10.4	11.4	12.3	14.2	16.2	18.1	20.0
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Electrical, mechanical and optical accessories

Connecting Cable	Length 2 m, 5 m, 10 m, 15 m, 20 m, 25 m or 30 m
Power Supply	24 VDC, 0.6 a
Digital Display	For installation frame, with LED display
Mounting Angle	Fixed or adjustable
Ball And Socket Mounting	Optional
Air Purge Unit	Stainless steel, cleaning air 0.1 To 0.5 Bar, oil free
Sighting Tube	For air purge unit, 100 mm, 300 mm
Cooling Jacket	Stainless steel with integrated air purge unit and mounting angle
Vacuum Flange	KF-16 with zinc selenide window
Mirror	90°, Including air flushing
Window Slide	Stainless Steel
Windows	Protection window for window slide, Quartz, calcium fluoride, zinc selenide, sapphire, zinc sulfide
Laser Aiming Light	Battery operated (screws on IR Sensor)
More accessories on request.	

Mounting angle, adjustable Order number: PSC-3310A21011 	Window slide (without window) Order number: PSC-3310A21210 	Air purge unit for series 40/42/44 Order number: PSC-3310A22010 
Cooling jacket Order number: PSC-3310A23010 	Power supply Order number: 950-004 	Digital temperature display 

Technical details are subject to change. February 2017.

Specifications and or product picture subject to change. V1-12/2014