

PSC-S40NL / PSC-G40NL Pyrometer Series



PROCESS SENSORS
CORPORATION
a KPM brand

SELF-CONTAINED, 2 WIRE INFRARED TEMPERATURE SENSORS

OVERVIEW

The innovative Process Sensors Models PSC-S40NL and PSC-G40NL with digital technology are compact, rugged and designed for simplicity of installation.

Used in a 2-wire loop powered configuration, the sensor's 4-20 mA linear output signal can be easily integrated into existing instrumentation for recording and process control.

The integrated LASER facilitates accurate target alignment.

Models PSC-S40NL and PSC-G40NL are suitable for mid to high temperature measurements from 250°C, with fast response time of 10 milliseconds.

The 40 Series sensors are ideal instruments for system integrators, machine builders (OEMs), and engineering construction companies.

The rugged stainless steel housing with protective window and cooling jacket with air purge ensures reliable operation in harsh environments.

Equipped with USB interface, adjustment of all sensor parameters can be accessed via a PC, such as emissivity, response time, temperature sub range, peak picker, etc.

Optional software is provided for IR sensor adjustments and temperature measuring and data acquisition evaluation.

APPLICATIONS

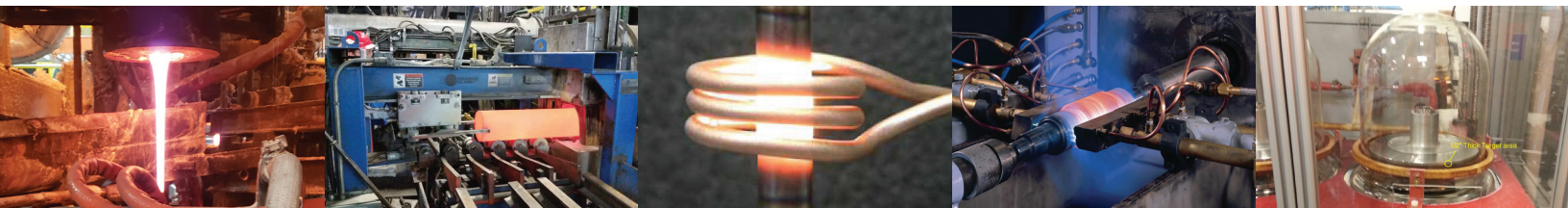
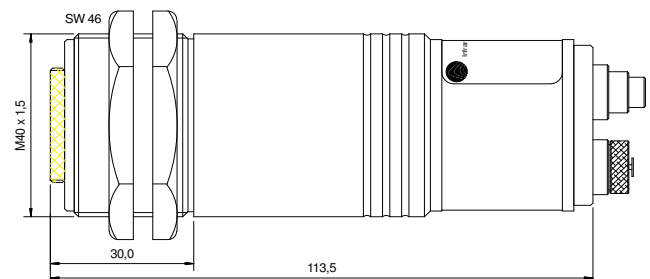
- Steel industry
- Furnace
- Welding
- Semiconductor
- Solar
- Molten glass
- Ceramic industry
- Metal heat treating
- Induction heating
- Rotary kilns
- Sintering
- Research & development



PSC-S40NL / PSC-G40NL FEATURES

- Laser aiming (4 wire operation)
- Selection of temperature ranges from 250°C to 2500°C
- Integrated USB interface for sensor parameter settings
- Built-in peak picker
- Robust stainless steel housing
- USB or 24 VDC loop powered
- PSC spot temperature measurement software (optional)
- Rugged protective cooling jacket with integrated air purge

Pyrometer Dimensions (mm)



TECHNICAL DATA

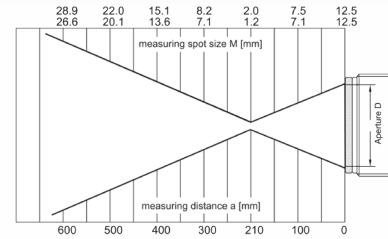
Type	PSC-S40NL	PSC-G40NL
Temperature Range	600°C to 1800°C / 800°C to 2500°C	250°C to 1300°C / 350°C to 1800°C
Sub temperature Range	Adjustable within temperature range, minimum span 51 °C	
Spectral Range	0.8 µm to 1.1 µm	1.5 µm to 1.8 µm
Optics (refer tables)	Several fixed optics (type I, II, III and IV)	
Distance Ratio	> 100 : 1	
Measurement uncertainty	0.5 % of meas. value (TU = 23 °C, E = 1, t95 = 1s)	
Reproducibility	0.1 % of meas. value (TU = 23 °C, E = 1, t95 = 1s)	
Response Time (t95)	< 10 ms, adjustable up to 10 s	
Emissivity	Adjustable, 0.05 to 1.00	
Storage	Maximum value storage, adjustable via interface	
Output	4...20 mA, linear, max. load: 700 at 24 V	
Interface	Galvanically isolated USB interface	
Software	PSC Spot for Windows®	
Aiming	LASER aiming	
Parameters	Adjustable via software (emissivity, response time, temperature unit °C or °F, storage, sub range) with use of communications cable	
Power Supply	24 VDC ± 25 % and 5 V to 30 VDC (LED/laser)	
Power Consumption	Max. 0.6 W (without LED/laser)	
Operating Temperature	0 °C to 70 °C	
Storage Temperature	-20 °C to 70 °C	
Weight	Approx. 16.05 oz. (455 g)	
Dimensions	Thread M40 × 1.5, length 5.51 inches (140 mm)	
Housing	Stainless steel with plug connector and protection window	
Safety Class	IP 65 (DIN 40 050)	
CE-Symbol	According to EU regulations (EN 50 011)	
Scope of Delivery	PSC PSC-S40NL or PSC-G40NL, manual, inspection sheet, PSC Spot for Windows® (without connecting cable, please order separately)	

ACCESSORIES, MECHANICAL, ELECTRICAL AND OPTICAL

Connecting Cable 3-Pin	Length Feet 6.5', 16', 33', 49', 65', 82', 98' (2 m, 5 m, 10 m, 15 m, 20 m, 25 m or 30 m)
USB-Connecting Cable	Length 5.91 feet (1.8 m) screened
Power Supply	24 VDC, 0.6 A
Mounting Angle Bracket	Fixed or adjustable
Ball and Socket Mounting	Stainless steel, adjustable
Air Purge Unit	Stainless steel, air pressure 0.2 to 1.0 bar, oil free
Water Cooling Jacket	With integrated air purge and mounting angle
Vacuum fl Ange	KF 16, with quartz glass
Protection Window	Quartz glass or sapphire glass

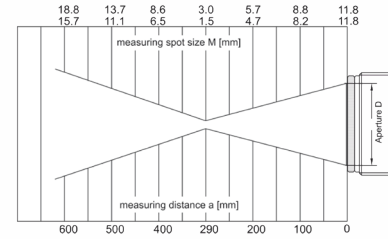
OPTICS 210 (FOCUSED AT 210MM MEASURING DISTANCE)

Measuring distance a in inches (mm)	0	4 (100)	8.26 (210)	12 (300)	15.7 (400)	19.6 (500)	23.6 (600)
Measuring field diameter M in mm							
PSC-S40NL (600°C to 1800°C)	0.5 (12.5)	0.3 (7.5)	0.08 (2.0)	0.33 (8.2)	0.6 (15.1)	0.88 (22.0)	1.56 (28.9)
PSC-S40NL (800°C to 2500°C)	0.5 (12.5)	0.28 (7.1)	0.48 (1.2)	0.28 (7.1)	0.54 (13.6)	0.8 (20.1)	1.06 (26.6)
PSC-G40NL (250°C to 1300°C)	0.5 (12.5)	0.3 (7.5)	0.08 (2.0)	0.33 (8.2)	0.6 (15.1)	0.88 (22.0)	1.56 (28.9)
PSC-G40NL (350°C to 1800°C)	0.5 (12.5)	0.28 (7.1)	0.48 (1.2)	0.28 (7.1)	0.54 (13.6)	0.8 (20.1)	1.06 (26.6)



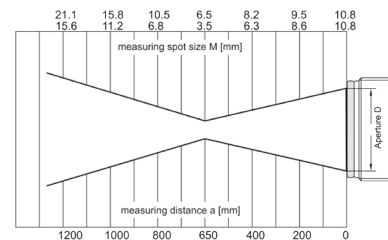
OPTICS 290 (FOCUSED AT 290MM MEASURING DISTANCE)

Measuring distance a in inches (mm)	0	4 (100)	7.9 (200)	11.6 (290)	15.7 (400)	19.6 (500)	23.6 (600)
Measuring field diameter M in mm							
PSC-S40NL (600°C to 1800°C)	0.47 (11.8)	0.35 (8.8)	0.23 (5.7)	0.12 (3.0)	0.34 (8.6)	0.55 (13.7)	0.75 (18.8)
PSC-S40NL (800°C to 2500°C)	0.47 (11.8)	0.33 (8.2)	0.19 (4.7)	0.60 (1.5)	0.26 (6.5)	0.44 (11.1)	0.63 (15.7)
PSC-G40NL (250°C to 1300°C)	0.47 (11.8)	0.35 (8.8)	0.23 (5.7)	0.12 (3.0)	0.34 (8.6)	0.55 (13.7)	0.75 (18.8)
PSC-G40NL (350°C to 1800°C)	0.47 (11.8)	0.33 (8.2)	0.19 (4.7)	0.60 (1.5)	0.26 (6.5)	0.44 (11.1)	0.63 (15.7)



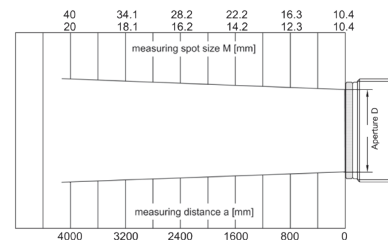
OPTICS 650 (FOCUSED AT 650MM MEASURING DISTANCE)

Measuring distance a in inches (mm)	0	7.9 (200)	15.7 (400)	25.59 (650)	32 (800)	40 (1000)	48 (1200)
Measuring field diameter M in mm							
PSC-S40NL (600°C to 1800°C)	0.43 (10.8)	0.38 (9.5)	0.33 (8.2)	0.26 (6.5)	0.42 (10.5)	0.63 (15.8)	0.84 (21.1)
PSC-S40NL (800°C to 2500°C)	0.43 (10.8)	0.34 (8.6)	0.25 (6.3)	0.14 (3.5)	0.27 (6.8)	0.45 (11.2)	0.62 (15.6)
PSC-G40NL (250°C to 1300°C)	0.43 (10.8)	0.38 (9.5)	0.33 (8.2)	0.26 (6.5)	0.42 (10.5)	0.63 (15.8)	0.84 (21.1)
PSC-G40NL (350°C to 1800°C)	0.43 (10.8)	0.34 (8.6)	0.25 (6.3)	0.14 (3.5)	0.27 (6.8)	0.45 (11.2)	0.62 (15.6)

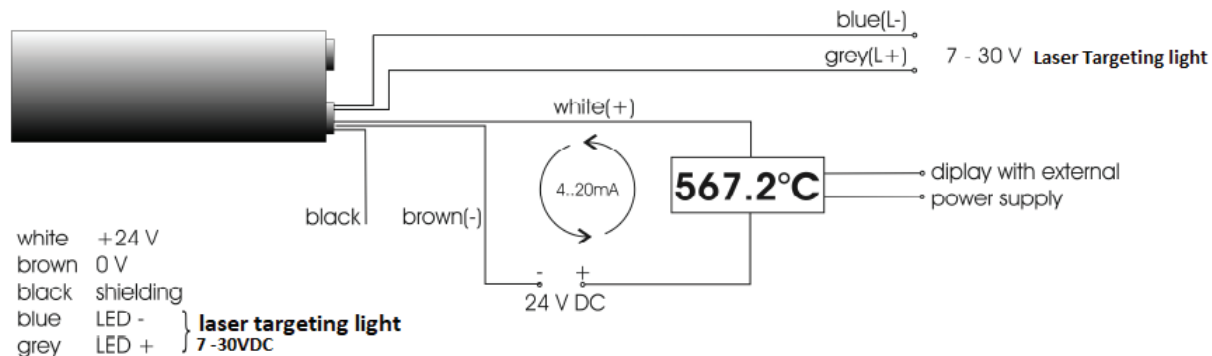


OPTICS 4000 (FOCUSED AT 4000MM MEASURING DISTANCE)

Measuring distance a in inches (mm)	0	15.7 (400)	32 (800)	64 (1600)	96 (2400)	128 (3200)	160 (4000)
Measuring field diameter M in mm							
PSC-S40NL (600°C to 1800°C)	0.41 (10.4)	0.54 (13.4)	0.65 (16.3)	0.89 (22.2)	1.13 (28.2)	1.36 (34.1)	1.6 (40)
PSC-S40NL (800°C to 2500°C)	0.41 (10.4)	0.56 (1.4)	0.49 (12.3)	0.57 (14.2)	0.65 (16.2)	0.72 (18.1)	0.8 (20)
PSC-G40NL (250°C to 1300°C)	0.41 (10.4)	0.54 (13.4)	0.65 (16.3)	0.89 (22.2)	1.13 (28.2)	1.36 (34.1)	1.6 (40)
PSC-G40NL (350°C to 1800°C)	0.41 (10.4)	0.56 (1.4)	0.49 (12.3)	0.57 (14.2)	0.65 (16.2)	0.72 (18.1)	0.8 (20)

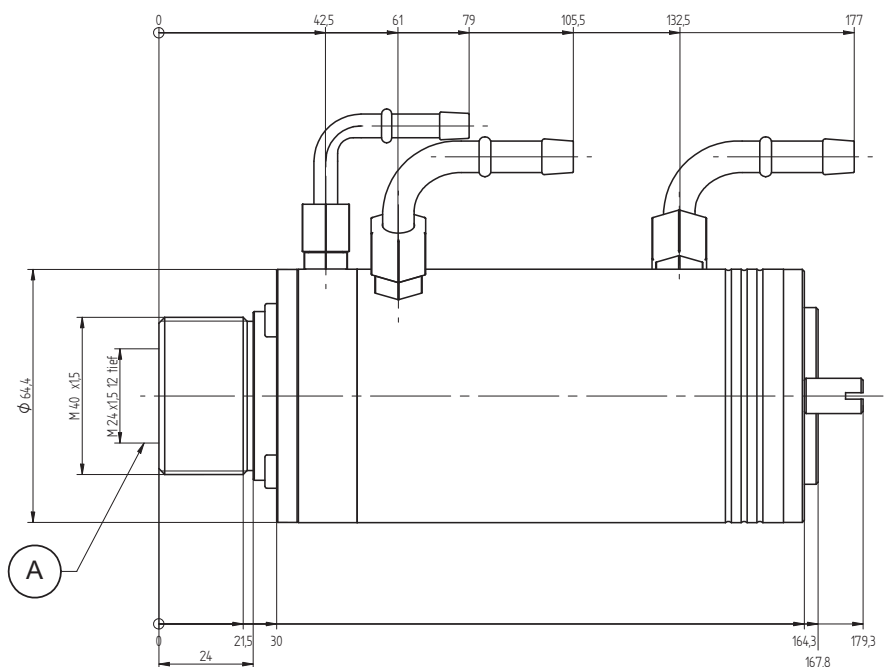
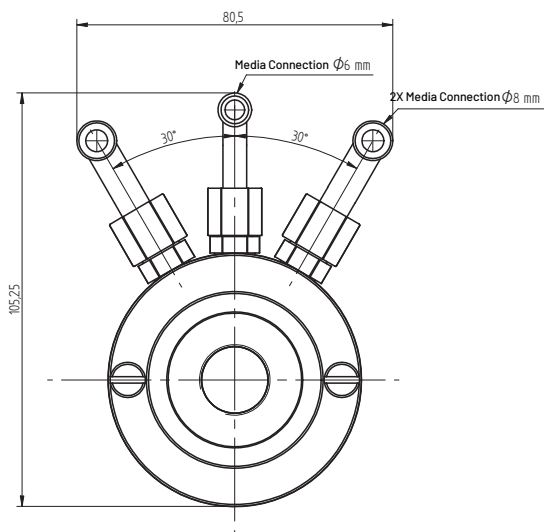


PSC-S40NL / PSC-G40NL WIRING CONFIGURATION



DIMENSIONS IN MM

Cooling Jacket with Air Purge



ACCESSORIES



Adjustable mounting bracket
P/N PSC-3310A21011



Cooling jacket with air purge for harsh
conditions
P/N PSC-3310A23010



Air purge
P/N PSC-3310A22010



Digital Display in Wallmount Enclosure with
Laser Switch & 24 VDC Power Supply



Power supply 24 VDC (din rail)
P/N PSC-950-004



Programming cable
P/N PSC-3310A14010

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