

PSC-T40G

SELF-CONTAINED, 2-WIRE PYROMETER FOR GLASS APPLICATIONS



OVERVIEW

The Process Sensors Model PSC-T40G is a compact, rugged, and simple-to-install digital pyrometer technology designed for glass surface temperature measurement.

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 rugged stainless steel housing and companion protective stainless steel, water cooling jacket with air purge ensures reliable operation in harsh industrial environments. Software is provided for IR sensor adjustments, temperature measuring and data acquisition evaluation. The PSC-T40G pyrometer series with fixed focus optics offers fast response times, small spot sizes and a choice of two temperature ranges.

APPLICATIONS

- Float/flat glass
- Annealing lehrs
- Tin bath
- Container glass
- Automotive glass
- Ceramics
- Annealing ovens
- Semiconductor tools
- Vacuum reactors
- Furnaces



PSC-T40G FEATURES

- Ideal for glass surface temperature measurements
- Selection of temperature ranges from 100 °C to 2500 °C (212 °F to 4532 °F)
- Digital 2-wire loop powered, self contained Pyrometer
- Integrated USB interface for sensor parameter settings
- Built-in peak picker
- Robust stainless steel protective cooling jacket
- Sensor can be configured to view through a sapphire viewport window



Heavy duty cooling jacket with integrated air purge for flange, pipe mount, or mounting bracket installations



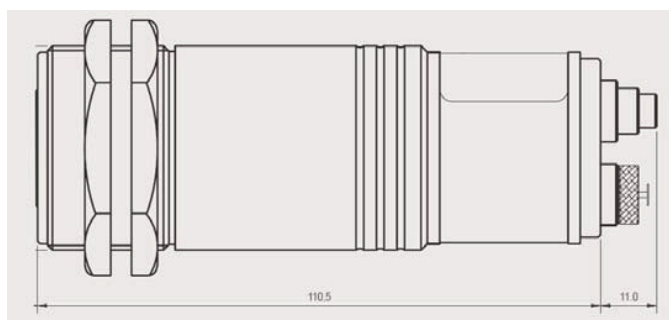
Standard cooling jacket with air purge



TECHNICAL DATA

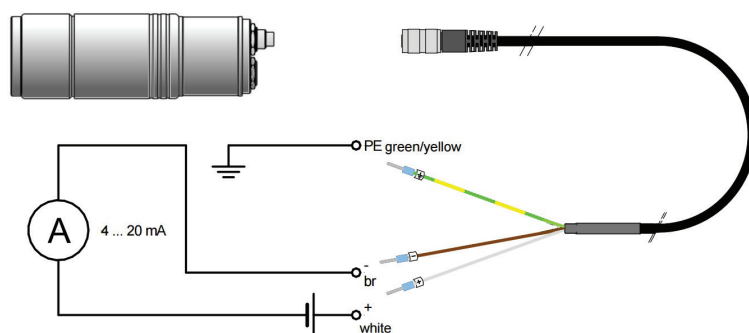
Temperature Range	100 °C to 1300 °C (212 °F to 2372 °F); 200 °C to 1400 °C (392 °F to 2552 °F); 500 °C to 2500 °C (932 °F to 4532 °F)
Fixed Optics	100, 300, 800
Sub Temperature Range	Adjustable within overall temperature range, minimum span 51°C
Spectral Range	5.14 µm
Distance Ratio	> 50 : 1
Measurement Uncertainty	1.0% of measurement value 1K ($T_U = 23^{\circ}\text{C}$, $E = 1$, $t_{95} = 1\text{s}$)
Repeatability	0.5% of measurement value ($T_U = 23^{\circ}\text{C}$, $E = 1$, $t_{95} = 1\text{s}$)
Response Time (t_{95})	< 60ms, adjustable up to 100s
Emissivity	Adjustable, 0.20 to 1.00
Peak Picker	Maximum value storage, adjustable via interface
Output	4 to 20 mA, temperature linear, max. load: 700 Ω 24 V
Interface	Galvanically isolated USB interface
Software	PSC Spot for Windows®
Aiming	Laser aiming light (accessory)
Parameters	Adjustable via interface and software (emissivity, response time, temperature unit °C or °F, storage, sub range)
Power Supply	24 VDC ± 25 %
Power Consumption	Max. 0.6 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. 13.9 oz (395 g)
Dimensions	Thread M40 × 1.5, length 140 mm
Housing	Stainless steel with plug connector
Safety Class	IP 65 (according to DIN EN 40 050)
CE-Symbol	According to EU regulations (EN 50 011)
Scope of Delivery	PSC-T40G, manual, inspection sheet, PSC Spot for Windows® (without connecting cable, please order separately)

DIMENSIONAL DRAWING



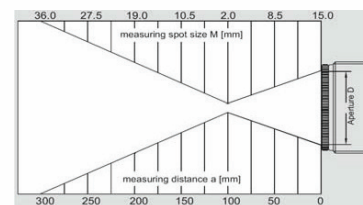
Dimensions in mm

WIRING DIAGRAM



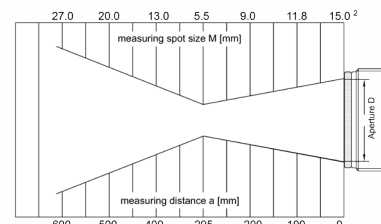
OPTICS 100 (FOCUSED AT A = 100MM MEASURING DISTANCE, IN BOLD)

Measuring distance in. (mm)	0	1.97 (50)	3.94 (100)	5.91 (150)	7.87 (200)	9.84 (250)	11.81 (300)
Measuring field diameter M in. (mm)							
PSC-T40G (100°C to 1300°C)	0.59 (15)	0.35 (8.8)	0.10 (2.5)	0.44 (11.3)	0.79 (20)	1.13 (28.8)	1.48 (37.5)
PSC-T40G (200°C to 1400°C)	0.59 (15)	0.35 (8.8)	0.10 (2.5)	0.44 (11.3)	0.79 (20)	1.13 (28.8)	1.48 (37.5)



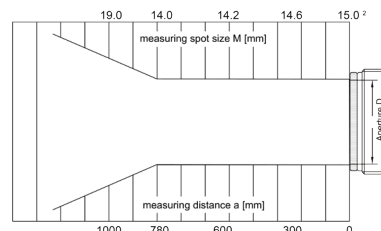
OPTICS 300 (FOCUSED AT A = 300 MM MEASURING DISTANCE, IN BOLD)

Measuring distance in. (mm)	0	3.94 (100)	7.87 (200)	11.81 (300)	15.75 (400)	19.69 (500)	23.62 (600)
Measuring field diameter M in. (mm)							
PSC-T40G (100°C to 1300°C)	0.59 (15)	0.47 (12)	0.35 (9)	0.24 (6)	0.51 (13)	0.79 (20)	1.06 (27)
PSC-T40G (200°C to 1400°C)	0.59 (15)	0.47 (12)	0.35 (9)	0.24 (6)	0.51 (13)	0.79 (20)	1.06 (27)

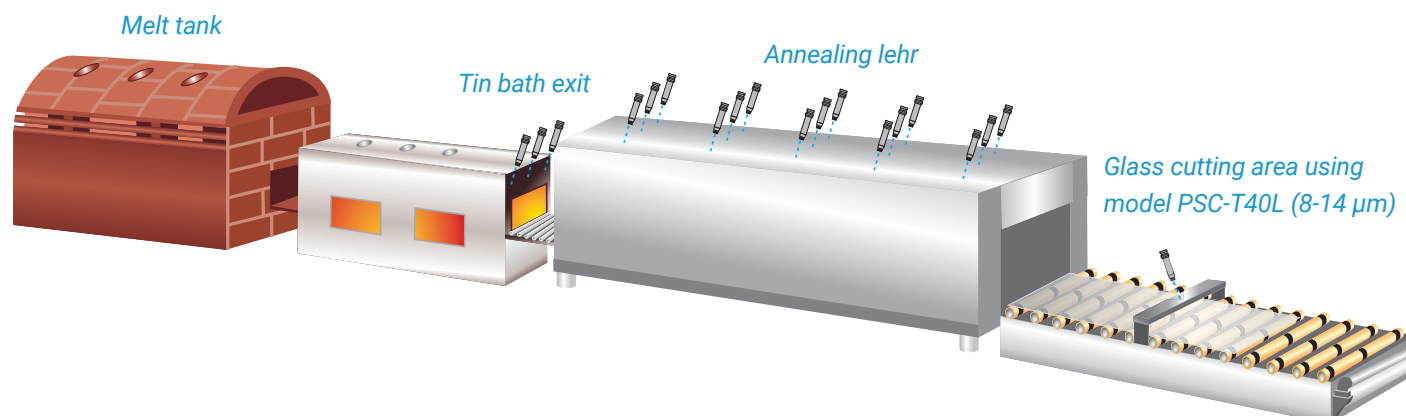


OPTICS 800 (FOCUSED AT A = 800 MM MEASURING DISTANCE, IN BOLD)

Measuring distance in. (mm)	0	7.87 (200)	15.75 (400)	23.62 (600)	31.50 (800)	39.37 (1000)	47.24 (1200)
Measuring field diameter M in. (mm)							
PSC-T40G (100°C to 1300°C)	0.59 (15)	0.60 (15.3)	0.61 (15.5)	0.62 (15.8)	0.63 (16.0)	0.94 (23.8)	1.24 (31.5)
PSC-T40G (200°C to 1400°C)	0.59 (15)	0.60 (15.3)	0.61 (15.5)	0.62 (15.8)	0.63 (16.0)	0.94 (23.8)	1.24 (31.5)



IDEAL POSITIONING FOR TEMPERATURE MEASUREMENT IN FLOAT GLASS APPLICATIONS



ELECTRICAL, MECHANICAL, AND OPTIONAL ACCESSORIES

Part Number	Description
PSC-3310A11511	Pyrometer cable; length 2 m
PSC-3310A11512	Pyrometer cable; length 5 m
PSC-3310A11513	Pyrometer cable; length 10 m
PSC-3310A11514	Pyrometer cable; length 15 m
PSC-3310A11515	Pyrometer cable; length 20 m
PSC-3310A11517	Pyrometer cable; length 30 m

ACCESSORIES

Part Number	Description
PSC-3310A21210	Window slide (without window)
PSC-3310A22010	Air purge
950-004	Power supply 24 VDC / 1.5A
TBD	Digital temperature display
PSC-3310A14010	USB Programming cable; length 1.8 m, for use with PC
PSC-3310A21010	Mounting bracket; fixed
PSC-3310A21011	Mounting bracket; adjustable
PSC-3310A23010	Cooling jacket, stainless steel with integrated air purge with end cap
PSC-3310A23015	Heavy duty cooling jacket with integrated air purge end cap
PSC-3310A24010	Vacuum flange; KF 16
PSC-3310A34041	Vacuum flange; with ZnSe window



*Adjustable mounting bracket
P/N PSC-3310A21011*



*Air purge unit
P/N PSC-3310A22010*



*Standard cooling jacket with air purge
P/N PSC-3310A23010*



*Heavy duty cooling jacket with
integrated air purge
P/N 3310A23010;
with end cap P/N PSC-3310A23015*



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



Digital Temperature Display

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