PSC-52LT

Self-Contained 1-Color Pyrometer for General Purpose Applications

Digital 2-Wire Loop-powered pyrometer with 4 to 20mA outputs and USB Interface

Special features

- Temperature Range: 0°C to 1000°C
- 4 to 20mA Linear output
- Integrated laser aiming
- High resolution optics (FOV 50:1)
- USB Interface
- Small spot sizes
- Fast Response Time of 100 ms
- Adjustable emissivity via rear panel
- PC Software
- Small, compact, stainless steel design

Description and application

The digital PSC-52LT pyrometer is designed for non-contact, low reflective surfaces and is suitable for temperature measurement from 32° to 1832°F (0° to 1000°C).

The IR sensor provides laser aiming to pinpoint the target under measurement. The laser can be activated remotely via a separate 24 VDC input.

The infrared sensor's compact rugged stainless steel housing with companion cooling jacket facilitates operation even under the most difficult ambient conditions.

The PSC-52LT can measure very small spot sizes from 0.24" (6mm) with a fast response time of 100 ms (adjustable).

The standard loop-powered 4 to 20 mA linear temperature output signal allows easy implementation into existing measurement and control systems.

The pyrometer can be connected to a computer via USB interface. All IR sensor parameters can be adjusted through the user's PC, except for the emissivity. Emissivity can only be changed via the potentiometers on the rear panel of the IR sensor.

Typical applications:

- Rubber and plastics
- Paper and packaging industry
- Food industry
- Glass and ceramic industry
- Conveyed materials
- Composites and wood
- Textile / Fabrics
- Gypsum board

PSC-52LT

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| Technical data		
Model	**PSC-52LT**	
Temperature range	0 °C to 1000 °C (32 °F to 1832 °F)	
Fixed focus optics	300	2000
Sub temperature range	adjustable within temperature range, minimum span 50 °C (122 °F)	
Spectral range	8 µm to 14 µm	
Distance ratio	approx. 50:1	
Measurement uncertainty [1]	1 % of measured value in °C or 1 K [2]	
Reproducibility [1]	0.5 % of measured value in °C or 0.5 K [2]	
NETD [3]	< 0.1 °C	
Response time (t90)	100 ms (min.), adjustable	
Emissivity	0.20 to 1.000. Can only be changed with emissivity potentiometers on sensor's rear panel	
Peak/Valley Picker	minimum and maximum value storage	
Output	4 to 20 mA, temperature linear, max. load: 500 Ω at 24 VDC	
Interface	USB	
Method of Aiming	laser, 645 nm to 660 nm, class II, > 1 mW	
Parameters	Adjustable via USB cable and PC for settings such as: transmissivity, ambient radiation, response time, sub-temperature range of temperature range	
Standard Equipment	PSC-52LT, manual, inspection sheet, PSCSpot for Windows (**without** connection cables, please order separately)	
Software	PSCSpot for Windows	
Power supply	24 V DC ± 25 %, residual ripple 500 mV	
Power consumption	max. 0.6 W without laser aiming light	
Operating temperature	0 °C to 70 °C (32 °F to 158 °C)	
Storage temperature	−20 °C to 70 °C (-4 °F to 158 °F)	
Weight	approx. 600 g / 1.5 pounds	
Housing	Stainless steel round housing with plug connector, length approx. 140 mm, diameter 50 mm	
Protection class	IP65 (according to DIN EN 60529 und DIN 40050)	
CE symbol	according to EU regulations (EN 50 011)	

[1] Specifications for black body radiator, $T_{ambient}$ = 23 °C, t95 = 1 s. [2] Whichever is higher value. [3] Noise equivalent temperature difference.

Dimensional drawing (mm)
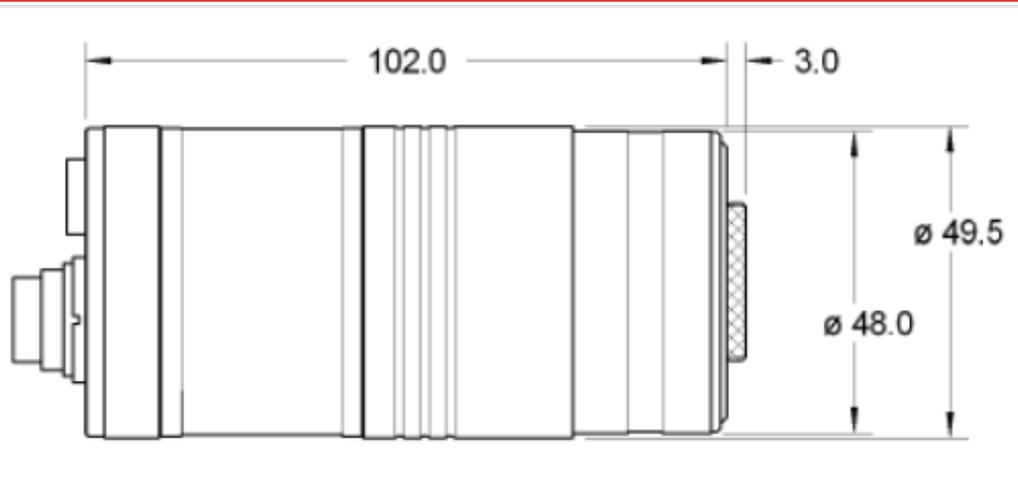
PSC-52LT

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| Fixed optics 300 and 2000							
Optics 300 (focus point = 300 mm), aperture $\varnothing$ D = 15 mm							
Measuring distance a [mm]	0	100	200	260	**300**	400	500
	Measuring field diameter M [mm]						
PSC- 52L (0 °C to 1000 °C)	15.0	11.8	8.6	6.6	**6**	13.0	20.0
Optics 2000 (focus point = 2000 mm), aperture $\varnothing$ D = 15 mm							
Measuring distance a [mm]	0	800	1200	1800	**2000**	3000	4000
	Measuring field diameter M [mm]						
PSC- 52L (0 °C to 1000 °C)	15.0	24.0	28.0	34.0	**36.0**	57.0	80.0
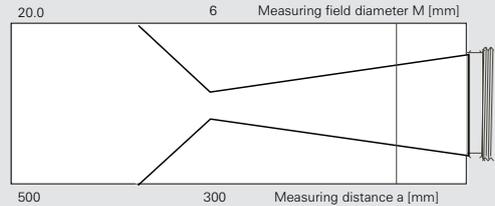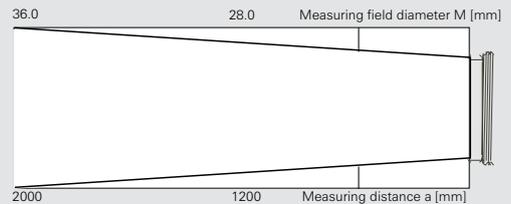
Cooling Jacket with integrated Air Purge Dimensions (in mm)
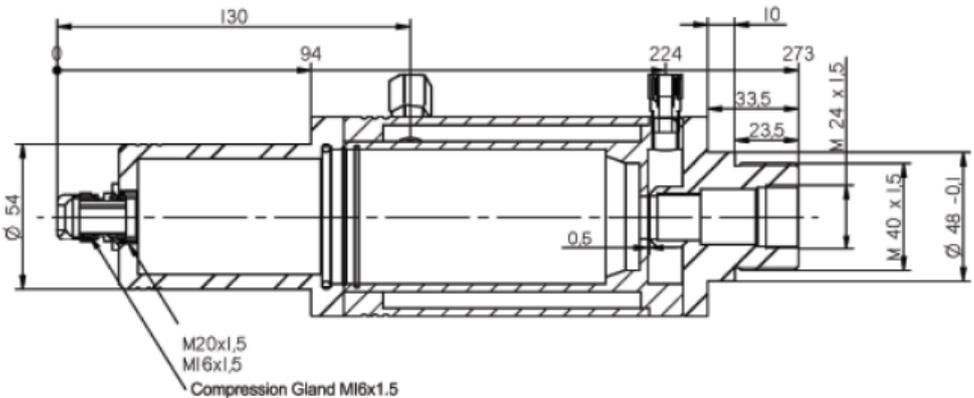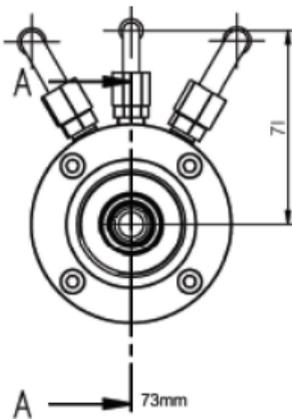
PSCSpot Software

Free PSCSpot Software is provided for the storage, processing and evaluation of real time measured data obtained by the PSC-52LT pyrometer series. It is connected to the computer via a 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

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Electrical, mechanical and optical accessories		Part number
Connection cable, straight plug	Length 2 m Length 5 m Length 10 m Length 15 m Length 20 m Length 25 m Length 30 m	PSC-3310A11511 PSC-3310A11512 PSC-3310A11513 PSC-3310A11514 PSC-3310A11515 PSC-3310A11516 PSC-3310A11517
Mounting bracket	adjustable	PSC-3310A21050
Cooling jacket	including air purge unit, without mounting bracket	PSC-3310A23050
Air purge unit	Connects directly to the IR sensor head	PSC-3310A22050
Power supply	24 V DC, 1A	950-004
Special Cable	USB connecting cable (1.8m) with PSCspot software	PSC-3310A14010
Sight Tube	300mm sight tube for air purge	PSC-3310A22035

Selected accessories

Adjustable Mounting Bracket	90° Mirror	Air Purge
Part number: PSC-3310A21050	Part number: PSC-3310A24110	Part number: PSC-3310A22050

Protective Cooling Jacket	Swivel base split ring mount	24 VDC Power supply
Part number: PSC-3310A23050	Part number: PSC-950-208	Part number: PSC-950-004

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