

PSC-47LT

Ethernet pyrometers for non-contact temperature measurement

Digital pyrometer with Ethernet interface and web server



Pyrometer

Integrated web server

47LT

28.3°C

Password:

Unit in °F:

☐

Parameter

Emissivity ε:

1.000

Response time t₉₅:

Min

Sub range begin (4mA):

-40.0 °C

Output:

4...20mA

Transmittance:

100.0 %

Peak memory:

Off

Sub range end (20mA):

1000.0 °C

Ambience compensation:

auto °C

Auto

Active

SUBMIT

REFRESH

Information

Device temp.:

25.4°C

Range:

-40.0°C...1000.0°C

Serial number:

7480002

IP address:

192.168.50.75;static

Optics:

ø 6.0 @ 300mm

Item number:

4478242401

Version:

2020/09 V00.03

Features

- Integrated Web server Modbus TCP protocol
- Temperature ranges from - 40 to 1000°C
- 4 to 20 mA linear temperature output
- High resolution fixed optics (FOV 50:1)
- Fast response time of 10 ms
- All sensor parameters adjustable via Modbus TCP, web page, or PC
- PSC Spot software
- Rugged protective cooling, air purging and mounting accessories

Description and Applications

The digital PSC-47LT pyrometers are designed for **low-reflective surfaces** and are suitable for non-contact temperature measurements from - 40 to 1000°C (-40 to 1832°F).

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

The infrared sensor's compact rugged stainless steel housing with companion cooling jacket and air purge facilitates operation even under the most difficult harsh environmental conditions.

The PSC-47LT can measure very small spot sizes from 0.24" (6mm) with a fast adjustable response time of 10 ms.

The Ethernet communication and 4 to 20 mA linear temperature output signals allow for easy implementation into existing measurement and control systems.

The pyrometer has a web server. All IR sensor parameters can be set via software, Modbus TCP, or a web page.

Typical pyrometer applications are:

- Composites and plastics
- Gypsum board
- Conveyed materials
- Plastics Paper and packaging industry
- Glass and ceramics industry
- Textiles / Fabrics
- Rubber and plastics
- Food industry
- Organic building materials



PSC-47LT

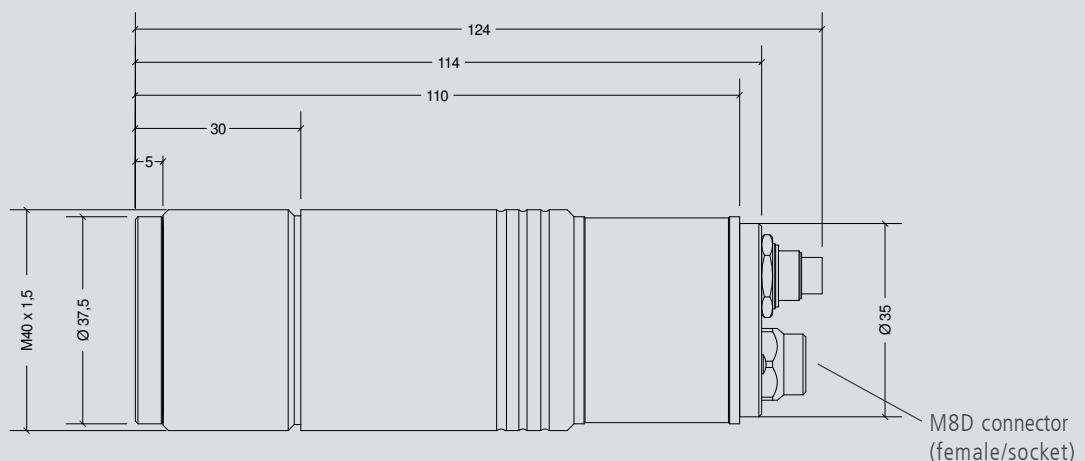
Ethernet pyrometers for non-contact temperature measurement

Technical data

Model	PSC-47LT						
Measuring temperature range	– 40 °C to 1000 °C				0 °C to 1000 °C		
Fixed focus optics (in mm)	100	300	800	2000	100	300	800
Sub temperature range	adjustable within temperature range, minimum span 50 °C						
Spectral range	8 µm to 14 µm						
Distance ratio	approx. 50 : 1						
Measurement uncertainty ¹	0.6 % of measured value in °C or 1 K ^{2,5}						
Reproducibility ¹	0.3 % of measured value in °C or 0,5 K ^{2,5}						
NETD ³	0.1 K ⁴						
Response time (t ₉₀)	10 ms (min.) ⁶ , adjustable up to 100 s						
Emissivity	0.200 to 1.000						
Data storage	Minimum/maximum value storage						
Output	0/4 to 20 mA, temperature linear, max. burden: 700 Ω						
Interface	Ethernet 100 Mbit/s, web server, data protocol Modbus-TCP						
Aiming	N/A				integrated LED aiming light		
Software	PSC Spot for Windows®, optional: PSC Spot Pro						
Parameters	adjustable via PSC Spot software, web server, or Modbus-TCP: emissivity, response time, storage, sub range, transmittance, ambient compensation, analog output, pilot light additionally adjustable via Modbus-TCP: network configuration						
Power supply	24 V DC ± 25 %, residual ripple 500 mV						
Power consumption	max. 1.5 W (without LED aiming light)						
Operating temperature	0 °C to 70 °C						
Storage temperature	–20 °C to 70 °C						
Weight	approx. 450 g						
Dimensions	thread M40 × 1.5, length 124 mm						
Housing	stainless steel housing with plug connectors, link LED						
Protection class	IP 65 (according to DIN EN 60529 and DIN 40050)						
CE symbol	according to EU regulations (EN 50 011)						
Scope of Supply	PSC-47LT, user manual, mounting screw nuts, inspection sheet, PSC Spot for Windows® (without connection cable , please order separately)						

¹ Specifications for black body radiator, 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 = 200 ms, T_{objekt} = 100 °C. ⁵ Applies from 100 °C with integrated LED pilot light. ⁶ DT 47L with LED t₉₅ = 150 ms

Dimensional drawings in mm



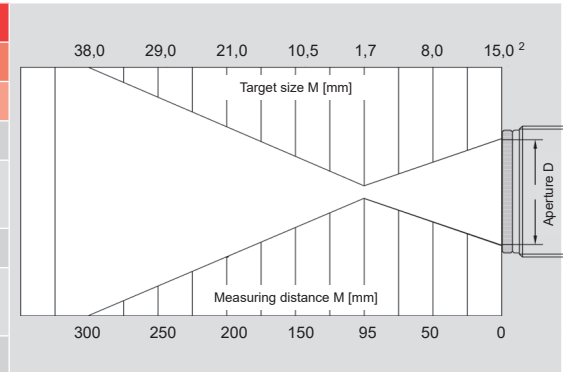
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Optics types 100, 300, 800 and 2000 (aperture D = 15 mm)

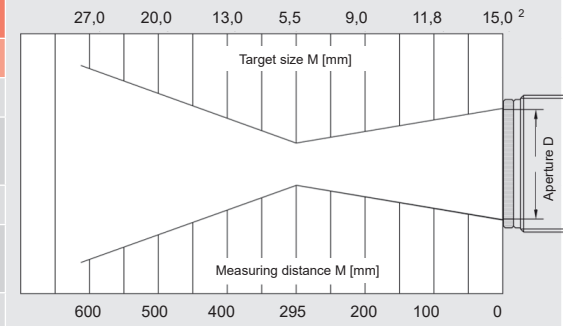
Optics 100 (Focus point = 95/100 mm measurement distance)

Measurement distance in [mm]	0	50	95	100	200	250	300
Measurement range	Target size M [mm]						
PSC-47LT (– 40 to 1000 °C) without LED pilot light	15	8.0	1.7	2.0	21	29	38
PSC-47LT (0 to 1000 °C) with LED pilot light ¹	13	7.8	3.0	2.5	18	26	34



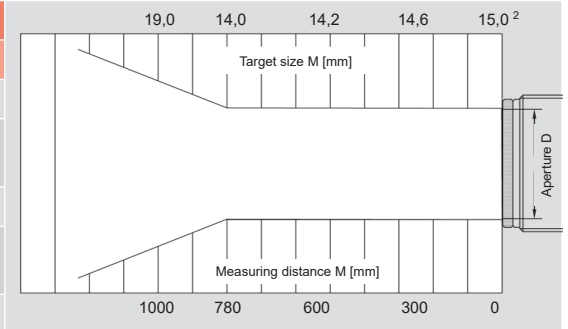
Optics 300 (Focus point = 270/295 mm measurement distance)

Measurement distance in [mm]	0	100	270	295	400	500	600
Measurement range	Target size M [mm]						
PSC-47LT (– 40 to 1000 °C) without LED pilot light	15	11.8	6.3	5.5	13	20	27
PSC-47LT (0 to 1000 °C) with LED pilot light ¹	13	11.6	5.7	7.6	16	24	31



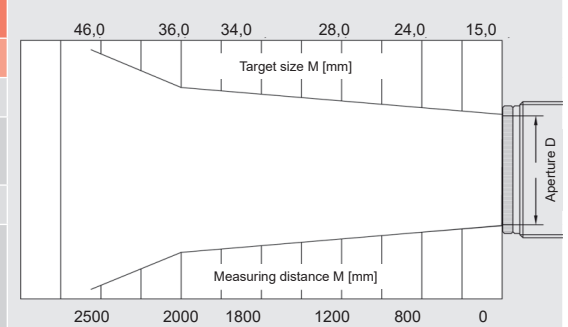
Optics 800 (Focus point = 750/780 mm measurement distance)

Measurement distance in [mm]	0	300	500	600	750	780	1000
Measurement range	Target size M [mm]						
PSC-47LT (– 40 to 1000 °C) without LED pilot light	15	14.6	14.4	14.2	14.0	14.0	19.0
PSC-47LT (0 to 1000 °C) with LED pilot light	15	14.6	14.4	14.2	14.0	15.2	19.0



Optics 2000 (Focus point = 2000 mm measurement distance)

Measurement distance a in [mm]	0	800	1200	1800	2000	2500	3000
Measurement range	Target size M [mm]						
PSC-47LT (– 40 to 1000 °C) without LED pilot light	15	24	28	34	36	46	57



¹ With attachment tube, aperture D = 13 mm, length 24 mm, diameter 19 mm.

² Target size without LED pilot light.

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Electrical, mechanical and optical accessories ¹		Part number
Connection cable (5 pin)	length 5 m length 10 m length 15 m	PSC-3310A11512 PSC-3310A11513 PSC-3310A11514
Ethernet cable RJ45 (4 pin)	length 5 m length 10 m length 15 m	PSC-3310A11412 PSC-3310A11413 PSC-3310A11414
Power supply	24 VDC	PSC-950-004
Mounting bracket	fixed adjustable	PSC-3310A21010 PSC-3310A21011
Swivel base mount		PSC-3310A21012
Air purge	stainless steel, purge air 0.1 to 0.5 bar, oil-free	PSC-3310A22010
Sight Tube for Air Purge	length 100 mm length 300 mm	PSC-3310A22030 PSC-3310A22035
Mirror	90°, including air purge	PSC-3310A24110
Cooling jacket	stainless steel with integrated air purge	PSC-3310A23010
Vacuum flange	KF 16 (without window) with zinc selenide window	PSC-3310A24010 PSC-3310A24010 + PSC-3310A34041
Protection window	zinc selenide window with threaded ring	PSC-3310A34042
Ball flange	with sleeve	PSC-3310A24020 + PSC-3310A24021
¹ More accessories on request.		

Accessories

Fixed mounting bracket	Cooling jacket	Cooling jacket with sealed end cap
Part number: PSC-3310A21010 	Part number: PSC-3310A23010 	Part number: PSC-3310A22010 & PSC-3310A23015 
12" Long Sight Tube for dusty conditions	Air purge - connects to pyrometer	24 VDC Power Supply
Part number: PSC-3310A22035 	Part number: PSC-3310A22010 	Part number: PSC-950-004 

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