

Two-wire infrared thermometer for temperature measurement from -30 °C to 1000 °C

Features:

- Temperature range from -30 °C to 1000 °C, measuring spots up from 1.4 mm and response times up from 150 ms
- Single-piece, robust design for easy installation into your process system
- Standard two-wire interface for reliable data transfer and easy integration into a PLC
- Innovative double-laser sighting for exact marking of measurement targets
- Fast sensor parameterisation and real-time measurement via USB
- Dependable in ambient temperatures up to 85 °C without additional cooling



General specifications

Environmental rating	IP 65 (NEMA-4) front mountable at vacuum processes (up to 10 ⁻³ mbar)
Ambient temperature	-20 ... 85 °C (50 °C with laser ON)
Storage temperature	-40 ... 85 °C
Relative humidity	10–95 %, non condensing
Vibration	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)
Shock	IEC 60068-2-27 (25G and 50G)
Weight	600 g

Electrical specifications

Output / analog	4 – 20 mA
Loop resistance	Max. 1000 Ω ¹⁾
Output / alarm	0 – 30 V / 500 mA (open collector)
Output / digital	Uni-/ bidirectional, 9.6 kBaud, 0/3 V digital level, USB optional
Cable length (connector version only)	3 m / 8 m / 15 m
Current draw (laser)	45 mA at 5 V 20 mA at 12 V 12 mA at 24 V
Power supply	5 – 30 V DC

Measurement specifications

Temperature range (scalable via software)	-30 ... 1000 °C
Spectral range	8 – 14 µm
Optical resolution (90 % energy)	50:1
System accuracy (at T _{Amb} = 23 ± 5 °C)	± 1 % or ± 1 °C ²⁾
Repeatability (at T _{Amb} = 23 ± 5 °C)	± 0.5 % or ± 0.5 °C ²⁾
Thermal sensitivity (NETD)	0.1 K
Response time (90 % signal)	150 ms
Emissivity/ Gain (adjustable via sensor or software)	0.100 – 1.100
IR window correction (adjustable via software)	0.100 – 1.000
Signal processing (parameter adjustable via software)	Peak hold, valley hold, average; extended hold function with threshold and hysteresis
Software	optris Compact Connect, IRmobile app

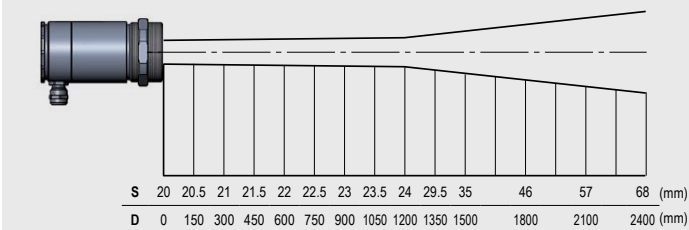
¹⁾ In dependence on supply voltage

²⁾ at object temperatures > 0 °C, ε = 1; whichever is greater

optris CSlaser LT

Optical parameter

SF optics, D:S = 50:1, 24 mm @ 1200 mm

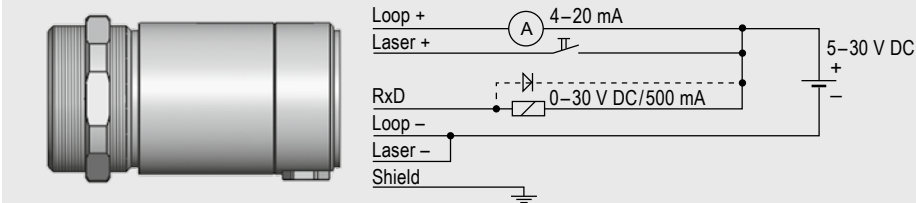


CSlaser LT optics

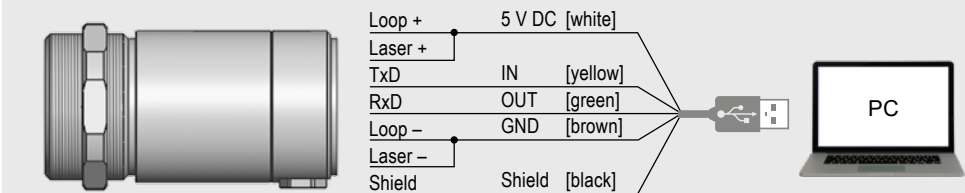
... SF	24 mm @ 1200 mm
... CF1	1.4 mm @ 70 mm
... CF2	3 mm @ 150 mm
... CF3	4 mm @ 200 mm
... CF4	9 mm @ 450 mm

Connections

Analog mode of operation



Digital mode of operation



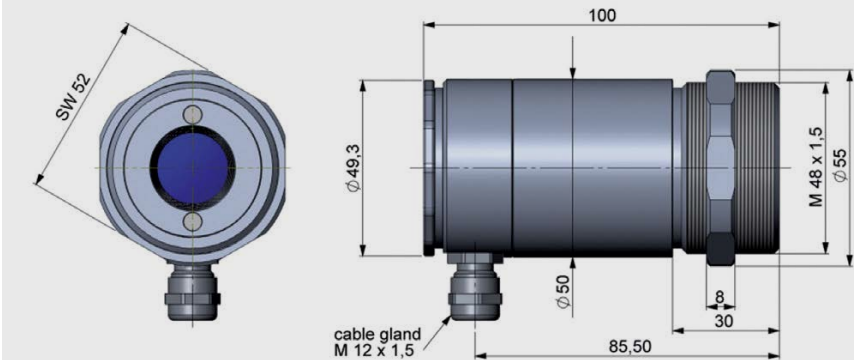
Software / App

The CSlaser LT can be connected to a smartphone via the IR app connector which is compatible with IRmobile app (Android) and CompactConnect software (Windows).



Dimensions in mm

Dimensions CSlaser LT



Electrical connections / emissivity adjustment (sensor back side)

