

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
- Wide power range: 5–28 V DC



Measurement specifications

Temperature range (scalable via software)	–30 °C ... 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⁾
Temperature resolution	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

General specifications

Environmental rating	IP 65 (NEMA-4) front mountable at vacuum processes (up to 10 ^{–3} mbar)
Ambient temperature	–20 °C ... 85 °C (50 °C with laser ON)
Storage temperature	–40 °C ... 85 °C
Relative humidity	10–95 %, non condensing
Vibration	IEC 68-2-6: 3 G, 11–200 Hz, any axis
Shock	IEC 68-2-27: 50 G, 11 ms, any axis
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 Pegel, 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

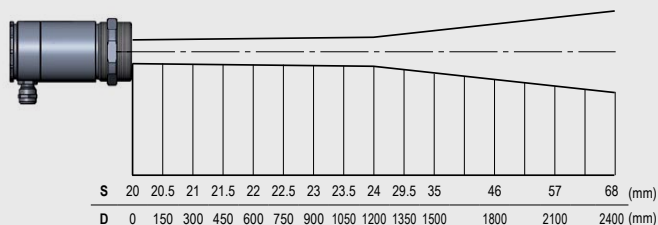
¹⁾ In dependence on supply voltage

²⁾ Whichever is greater

optris® CSLaser LT

Optical parameter

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

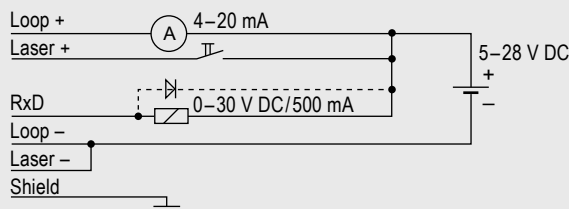
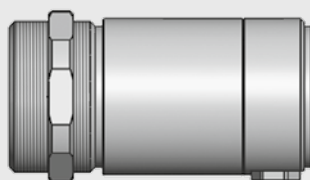


CSLaser LT optics

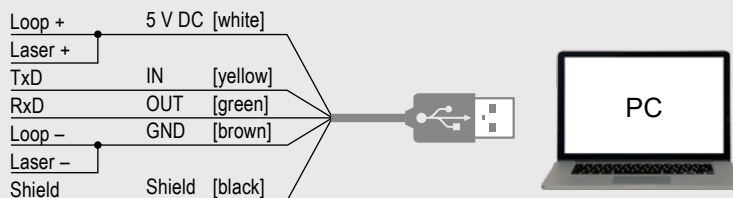
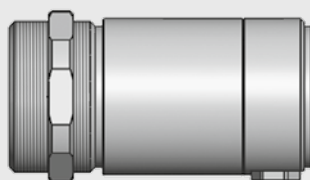
... SF	24 mm @ 1200 mm
... CF1	1.4 mm @ 70 mm
... CF2	3 mm @ 150 mm
... CF3	4 mm @ 200 mm
... CF4	9 mm @ 450 mm

Connections

Analog mode of operation

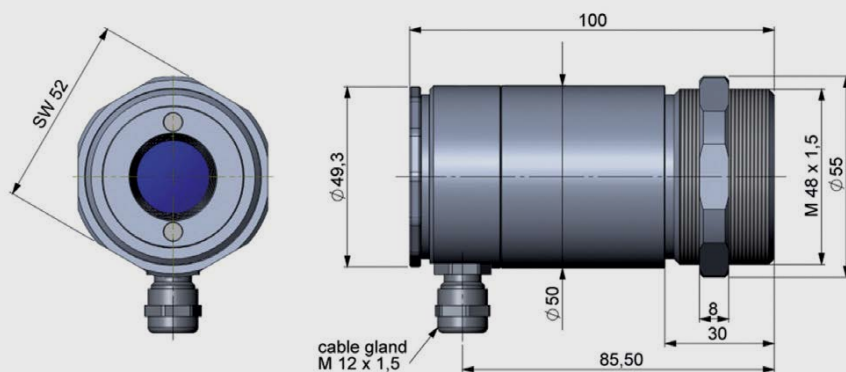


Digital mode of operation



Dimensions

Dimensions CSLaser LT



Electrical connections / emissivity adjustment (sensor back side)





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