

Two-wire infrared thermometer for temperature measurement from $-30\text{ }^{\circ}\text{C}$ to $1000\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$ to $1832\text{ }^{\circ}\text{F}$)

Features:

- Temperature range from $-30\text{ }^{\circ}\text{C}$ to $1000\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$ to $1832\text{ }^{\circ}\text{F}$), measuring spots up from 1.4 mm (0.06 in) 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 $85\text{ }^{\circ}\text{C}$ ($185\text{ }^{\circ}\text{F}$) without additional cooling
- Wide power range: 5–28 V DC



Measurement specifications

Temperature range (scalable via software)	$-30\text{ }^{\circ}\text{C}$ to $1000\text{ }^{\circ}\text{C}$ ($-22\text{ }^{\circ}\text{F}$ to $1832\text{ }^{\circ}\text{F}$)
Spectral range	8–14 μm
Optical resolution (90% energy)	50:1
System accuracy (at $T_{\text{amb}} = 23 \pm 5\text{ }^{\circ}\text{C}$) ($73 \pm 9\text{ }^{\circ}\text{F}$)	$\pm 1\%$ or $\pm 1\text{ }^{\circ}\text{C}^2$ ($\pm 1\%$ or $\pm 1.8\text{ }^{\circ}\text{F}$)
Repeatability (at $T_{\text{amb}} = 23 \pm 5\text{ }^{\circ}\text{C}$) ($73 \pm 9\text{ }^{\circ}\text{F}$)	$\pm 0.5\%$ or $\pm 0.5\text{ }^{\circ}\text{C}^2$ ($\pm 0.5\%$ or $\pm 0.9\text{ }^{\circ}\text{F}$)
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

¹⁾ In dependence on supply voltage

²⁾ Whichever is greater

General specifications

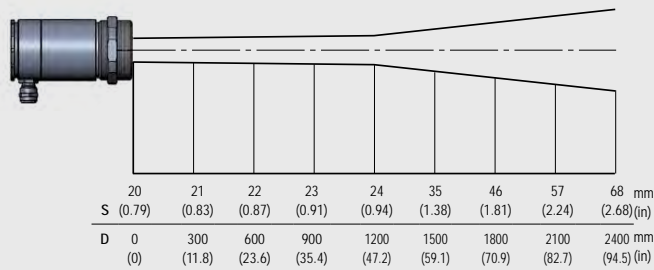
Environmental rating	IP 65 (NEMA-4) front mountable at vacuum processes (up to 10^{-3} mbar)
Ambient temperature	$-20\text{ }^{\circ}\text{C}$ to $85\text{ }^{\circ}\text{C}$ ($-4\text{ }^{\circ}\text{F}$ to $185\text{ }^{\circ}\text{F}$) ($50\text{ }^{\circ}\text{C}$ ($122\text{ }^{\circ}\text{F}$) with laser ON)
Storage temperature	$-40\text{ }^{\circ}\text{C}$ to $85\text{ }^{\circ}\text{C}$ ($-40\text{ }^{\circ}\text{F}$ to $185\text{ }^{\circ}\text{F}$)
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 (21.2 oz)

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 (9.8 ft / 26.2 ft / 49.2 ft)
Current draw (laser)	45 mA at 5 V 20 mA at 12 V 12 mA at 24 V
Power supply	5–30 V DC

Optical parameter

SF optics, D:S = 50:1, 24 mm @ 1200 mm (0.94 in @ 47.2 in)

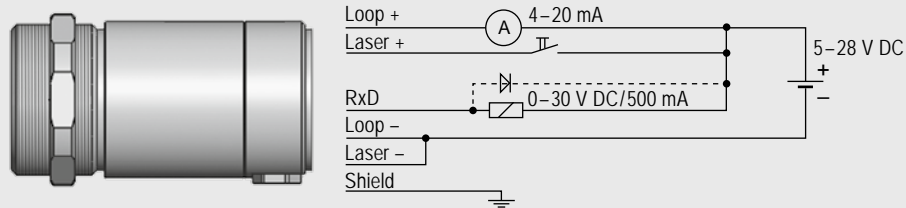


CSlaser LT optics

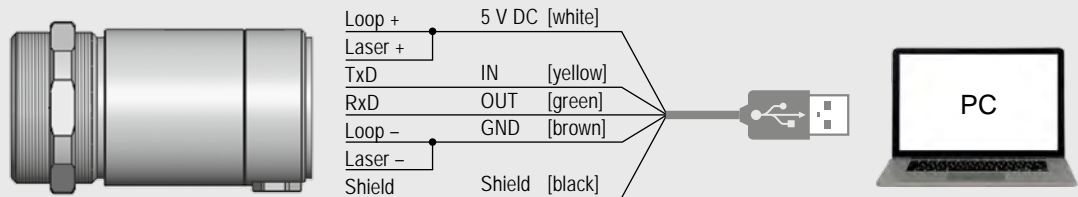
... SF	24 mm @ 1200 mm (0.94 in @ 47.2 in)
... CF1	1.4 mm @ 70 mm (0.06 in @ 2.76 in)
... CF2	3 mm @ 150 mm (0.12 in @ 5.91 in)
... CF3	4 mm @ 200 mm (0.16 in @ 7.87 in)
... CF4	9 mm @ 450 mm (0.35 in @ 17.7 in)

Connections

Analog mode of operation

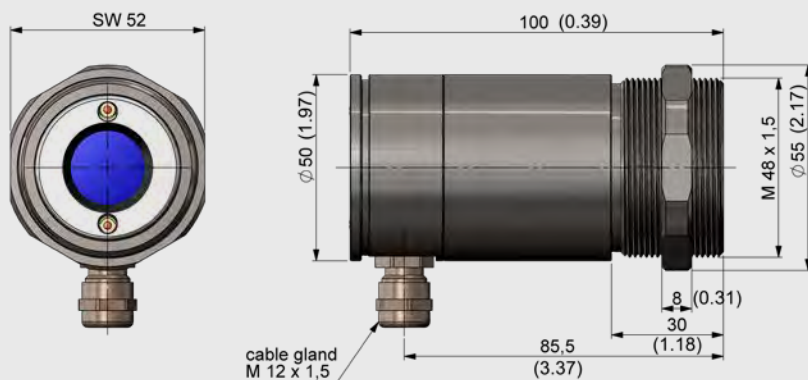


Digital mode of operation



Dimensions

Dimensions CSlaser LT



Electrical connections / emissivity adjustment (sensor back side)

