

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 ... 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 ... 85 °C (50 °C with laser ON) |
| Storage temperature | –40 ... 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

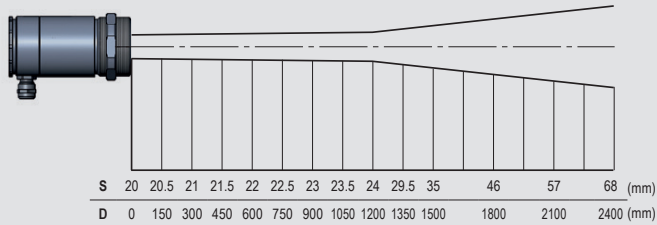
| | |
|---------------------------------------|---|
| Output / analog | 4–20 mA |
| Loop resistance | Max. 1000 Ω ¹⁾ |
| Output / alarm | 0–30 V / 500 mA (open collector) |
| Output / digital | Uni-/ bidirectional, 9.6 kBaud, 0/3 V Pegel, USB optional |
| Cable length (connector version only) | 3 m / 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

Optical parameter

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

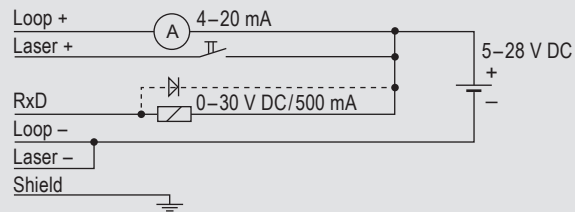
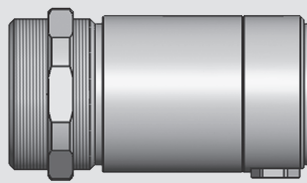


CSLaser LT optics

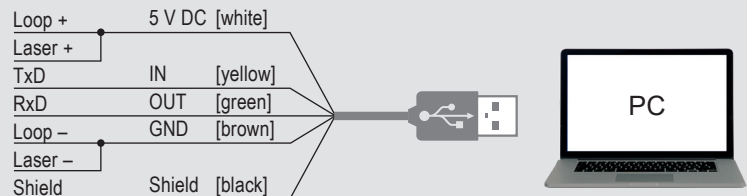
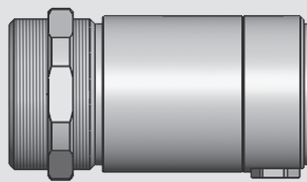
| | |
|---------|-----------------|
| ... SF | 24 mm @ 1200 mm |
| ... CF1 | 1.4 mm @ 70 mm |
| ... CF2 | 3 mm @ 150 mm |
| ... CF3 | 4 mm @ 200 mm |
| ... CF4 | 9 mm @ 450 mm |

Connections

Analog mode of operation

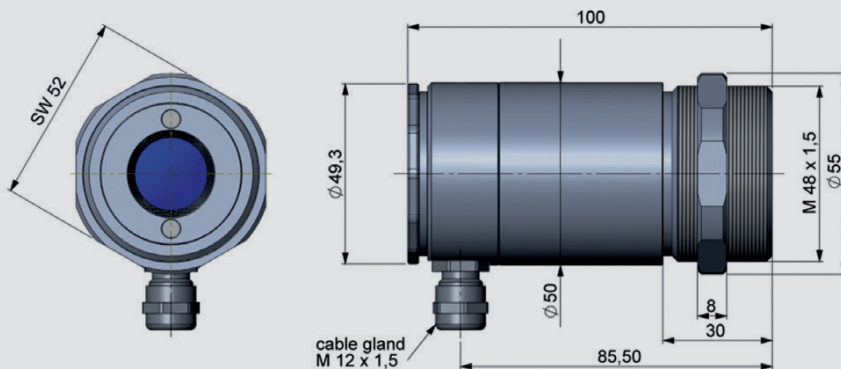


Digital mode of operation



Dimensions

Dimensions CSLaser LT



Electrical connections / emissivity adjustment (sensor back side)

