

**Two-wire infrared
thermometer for tempera-
ture measurement from
–30 °C to 1000 °C
(–22 °F to 1832 °F)**

Features:

- Temperature range from –30 °C to 1000 °C (–22 °F to 1832 °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 °C (185 °F) without additional cooling
- Wide power range: 5–28 V DC



General specifications

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

Measurement specifications

Temperature range (scalable via software)	–30 °C to 1000 °C (–22 °F to 1832 °F)
Spectral range	8–14 µm
Optical resolution (90 % energy)	50:1
System accuracy (at T _{amb} = 23 ±5 °C) (73 ±9 °F)	±1 % or ±1 °C ²⁾ (±1 % or ±1.8 °F)
Repeatability (at T _{amb} = 23 ±5 °C) (73 ±9 °F)	±0.5 % or ±0.5 °C ²⁾ (±0.5 % or ±0.9 °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

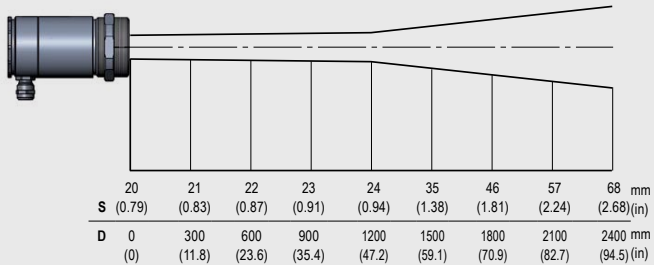
¹⁾ In dependence on supply voltage

²⁾ Whichever is greater

optris CSlaser LT

Optical parameter

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



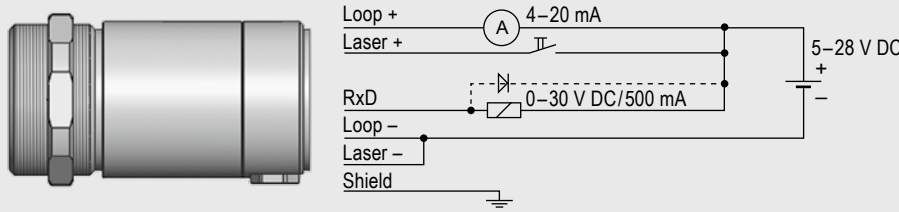
	20	21	22	23	24	35	46	57	68
S	(0.79)	(0.83)	(0.87)	(0.91)	(0.94)	(1.38)	(1.81)	(2.24)	(2.68)
D	0	300	600	900	1200	1500	1800	2100	2400
	(0)	(11.8)	(23.6)	(35.4)	(47.2)	(59.1)	(70.9)	(82.7)	(94.5)

CSlaser LT optics

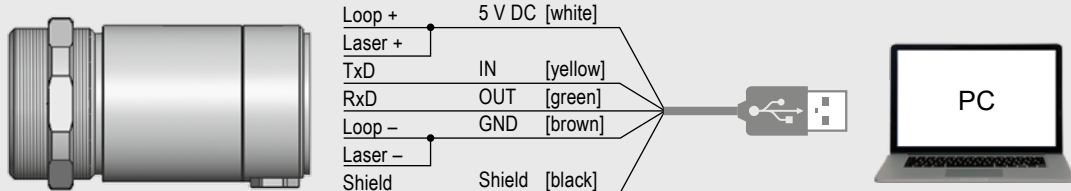
... SF	24 mm @ 1200 mm (0.94 in @ 47.2 in)
... CF1	1.4 mm @ 70 mm (0.06 in @ 2.76 in)
... CF2	3 mm @ 150 mm (0.12 in @ 5.91 in)
... CF3	4 mm @ 200 mm (0.16 in @ 7.87 in)
... CF4	9 mm @ 450 mm (0.35 in @ 17.7 in)

Connections

Analog mode of operation

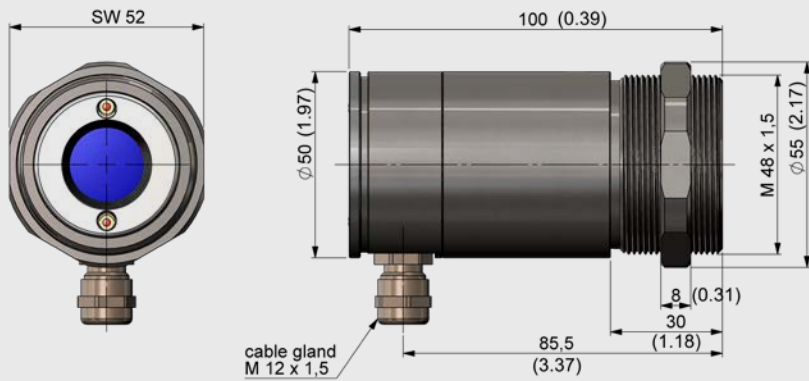


Digital mode of operation



Dimensions

Dimensions CSlaser LT



SW 52

100 (0.39)

Ø 50 (1.97)

Ø 55 (2.17)

M 48 x 1.5

8 (0.31)

30 (1.18)

85.5 (3.37)

cable gland M 12 x 1.5

Electrical connections / emissivity adjustment (sensor back side)



SW 52

TXD

LOOP+

LOOP-

LASER+

LASER-