optris® CTlaser 1M/2M

Precise non-contact temperature measurement with precise aiming from 250°C to 2200°C

FEATURES

- Accurate temperature measurements of metals, secondary metal processing and ceramic materials
- Double laser aiming marks real spot location at any distance
- Optical resolution up to 300:1 with selectable focus
- Temperature ranges from 250°C to 2200°C, measuring spots up from 0,45 mm and response times up from 1 ms
- Usable up to 85°C ambient temperature without cooling and automatic laser switch off at 50°C
- Short measuring wavelength of 1.0 µm or 1.6 µm

General Specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	-20°C to 85°C (sensing head, 50°C with laser ON) 0°C to 85°C (electronics)
Storage temperature	Sensing head: -40°C to 85°C Electronics: -40°C to 85°C
Relative humidity	10 - 95%, non condensing
Vibration (sensor)	IEC 68-2-6: 3 G, 11-200 Hz, any axis
Shock (sensor)	IEC 68-2-27: 50 G, 11 ms, any axis
Weight	Sensing head: 600 g Electronics: 420 g

Electrical Specifications

Outputs/analog	0/4 - 20 mA, 0-5/10 V, thermocouple J, K
Alarm output	24 V/50 mA (open collector)
Optional	relay: 2 x 60 V DC/42 V AC_{eff}; 0.4 A; optically isolated
Outputs/digital (optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	mA max. 500 Ω (with 8-36 V DC) mV min. 100 kΩ load impedance thermocouple 20 Ω
Inputs	programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)
Cable length	3 m (standard), 8 m, 15 m
Current draw	max. 160 mA
Power Supply	8-36 V DC
Laser 635 nm	1mW, ON/OFF via electronic box or software

Measurement Specifications

Temperature ranges (scalable via programming keys or software)	485°C to 1050°C (1ML) 650°C to 1800°C (1MH) 800°C to 2200°C (1MH1) 250°C to 800°C (2ML) 385°C to 1600°C (2MH) 490°C to 2000°C (2MH1)
Spectral ranges	1.0 µm (1M)/1,6 µm (2M)
Optical resolution (90% energy)	150:1 (1ML, 2ML) 300:1 (1MH, 1MH1, 2MH, 2MH1)
System accuracy[1] (at ambient temp. 23 ±5°C)	± (0.3% of reading + 2°C)
Repeatability (at ambient temp. 23 ±5°C)	± (0.1% of reading + 1°C)
Temperature resolution	0.1 K (1ML, 2ML) 0.2 K (1MH, 1MH1, 2MH, 2MH1)
Exposure time[2]	1 ms (90 %)
Emissivity/Gain (adjustable via programming keys or software)	0.100 - 1.100
Transmissivity/Gain (adjustable via programming keys or software)	0.100 - 1.100
Signal processing (parameter adjustable via programming keys or software, respectively)	peak hold, valley hold, average; extended hold function with threshold and hysteresis
Software	optris Compact Connect

[1] *ε = 1, Exposure time 1 s*
[2] *with dynamic adaptation at low signal levels*

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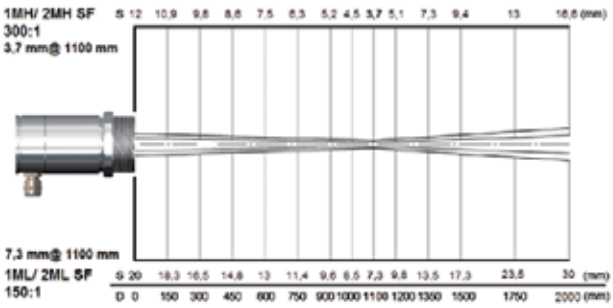
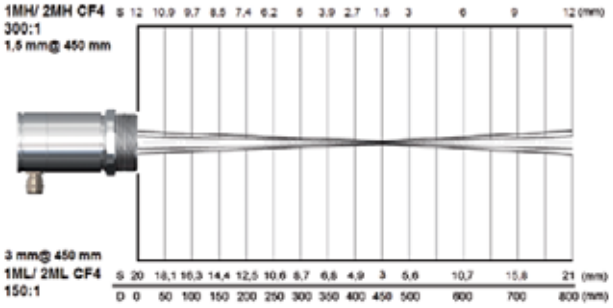
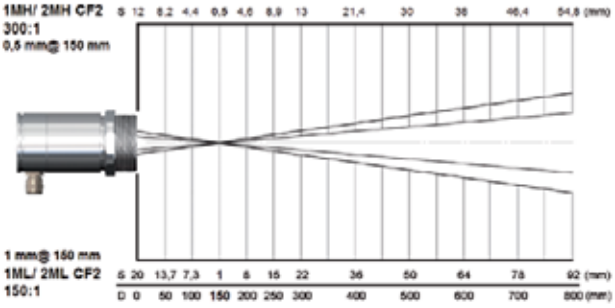
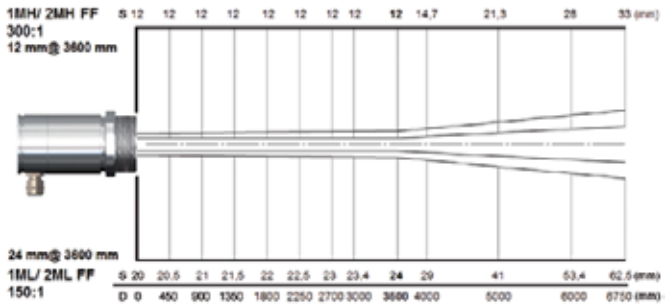
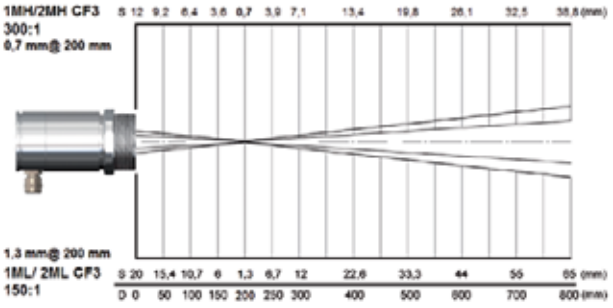
Optical Specifications







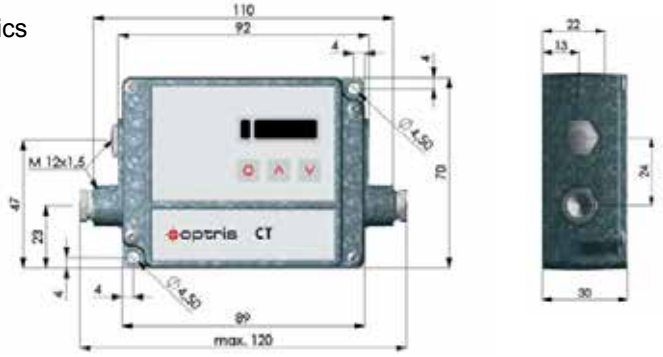




Dimensions

Sensing head

Electronics



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