

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



Features:

- Miniaturized Infrared Thermometer with 1.0 μm respectively 1.6 μm wave length range for measurements of metals, of secondary metal processing, metal oxides and ceramic materials
- Very small sensing head of 14 mm diameter and 28 mm length fits everywhere and is usable up to 125 °C ambient temperature without cooling
- Temperature ranges from 250 °C to 2200 °C, measuring spots up from 1.8 mm and exposure times up from 1 ms
- Short measuring wave length of 1.0 μm respectively 1.6 μm reduces error of temperature readings on surfaces with low or unknown emissivity

General Specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	-20 °C ... 125 °C (sensing head) 0 °C ... 85 °C (electronics)
Storage temperature	-40 °C ... 125 °C (sensing head) -40 °C ... 85 °C (electronics)
Relative humidity	10–95 %, non condensing
Vibration (sensor)	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)
Shock (sensor)	IEC 60068-2-27 (25G and 50G)
Weight	40 g (sensing head) / 420 g (electronics)

Electrical Specifications

Outputs / analog	0/4–20 mA, 0–5/10 V, thermocouple J, K, alarm output
Output / alarm	24 V / 50 mA (open collector)
Optional	Relay: 2 x 60 V DC / 42 V AC _{eff} ; 0.4 A; optically isolated
Outputs / digital	USB, EtherCAT, RS232, RS485, CAN, Profibus DP, Ethernet (optional)
Output impedances	mA max. 500 Ω (with 8–36 V DC) mV min. 100 k Ω 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
Power Supply	8–36 V DC
Current draw	Max. 100 mA

Measurement Specifications

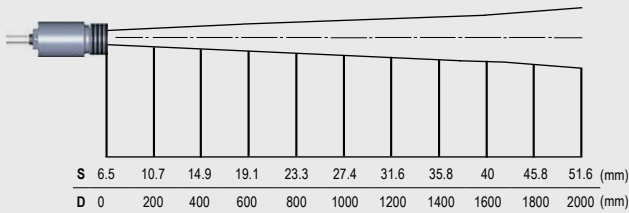
Temperature ranges (scalable via programming keys or software)	250 °C ... 800 °C (2ML) 385 °C ... 1600 °C (2MH) 490 °C ... 2000 °C (2MH1)
Spectral ranges	1.6 μm
Optical resolution (90 % energy)	40:1 (2.7 mm @ 110 mm) (2ML) 75:1 (1.5 mm @ 110 mm) (2MH/2MH1)
System accuracy ¹⁾ (at ambient temp. 23 $\pm$ 5 °C)	$\pm$ (0.3 % of reading +2 °C)
Repeatability (at ambient temp. 23 $\pm$ 5 °C)	$\pm$ (0.1 % of reading +1 °C)
Temperature resolution	0.1 K
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 / App	Optris CompactPlus Connect / IR Mobile App

¹⁾ $\varepsilon = 1$, Exposure time 1 s

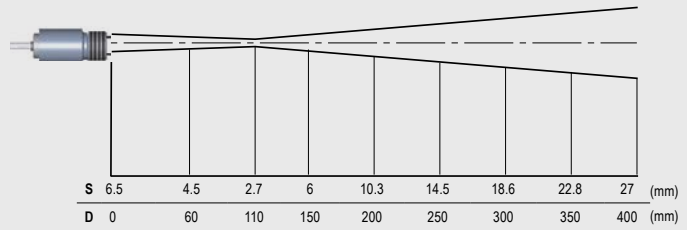
²⁾ With dynamic adaptation at low signal levels

Optical Specifications

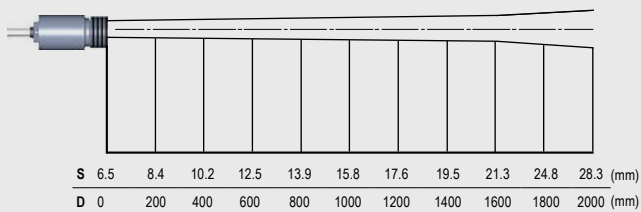
CTi 2ML SF, D:S = 40:1



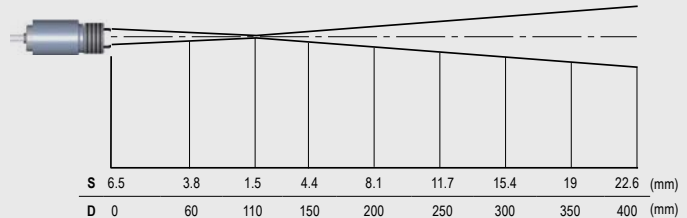
CTi 2ML CF, D:S = 40:1 (Fernfeld = 12:1)



CTi 2MH/2MH1 SF, D:S = 75:1

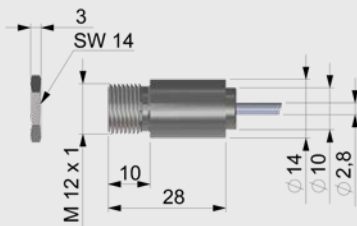


CTi 2MH/2MH1 CF, D:S = 75:1 (far field = 14:1)

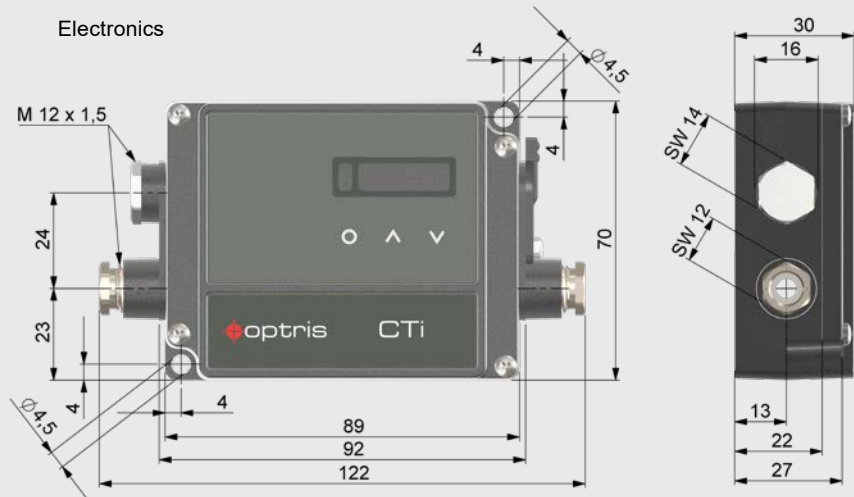


Dimensions

Sensing head

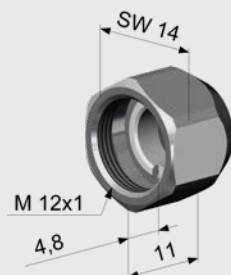


Electronics

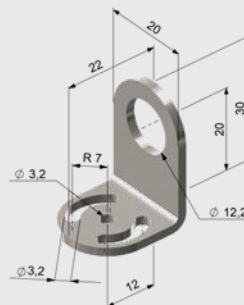


Accessories (examples)

CF-lens
(ACCTCFHT)



Mounting bracket, fixed
(ACCTFB)



Air purge collar with integrated CF-lens (ACCTAPLCFHT)

