

**Precise non-contact  
temperature measurement  
from 250 °C to 2200 °C  
(483 °F to 3992 °F)**



**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 (0.6 in) diameter and 28 mm (1.1 in) length fits everywhere and is usable up to 125 °C (257 °F) ambient temperature without cooling
- Temperature ranges from 250 °C to 2200 °C (483 °F to 3992 °F), measuring spots up from 1.8 mm (0.07 in) 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 ... 100 °C (1M) to 125 °C (2M) (-4 °F ... 212 °F [1M] to 257 °F [2M]) (sensing head) 0 °C ... 85 °C (32 °F ... 185 °F) (electronics)
Storage temperature	-40 °C ... 100 °C (1M) to 125 °C (2M) (-40 °F ... 212 °F [1M] to 257 °F [2M]) (sensing head) -40 °C to 85 °C (-40 °F to 185 °F) (electronics)
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	40 g (1.4 oz) (sensing head) / 420 g (14.8 oz) (electronics)

**Electrical Specifications**

Outputs / analog	0/4–20 mA, 0–5/10 V, thermocouple J, K, alarm
Output / alarm	24 V / 50 mA (open collector)
Optional	Relay: 2 x 60 V DC/ 42 V AC <sub>eff</sub> ; 0.4 A; optically isolated
Outputs / digital	USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)
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 (9.8 ft [standard], 26.2 ft, 49.2 ft)
Power Supply	8–36 V DC
Current draw	Max. 100 mA

**Measurement specifications**

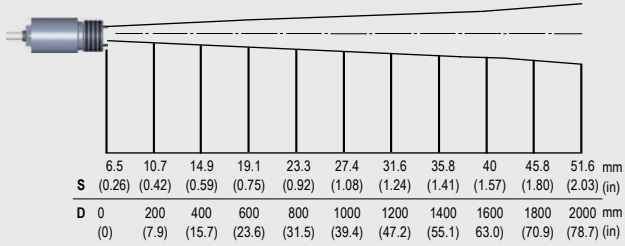
Temperature range (scalable via programming keys or software)	485 °C ... 1050 °C (905 °F ... 1929 °F) (1ML) 650 °C ... 1800 °C (1202 °F ... 3272 °F) (1MH) 800 °C ... 2200 °C (1472 °F ... 3992 °F) (1MH1) 250 °C ... 800 °C (482 °F ... 1472 °F) (2ML) 385 °C ... 1600 °C (725 °F ... 2912 °F) (2MH) 490 °C ... 2000 °C (914 °F ... 3632 °F) (2MH1)
Spectral ranges	1.0 µm (1M)/ 1.6 µm (2M)
Optical resolution CT 1ML/2ML (90 % energy)	40:1 (2.7 mm @ 110 mm)
Optical resolution CT 1MH/1MH1/2MH/2MH1 (90 % energy)	75:1 (1.5 mm @ 110 mm)
System accuracy <sup>1)</sup> (at ambient temp. 23 ±5 °C) (73 ±9 °F)	±(0.3 % of reading +2 °C) (±[0.3 % of reading +3.6 °F])
Repeatability (at ambient temp. 23 ±5 °C) (73 ±9 °F)	±(0.1 % of reading +1 °C) (±[0.1 % of reading +1.8 °F])
Temperature resolution	0.1 K
Exposure time <sup>2)</sup>	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

<sup>1)</sup> ε = 1, Exposure time 1 s

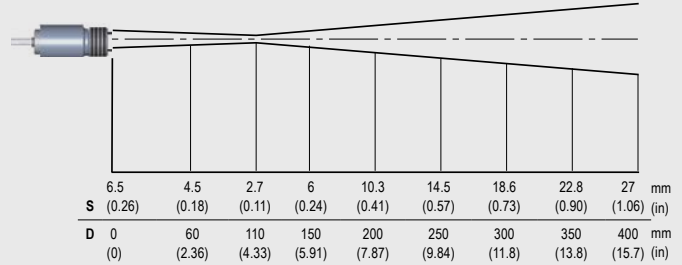
<sup>2)</sup> With dynamic adaptation at low signal levels

## Optical specifications

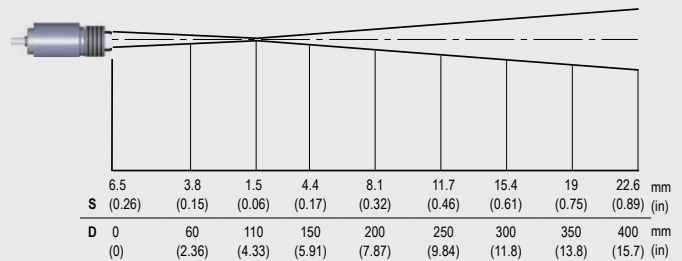
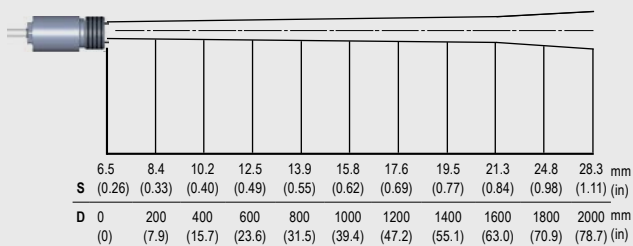
CT 1ML/2ML SF, D:S = 40:1



CT 1ML/2ML CF, D:S = 40:1 (far field = 12:1)

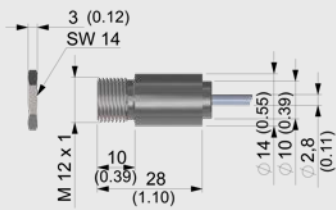


CT 1MH/1MH1/2MH/2MH1 CF, D:S = 75:1 (far field = 14:1)

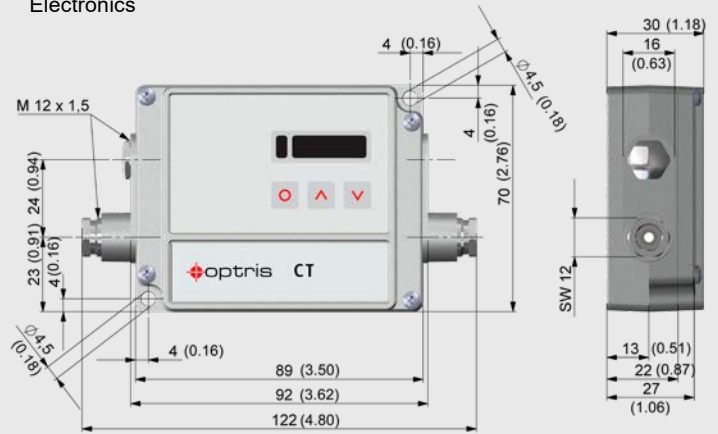


## Dimensions

Sensing head (standard)

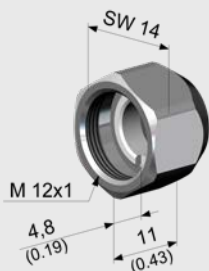


Electronics

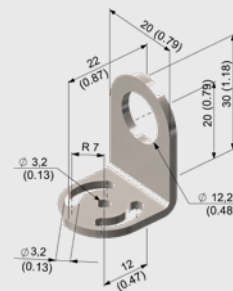


## Accessories (examples)

CF-lens (ACCTCFHT)



Mounting bracket, fixed (ACCTFB)



Air purge collar with integrated CF-lens (ACCTAPLCFHT)

