

Infrared thermometer with double laser aiming for temperature measurements on glass from 100 °C to 1650 °C (212 °F to 3002 °F)



Features:

- Precise temperature measurements on flat glass, container glass, light bulbs, car glass and solar panels
- Temperature ranges from 100 °C to 1650 °C (212 °F to 3002 °F), measurement fields from 1.0 mm (0.04 in) and exposure time 10 ms
- Innovative double laser visor for exact marking of measuring field
- Compact size of sensing head
- Suitable for ambient temperatures of up to 85 °C (185 °F) without additional cooling
- Cooling and protection accessories for rugged environments

General specifications

Environmental rating	IP 65 (NEMA-4) front mountable at vacuum processes (up to 10 ⁻³ mbar)
Ambient temperature ¹⁾	-20 °C ... 85 °C (-4 °F ... 185 °F) (sensing head) (50 °C [122 °F] with laser ON) -20 °C ... 85 °C (-4 °F ... 185 °F) (electronics)
Storage temperature	-40 °C ... 125 °C (-4 °F ... 257 °F) (sensing head) -40 °C ... 85 °C (-40 °F ... 185 °F) (electronics)
Relative humidity	10 – 95 %, non condensing
Vibration	IEC 60068-2-6 (sinus shaped), IEC 60068-2-64 (broad band noise)
Shock	IEC 60068-2-27 (25G and 50G)
Weight	600 g (21.2 oz) (sensing head) 420 g (14.8 oz) (electronics)

Electrical specifications

Output / analog	0/4 – 20 mA, 0 – 5/ 10 V, thermocouple J, K
Output / alarm	24 V / 50 mA (open collector)
Optional	Relay: 2 x 60 V DC/ 42 V AC _{eff} ; 0.4 A; optically isolated
Output / digital	USB, RS232, RS485, Profibus DP, Modbus RTU, 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. 160 mA
Laser 635 nm	1 mW, ON/OFF via electronic box or software

Measurement specifications

Temperature range (scalable via programming keys or software)	100 °C ... 1200 °C (212 °F ... 2192 °F) (G5L) 250 °C ... 1650 °C (482 °F ... 3002 °F) (G5H) 200 °C ... 1450 °C (392 °F ... 2642 °F) (G5HF) 400 °C ... 1650 °C (752 °F ... 3002 °F) (G5H1F)
Spectral range	5.0 μm
Optical resolution (90 % energy)	45:1 (G5L, G5HF, G5H1F) 70:1 (G5H)
System accuracy ²⁾ (at ambient temp. 23 ± 5 °C) (at ambient tem. 73 ± 9 °F)	± 1 % or ± 1.5 °C ³⁾ (± 1 % or ± 2.7 °F ³⁾)
Repeatability (at ambient temp. 23 ± 5 °C) (at ambient tem. 73 ± 9 °F)	± 0.5 % or + 0.5 °C ^{3) 4)} (± 0.5 % or + 1.8 °F ^{3) 4)})
Temperature resolution (digital)	0.1 K
Exposure time ⁴⁾ (90 % signal)	10 ms (G5HF, G5H1F) 80 ms (G5H) 120 ms (G5L)
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⁾ The functioning of the LCD display may be limited in ambient temperatures below 0 °C

²⁾ ε = 1, response time 1 s

³⁾ Whichever is greater

⁴⁾ With dynamic adaptation at low signal levels

optris CTlaser G5

Optical parameter

Chart SF optics, D:S = 45:1

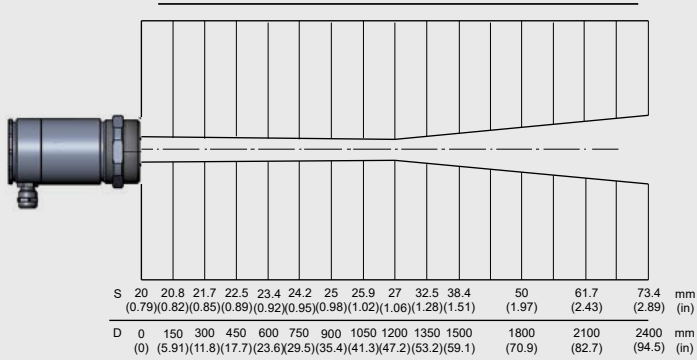
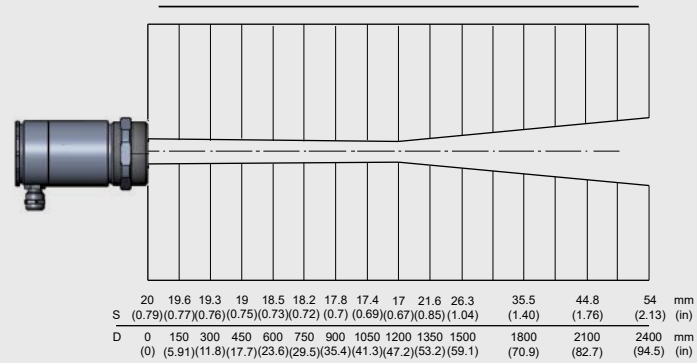


Chart SF optics, D:S = 70:1



Additional optics, D:S = 45:1

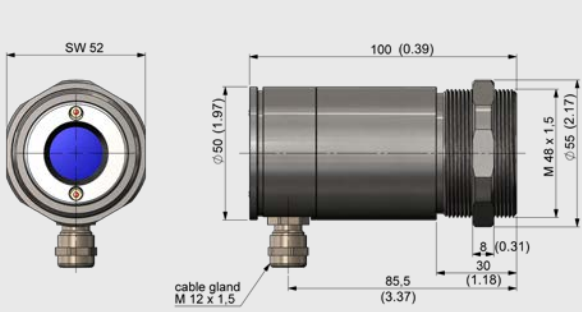
... CF1	1.6 mm @ 70 mm (0.06 in @ 2.76 in)
... CF2	3.4 mm @ 150 mm (0.13 in @ 5.91 in)
... CF3	4.5 mm @ 200 mm (0.18 in @ 7.87 in)
... CF4	10 mm @ 450 mm (0.39 in @ 17.7 in)

Additional optics, D:S = 70:1

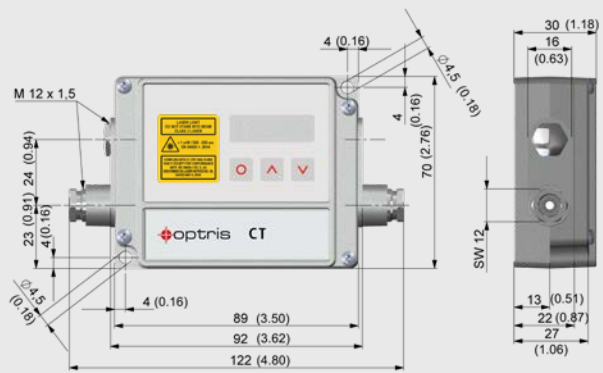
... CF1	1 mm @ 70 mm (0.04 in @ 2.76 in)
... CF2	2.2 mm @ 150 mm (0.09 in @ 5.91 in)
... CF3	2.9 mm @ 200 mm (0.11 in @ 7.87 in)
... CF4	6.5 mm @ 450 mm (0.26 in @ 17.7 in)

Dimensions

Sensing head



Electronics



Accessories (examples)

Mounting angle, adjustable in two axes
(ACCTLAB)



Water cooling and air purge for sensing head
(ACCTLW + ACCTLAP)



Mounting device for cooling housing
(ACCTLRM)

