

Precise noncontact temperature measurement of glass from 50 °C to 1650 °C (122 °F to 3002 °F)



Features:

- Accurate temperature measurement of flat glass, container glass, light bulb manufacturing, car glass production and manufacturing of photovoltaic cells from 50 °C to 1650 °C (122 °F to 3002 °F)
- Two-piece design with easy accessible programming keys and LCD backlit display
- Built-in USB interface for simple sensor setup via mobile phone or PC
- Selectable analog outputs: 0/4 – 20 mA, 0 – 5 V, 0 – 10 V, thermocouple type K
- Optional EtherNet/IP, Profinet, Ethernet TCP/IP / Modbus TCP, Modbus RTU, RS485, RS232 interface or relay outputs (2 x optically isolated)
- Easy and flexible exchange of sensing heads

General specifications

Environmental rating	IP 65 (NEMA-4)
Operating temperature range ¹⁾	–20 °C ... 85 °C (–4 °F ... 185 °F) (sensing head) –20 °C ... 85 °C (–4 °F ... 185 °F) (electronics)
Storage temperature	–40 °C ... 85 °C (–40 °F ... 185 °F) (sensing head) –40 °C ... 85 °C (–40 °F ... 185 °F) (electronics)
Operating air humidity range	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 (1.41 oz) (sensing head) / 420 g (14.82 oz) (electronics)

Electrical Specifications

Output / analog (2x)	0 / 4 – 20 mA, 0 – 5 / 10 V, thermocouple K, alarm
Output / alarm	24 V / 50 mA (open collector)
Relay outputs (optional)	2 x 60 V DC / 42 V AC _{RMS} ; 0.4 A; optically isolated
Digital Interfaces	built-in USB-interface, Optional: EtherNet/IP, Profinet, EtherCAT, Ethernet TCP/IP / Modbus TCP, Modbus RTU, RS485, RS232 or relay outputs (2 x optically isolated)
Output impedances	mA max. 500 Ω mV min. 100 kΩ load impedance
I/O Pins (3x)	flexible programming as in- or output: external emissivity adjustment, ambient temperature compensation, uncommitted value, trigger (reset of hold functions), alarm output (open collector 24 V / 50 mA)
Cable length	3 m (9.84 ft) (standard), 8 m (26.25 ft), 15 m (49.21 ft)
Power supply	8 - 30 V DC / 1.2W

Measurement specifications

Measuring Temperature range (scalable via programming keys or software / App)	50 °C ... 1000 °C (122 °F ... 1832 °F) (G5L) 100 °C ... 1650 °C (212 °F ... 3002 °F) (G5H)
Spectral range	5.0 μm
Optical resolution (90% energy)	14:1 (G5L) 20:1 (G5H)
Measurement uncertainty ^{4), 7), 8)}	±(1 % of reading +1.5 °C) [±(1 % of reading +2.7 °F)]
Repeatability ^{2), 4), 5), 7)}	±0.2 °C or ±0.2 % (±0.36 °F or ±0.2 %) (G5L) ±0.5 °C or ±0.2 % (±0.9 °F or ±0.2 %) (G5H)
Temperature resolution (display)	0.1 K
NETD (typically) ^{4), 5), 6), 7)}	60 mK (G5L) 80 mK (G5H)
Response time (90% energy)	90 ms (G5L) 70 ms (G5H)
Emissivity / Gain (adjustable via programming keys or software / App)	0.05–1.100
Transmissivity / Gain (adjustable via programming keys or software / App)	0.05–1.100
Signal processing (parameter adjustable via programming keys or software / App)	Peak hold, valley hold, average; extended hold functions with threshold and hysteresis
Software / App	Optris CompactPlus Connect / IR Mobile App

¹⁾ The LCD display capacity may be limited at ambient temperatures below 0 °C (32 °F)

²⁾ whichever is greater

⁴⁾ ε = 1.000

⁵⁾ Response time = 200 ms (90%)

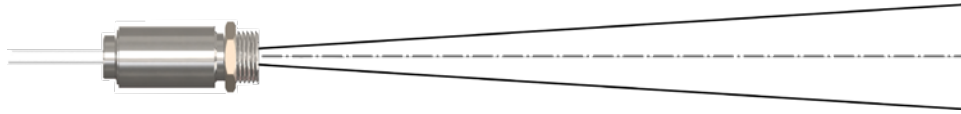
⁶⁾ T_{obj} = T_{min} + 50 °C (90 °F)

⁷⁾ at ambient temp. (23 ± 5) °C (73.4 ± 9 °F)

⁸⁾ Response time = 1 s (90%)



Optical specifications - Standard Focus (SF)

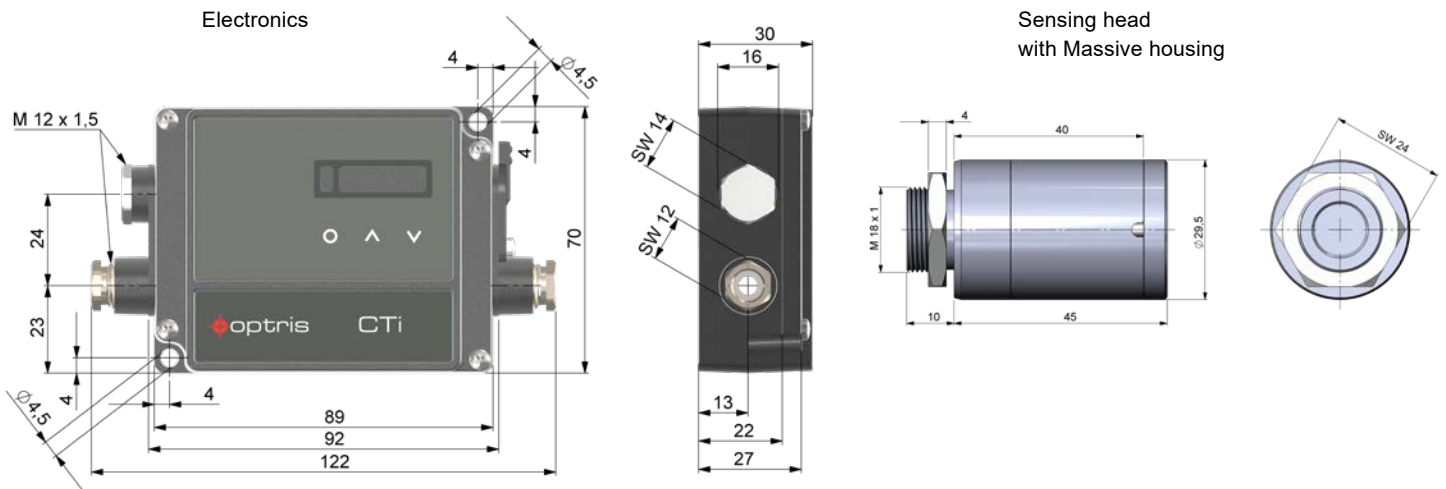


Device	D:S	Optical values											
		0	100	200	300	400	500	600	700	800	900	1000	Distance in mm (ft)
G5L	14:1	6.5 (0.26)	12.0 (0.47)	17.5 (0.69)	23.1 (0.91)	28.6 (1.13)	37.3 (1.47)	46.1 (1.81)	54.9 (2.16)	63.6 (2.50)	72.4 (2.85)	81.2 (3.19)	Spotsize in mm (ft)
G5H	20:1	6.5 (0.26)	9.9 (0.39)	13.3 (0.52)	16.6 (0.65)	20.0 (0.79)	26.6 (1.05)	33.3 (1.31)	39.9 (1.57)	46.5 (1.83)	53.1 (2.09)	59.8 (2.35)	Spotsize in mm (ft)



More optical data: <https://optris.com/us/optris-calculator>

Dimensions (in mm)



Software / App



<https://optris.com/us/software/>

