optris CTi G5
TECHNICAL DATA

Precise noncontact temperature measurement of glass from 50 °C to 1650 °C

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
- Two-piece design with easy accessible programming keys and LCD backlit displayTwo-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 (sensing head) –20 °C ... 85 °C (electronics)
Storage temperature	–40 °C ... 85 °C (sensing head) –40 °C ... 85 °C (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 (sensing head) / 420 g (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 (standard), 8 m, 15 m
Power supply	8 - 30 V DC / 1.2W

Measurement specifications	
Measuring Temperature range (scalable via programming keys or software / App)	50 °C ... 1000 °C (G5L) 100 °C ... 1650 °C (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)
Repeatability [2), 4), 5), 7)]	±0.2 °C or ± 0.2 % (G5L) ±0.5 °C 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%)	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
[2)] whichever is greater
[4)] ε = 1.000
[5)] Response time = 200 ms (90%)
[6)] Tobj = Tmin + 50 °C
[7)] at ambient temp. (23 ± 5) °C
[8)] Response time = 1 s (90%)

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optris CTi G5

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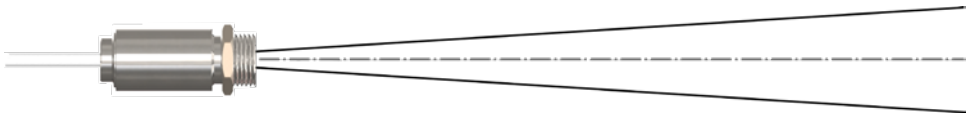
Optical specifications - Standard Focus (SF)

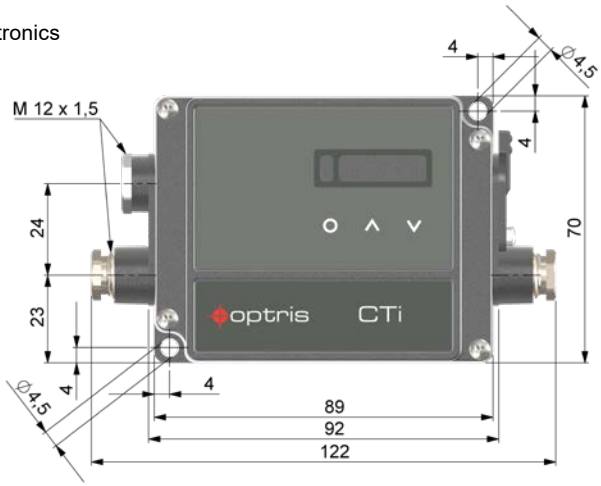


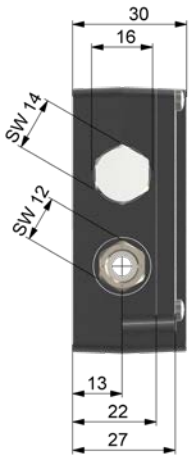
Device	D:S	Optical values											
		0	100	200	300	400	500	600	700	800	900	1000	Distance (mm)
G5L	14:1	6.5	12.0	17.5	23.1	28.6	37.3	46.1	54.9	63.6	72.4	81.2	Spotsize (mm)
G5H	20:1	6.5	9.9	13.3	16.6	20.0	26.6	33.3	39.9	46.5	53.1	59.8	Spotsize (mm)

More optical data: https://optris.com/optris-calculator/

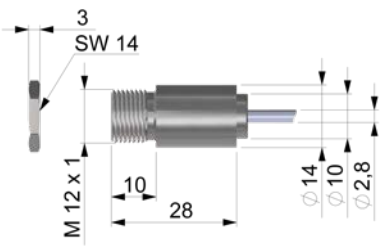
Dimensions (in mm)

Electronics





Sensing head (standard)



Software / App

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