

More Precision.



optris® CT Laser P7

Precise non-contact temperature measurement of plastic materials from 0°C to 500°C



FEATURES

- Accurate temperature measurement of thin plastic film materials like PES, PU, PTFE, PA
- Double laser aiming marks real spot location and spot size up from 1.6 mm at any distance
- Usable in all modern applications where “size of spot matters”
- Optics 45:1 with selectable focus, compact sensor head size
- Usable up to 85°C ambient temperature without cooling and automatic laser switch off at 50°C
- Cooling and protection accessories for harsh environmental conditions

General specifications	
Environmental rating	IP 65 (NEMA-4)
Ambient temperature	sensing head: -20 - 85°C (50°C with laser ON) electronics: 0 - 85°C
Storage temperature	sensing head: -40 - 85°C electronics: -40 - 85°C
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	sensing head 600 g electronics 420 g
Electrical specifications	
Outputs/analog	channel 1: 0/4 - 20 mA, 0 - 5/10 V, thermocouple J, K channel 2: sensing head temperature (-20 - 85°C as 0 - 5 V or 0 - 10 V), alarm output
Alarm output	Open - collector (24 V / 50 mA)
Optional:	relay: 2 x 60 V DC/42 V AC _{eff} ; 0.4 A; optically isolated
Outputs/digital (optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	mA max. 500Ω (with 8 - 36 V DC) mV min. 100 kΩ load impedance thermocouple 20Ω
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
Current draw	max. 160 mA
Power supply	8 - 36 V DC
Laser 635 nm	1mW, ON/OFF via electronic box or software

Measurement specifications	
Temperature range (scalable via programming keys or software)	0 - 500°C
Spectral range	7.9 μm
Optical resolution (90 % energy)	45:1
Selectable focus	CF1 1.6 mm @ 70 mm CF2 3.4 mm @ 150 mm CF3 4.5 mm @ 200 mm CF4 10 mm @ 450 mm SF 27 mm @ 1200 mm
System accuracy (at ambient temperature 23 ±5°C)	±1% or ±1.5°C ¹
Repeatability (at ambient temperature 23 ±5°C)	±0.5% or ±0.5°C ¹
Temperature resolution (NETD)	0.5°C
Response time (90 % signal)	150 ms
Emissivity/Gain (adjustable via programming keys or software)	0.100 - 1.100
Transmissivity/Gain (adjustable via programming keys or software)	0.100 - 1.000
Signal processing (parameter adjustable via programming keys or software, respectively)	peak hold, valley hold, average; extended hold function with threshold and hysteresis

¹ whichever is greater

