

Precise non-contact temperature measurement from -40 °C to 975 °C (-40 °F to 1787 °F) in rough environmental conditions



Features:

- The new infrared thermometer for hot environmental temperatures up to 250 °C (482 °F) without any need of cooling
- A variety of applications in dryers, ovens, heat treatment lines in the metal and glass industry, paper, plastic and textile manufacturing and semiconductor processing in the temperature range of -40 °C to 975 °C (-40 °F to 1787 °F) and a response time up from 100 ms
- Selectable 10:1 or 2:1 optics, compact sensor head size
- Narrow beam optics allows oblique aiming to avoid material thickness dependent temperature readings
- Monitor box for programming and temperature display
- Analog outputs 0/4–20 mA, 0–5/10 V, thermocouple type K or J and integrated digital interfaces (optional) Profibus DP, USB, RS232, RS485 or CAN

Measurement specifications

Temperature range (scalable via programming keys or software)	-40 °C ... 975 °C (-40 °F ... 1787 °F)
Spectral range	8 – 14 μm
Optical resolution (90 % energy)	10:1 2:1
System accuracy ²⁾ (at ambient temp. 23 ±5 °C) (73 ±9 °F)	±1 % or ±1.5 °C ¹⁾ (±1 % or ±2.7 °F ¹⁾)
Repeatability ²⁾ (at ambient temp. 23 ±5 °C) (73 ±9 °F)	±0.5 % or ±0.5 °C ¹⁾ (±0.5 % or ±0.9 °F ¹⁾)
Temperature resolution (NETD)	0.25 K
Response time	100 ms
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

¹⁾ Whichever is greater with dynamic noise compression

²⁾ At object temperatures ≥20 °C (≥68 °F)

General specifications

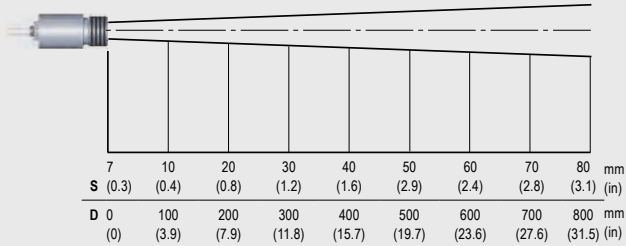
Environmental rating	IP 65 (NEMA-4)
Ambient temperature	-20 °C ... 250 °C (-4 °F ... 482 °F) (sensing head) 0 °C ... 85 °C (32 °F ... 185 °F) (electronics)
Storage temperature	-40 °C ... 250 °C (-40 °F ... 482 °F) (sensing head) -40 °C ... 85 °C (-40 °F ... 185 °F) (electronics)
Relative humidity	10–95%, 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

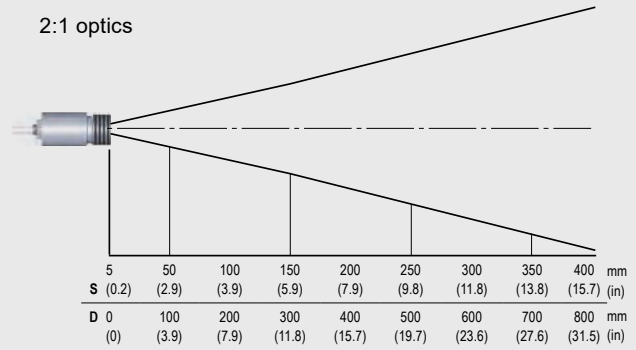
Outputs / analog	Channel 1: 0/4–20 mA, 0–5/ 10 V, thermocouple J,K Channel 2: sensing head temperature (-40 °C ... 250 °C [-40 °F ... 482 °F] as 0–5 V or 0–10 V), alarm output
Output / alarm	24 V / 50 mA (open collector)
Optional	Relay: 2 x 60 V DC/ 42 V AC _{eff.} ; 0.4 A; optically isolated
Outputs / 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

Optical specifications

10:1 optics

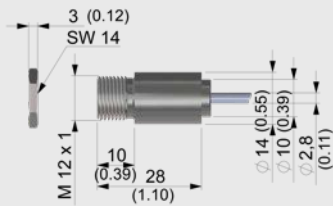


2:1 optics

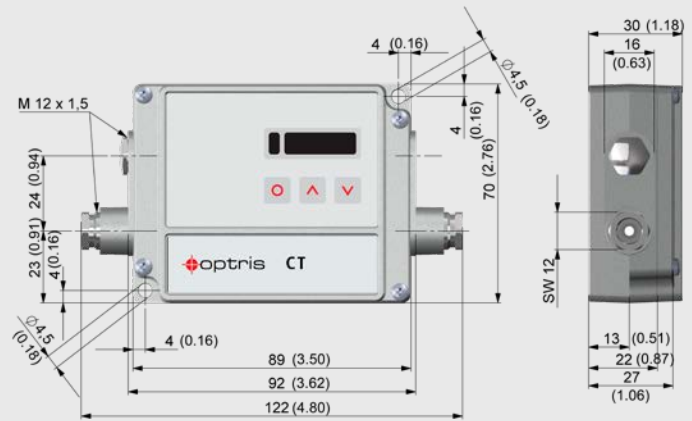


Dimensions

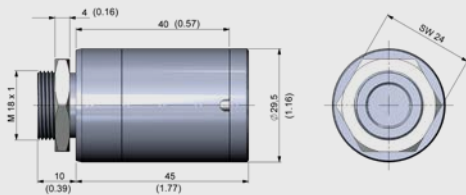
Sensing head (standard)



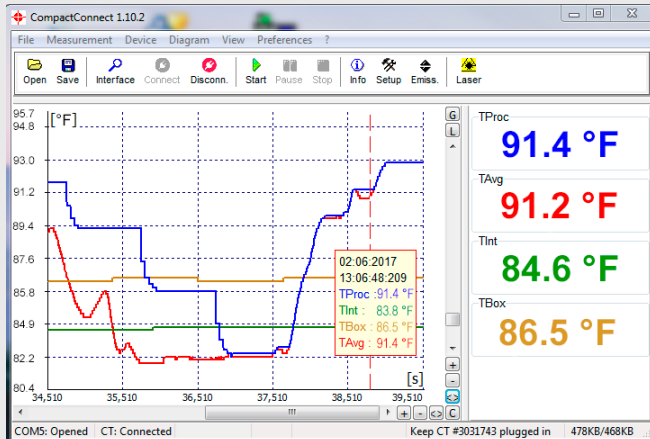
Electronics



Dimensions massive housing incl. sensing head



Compact Connect software



- Software for easy sensor setup and remote controlling, supports multi tasking
- Graphic display for temperature trends and automatic data logging for analysis and documentation with 1 ms response time
- Adjustment of signal processing functions and programming of outputs and functional inputs of the sensor
- Automatic emissivity adjustment
- The software CompactConnect allows to customize the sensor to application needs of the user