

**Non-contact temperature measurement of plastic materials and glass surfaces from 0 °C to 710 °C (32 °F to 1310 °F)**

**Features:**

- Accurate temperature measurement of thin plastic film materials like PET, PU, PTFE, PA and glass surfaces
- Double laser aiming marks real spot location and spot size up from 1.6 mm at any distance
- Optics 45:1 with selectable focus, compact sensor head size
- Usable up to 85 °C (185 °F) ambient temperature without cooling and automatic laser switch off at 50 °C (122 °F)
- Cooling and protection accessories for harsh environmental conditions



**General specifications**

Environmental rating	IP 65 (NEMA-4)
Ambient temperature <sup>1)</sup>	-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 68-2-6: 3 G, 11–200 Hz, any axis
Shock	IEC 68-2-27: 50 G, 11 ms, any axis
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 <sub>eff</sub> ; 0.4 A; optically isolated
Output / digital	USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)
Output impedances	mA max. 500 Ω (with 5–36 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)	0 °C ... 710 °C (32 °F ... 1310 °F)
Spectral range	7.9 μm
Optical resolution (90 % energy)	45:1
System accuracy <sup>2)</sup> (at ambient temp. 23 ±5 °C) (at ambient tem. 73 ±41 °F)	±1 % or ±1.5 °C <sup>3)</sup> (±1 % or ±2.7 °F <sup>3)</sup> )
Repeatability (at ambient temp. 23 ±5 °C) (at ambient tem. 73 ±41 °F)	±0.5 % or +0.5 °C <sup>3)</sup> (±0.5 % or +0.9 °C <sup>3)</sup> )
Temperature resolution (digital)	0.5 K
Exposure time <sup>4)</sup> (90 % signal)	150 ms
Emissivity/ Gain (adjustable via programming keys or software)	0.100–1.100
IR window correction (adjustable via programming keys or 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

<sup>1)</sup> The functioning of the LCD display may be limited in ambient temperatures below 0 °C

<sup>2)</sup> ε = 1, response time 1 s

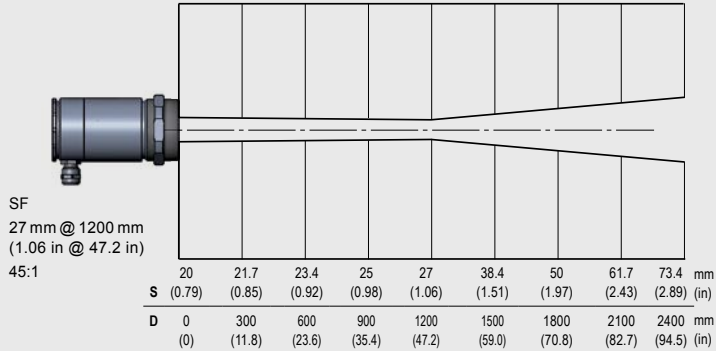
<sup>3)</sup> Whichever is greater

<sup>4)</sup> With dynamic adaptation at low signal levels

# optris® CTlaser P7

## Optical parameter

Chart SF optics, D:S = 45:1

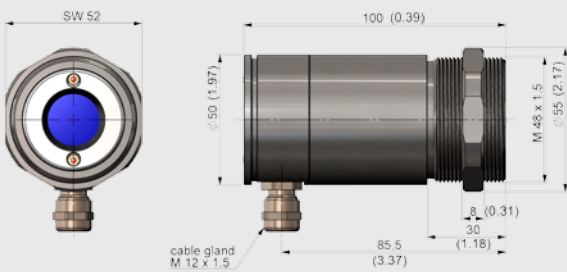


Further optics, D:S = 45:1

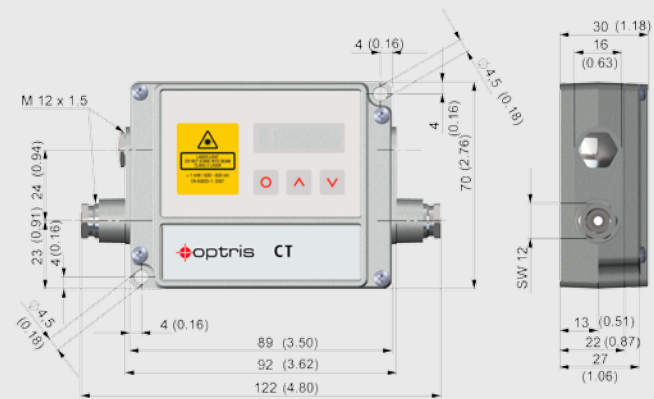
... SF	27 mm @ 1250 mm (1.06 in @ 49.2 in)
... CF1	1.6 mm @ 70 mm (0.06 in @ 2.76 in)
... CF2	3.4 mm @ 150 mm (0.13 in @ 5.91 in)
... CF3	4.5 mm @ 200 mm (0.18 in @ 7.87 in)
... CF4	10 mm @ 450 mm (0.39 in @ 17.7 in)

## Dimensions

### Sensing head



### Electronics



## Accessories

Mounting angle, adjustable  
in two axes (ACCTLAB)



Cooling housing  
(ACCJCTL)



Mounting angle for cooling housing,  
adjustable in two axes (ACCJAB)



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



Mounting device for cooling housing  
(ACCTLRM)

