

Non-contact temperature measurement of plastic films from 50 to 400 °C

Features:

- Miniaturized infrared thermometer with a spectral range of 3.43 μm for precise temperature measurements of thin plastic films like PE, PP, PS
- Robust and usable in up to 75 °C ambient temperature without cooling
- Separate electronics with easily accessible programming keys and LCD backlit display
- Selectable analog output: 0/4 - 20 mA, 0 - 5 V, 0 - 10 V, thermocouple type K or J
- Optional USB, RS485, RS232 interface, relay outputs (2 x optically isolated), CAN-Bus, Profibus DP, Ethernet



General specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	0 °C – 75 °C (sensing head) 0 °C – 75 °C (electronics)
Storage temperature	-40 °C – 85 °C (sensing head) -40 °C – 85 °C (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	200 g (head with massive housing) 420 g (electronics)

Electrical specifications

Outputs / analog	0/4 – 20 mA, 0 – 5/ 10 V, Thermoelement J, K, Alarmausgang
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 (optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	mA max. 500 Ω (with 8-36 V DC) mV min. 100 k Ω 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
Current draw	max. 100 mA
Power Supply	8-36 V DC

Measurement specifications

Temperature range (scalable via programming keys or software) ¹⁾	50 °C – 400 °C
Spectral range	3.43 μm
Optical resolution (90 % energy)	15:1
System accuracy ²⁾ (at ambient temp. 23 \pm 5 °C)	\pm 3 °C or \pm 1 % ³⁾
Repeatability (at ambient temp. 23 \pm 5 °C)	\pm 1.5 °C
NETD ⁴⁾	0.1 K
Exposure time (90% signal)	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 (adjustable via programming keys or software)	peak hold, valley hold, average; extended hold function with threshold and hysteresis
Software	optris® Compact Connect

¹⁾ $T_{\text{object}} > T_{\text{sensing head}} + 25 \text{ °C}$

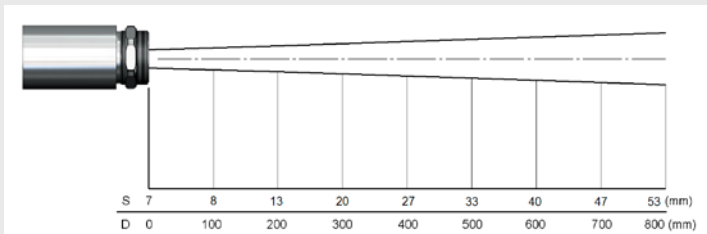
²⁾ Specification valid at $T_{\text{Object}} \geq 75 \text{ °C}$

³⁾ Whichever is greater

⁴⁾ 125 °C T_{obj} , 100 ms time constant

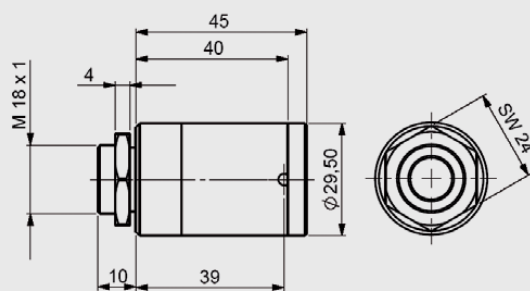
Optical parameters

Optics, D:S = 15:1

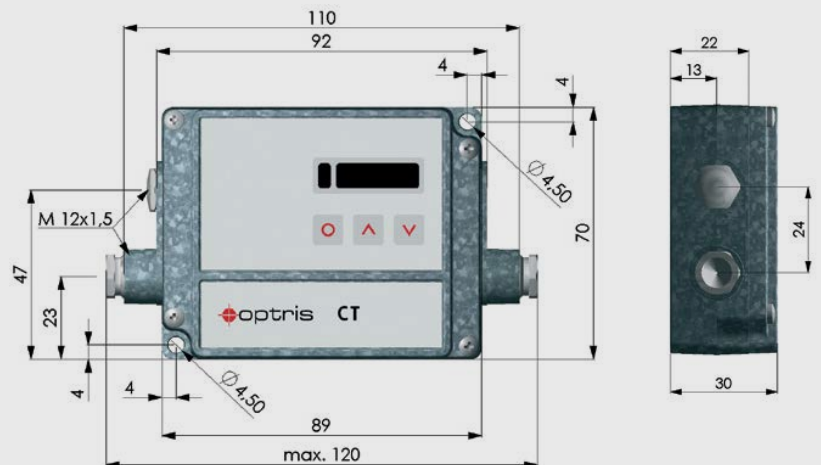


Dimensions

Dimensions massive housing incl. sensing head

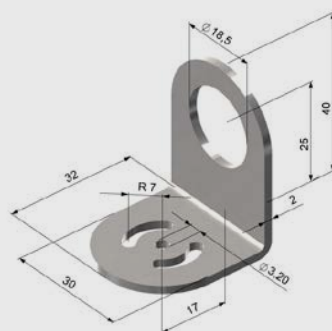


Electronics



Accessories (examples)

Mounting bracket, adjustable in one axis (ACCTFBMH)



Air purge collar (ACCTAPMH)

