

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, thermocouple J, K, 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 (optional) | USB, RS232, RS485, CAN, Profibus DP, Ethernet |
| 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 |
| 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 ±5°C) | ±3 °C or ±1 % ³⁾ |
| Repeatability (at ambient temp. 23 ±5°C) | ±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⁾ $T_{object} > T_{sensing\ head} + 25\text{ °C}$

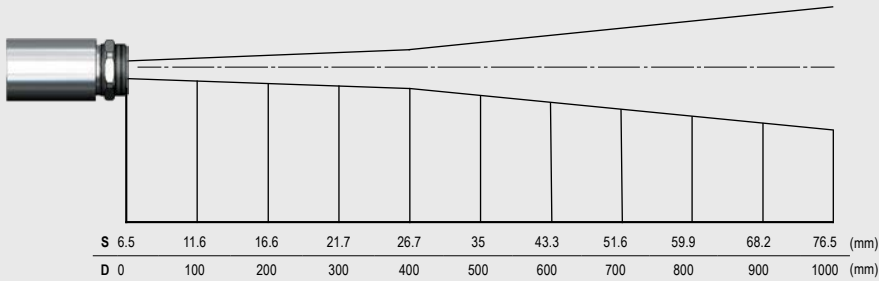
²⁾ Specification valid at $T_{Object} \geq 75\text{ °C}$

³⁾ Whichever is greater

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

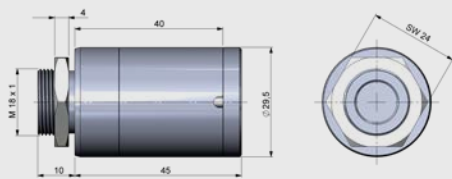
Optical parameters

Optics, D:S = 15:1

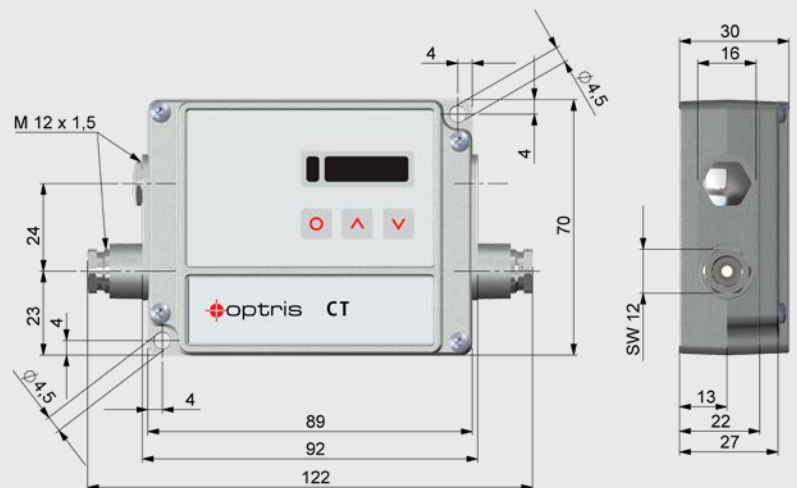


Dimensions

Dimensions massive housing incl. sensing head

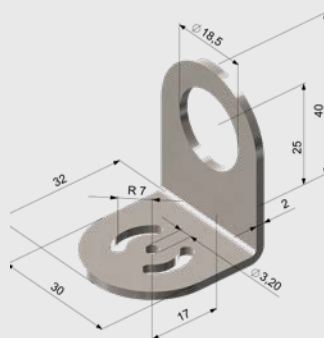


Electronics



Accessories (examples)

Mounting bracket, adjustable in one axis (ACCTFBMH)



Air purge collar (ACCTAPMH)

