

Precise non-contact temperature measurement with precise aiming from 250 °C to 2200 °C

Features:

- Accurate temperature measurements of metals, secondary metal processing and ceramic materials
- Double laser aiming marks real spot location at any distance
- Optical resolution up to 300:1 with selectable focus
- Temperature ranges from 250 °C to 2200 °C, measuring spots up from 0,45 mm and response times up from 1 ms
- Usable up to 85 °C ambient temperature without cooling and automatic laser switch off at 50 °C
- Short measuring wavelength of 1.0 µm or 1.6 µm



General specifications

| | |
|-----------------------------------|--|
| Environmental rating | IP 65 (NEMA-4) |
| Ambient temperature ¹⁾ | -20 ... 85 °C (sensing head, 50 °C with laser ON) -20 ... 85 °C (electronics) |
| Storage temperature | -40 ... 85 °C (sensing head) -40 ... 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 | 600 g (sensing head) / 420 g (electronics) |

Electrical specifications

| | |
|-------------------|--|
| Outputs / analog | 0/4–20 mA, 0–5/ 10 V, thermocouple J, K |
| Alarm output | 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 |
| 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

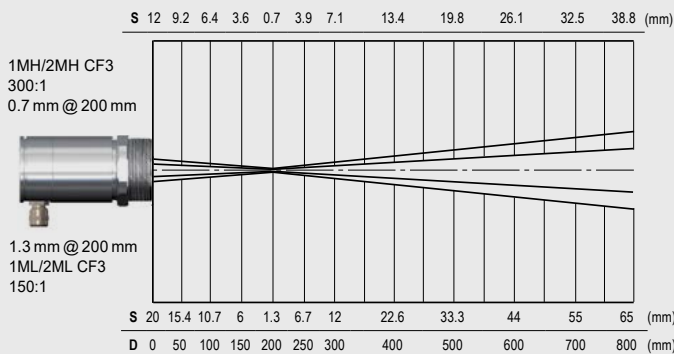
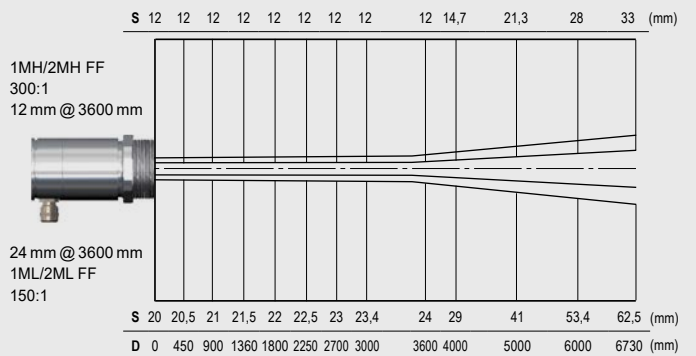
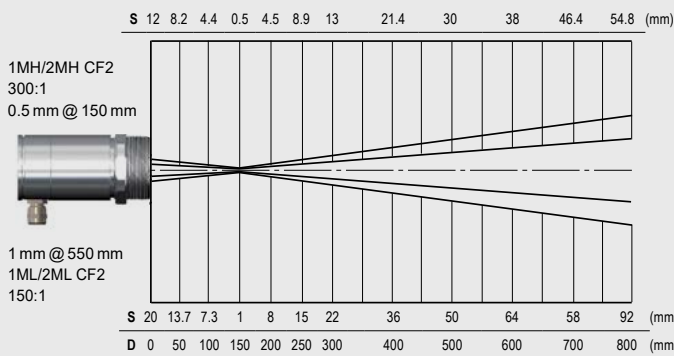
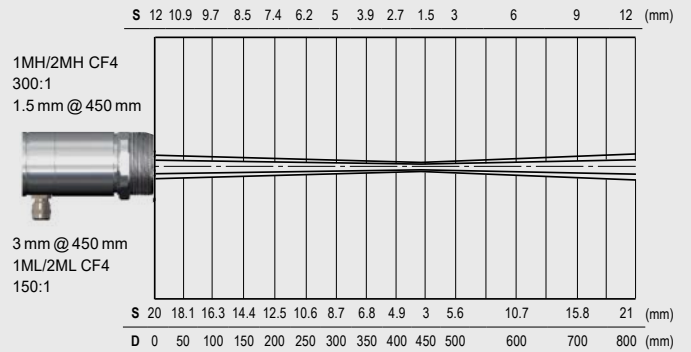
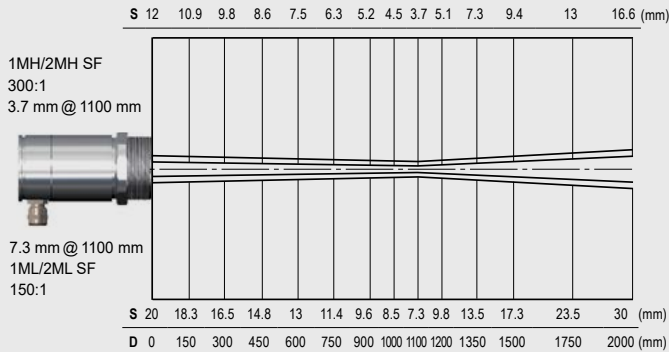
| | |
|---|---|
| Temperature range (scalable via programming keys or software) | 485 ... 1050 °C (1ML) 650 ... 1800 °C (1MH) 800 ... 2200 °C (1MH1) 250 ... 800 °C (2ML) 385 ... 1600 °C (2MH) 490 ... 2000 °C (2MH1) |
| Spectral range | 1.0 µm (1M) / 1.6 µm (2M) |
| Optical resolution (90 % energy) | 150:1 (1ML, 2ML) 300:1 (1MH, 1MH1, 2MH, 2MH1) |
| System accuracy ²⁾ (at ambient temp. 23 ±5 °C) | ±(0.3 % of reading +2 °C) |
| Repeatability (at ambient temp. 23 ±5 °C) | ±(0.1 % of reading +1 °C) |
| Temperature resolution | 0.1 K |
| Exposure time ³⁾ | 1 ms (90 %) |
| 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⁾ The functioning of the LCD Display may be limited in ambient temperatures below 0 °C

²⁾ ε = 1, Exposure time 1 s

³⁾ With dynamic adaptation at low signal levels

Optical specifications



Dimensions

Sensing head



Electronics

