

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 °
- Short measuring wavelength of 1.0 µm or 1.6 µm



General specification

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

Electrical specification

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 specification

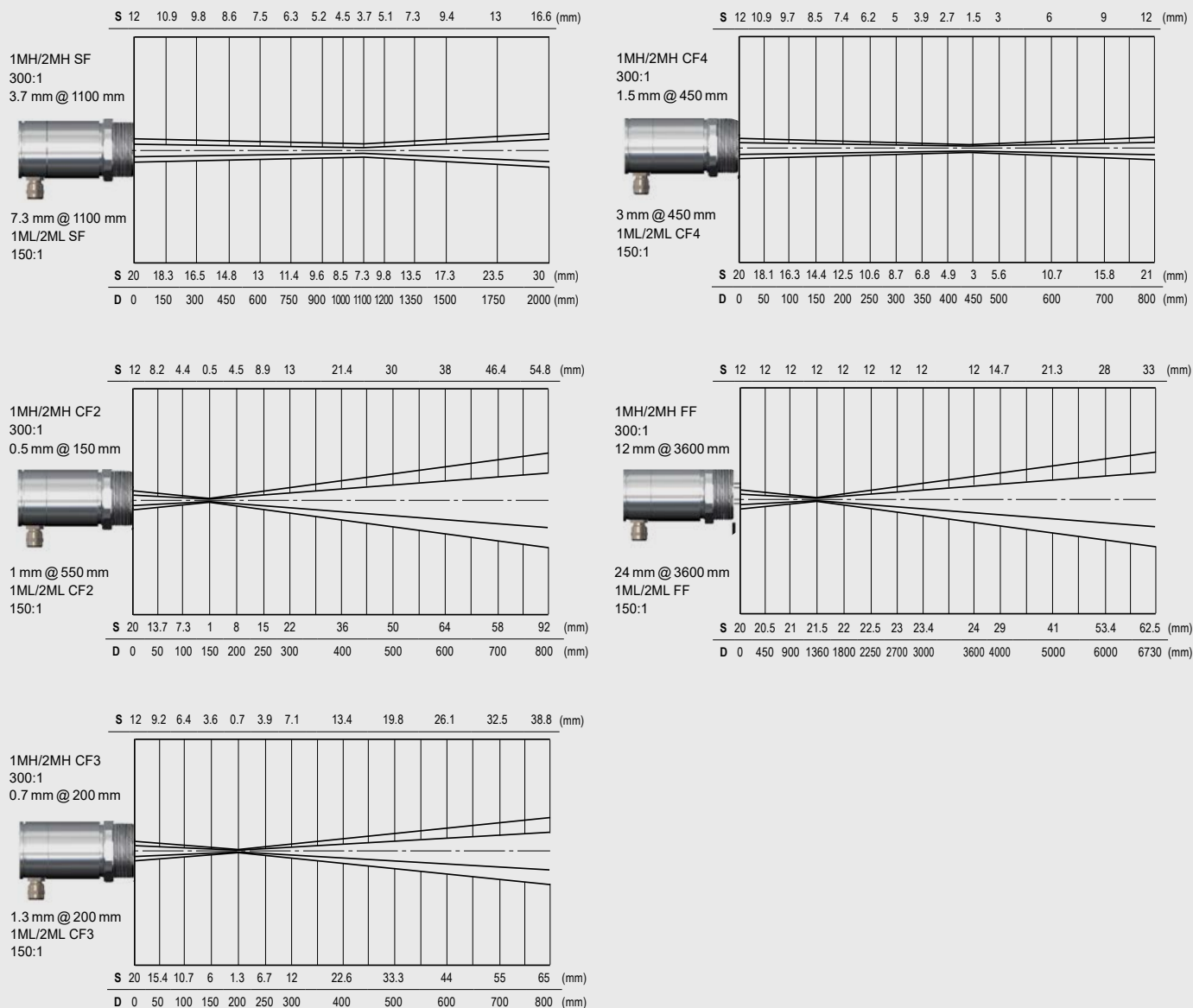
Temperature range (scalable via programming keys or software)	485 °C ... 1050 °C (1ML) 650 °C ... 1800 °C (1MH) 800 °C ... 2200 °C (1MH1) 250 °C ... 800 °C (2ML) 385 °C ... 1600 °C (2MH) 490 °C ... 2000 °C (2MH1)
Spectral range	1.0 µm (1M) / 1.6 µm (2M)
Optical resolution (90 % energy)	150:1 (1ML, 2ML) 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 (1ML, 2ML) 0.1 K (1MH, 1MH1, 2MH, 2MH1)
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⁾ $\epsilon = 1$, Exposure time 1 s

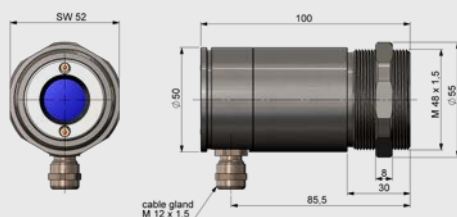
³⁾ With dynamic adaptation at low signal levels

Optical specification



Dimensions

Sensing head



Electronics

