



## CT laser 1M/ 2M

### Non-contact temperature measurement with precise aiming from 250°C to 1800°C

- 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 1800°C, measuring spots up from 0,45 mm and response times up from 1ms
- Usable up to 85°C ambient temperature without cooling and automatic laser switch off at 50°C
- Short measuring wave length of 1 µm or 1,6 µm



#### ■ General specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	sensing head: -20 - 85°C (50°C with laser ON) electronics: 0 - 85°C
Storage temperature	sensing head: -40 - 85°C electronics: -40 - 85°C
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	sensing head 600 g electronics 420 g

#### ■ Electrical specifications

Outputs/analog	0/4 - 20 mA, 0 - 5/10 V, thermocouple J, K
Alarm output	Open - collector (24V / 50mA)
Optional:	relay: 2 x 60 V DC/42 V AC <sub>eff</sub> ; 0.4 A; optically isolated
Outputs/digital(optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	mA max. 500 Ω (with 5 - 36 V DC) mV min. 100 k Ω load impedance thermocouple 20Ω
Input	programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)
Cable length	3 m (standard), 8 m, 15 m
Current draw	max. 160 mA
Power supply	8 - 36 V DC
Laser 635 nm	1mW, ON/OFF via electronic box or software

#### ■ Measurement specifications

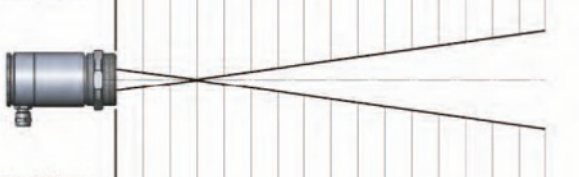
Temperature range (scalable via programming keys or software)	485 - 1050°C (1ML) 650 - 1800°C (1MH) 250 - 800°C (2ML) 385 - 1600°C (2MH)
Spectral range	1 µm (1M) 1.6 µm (2M)
Optical resolution (90%)	150:1 (1ML, 2ML) 300:1 (1MH, 2MH)
System accuracy <sup>1)</sup> (at ambient temperature 23 ±5°C)	±(0.3% of reading +2°C)
Repeatability (at ambient temperature 23 ±5°C)	±(0.1% of reading +1°C)
Temperature resolution	0.1 K (1ML, 2ML) 0.2 K (1MH, 2MH)
Exposure time (90% signal) <sup>2)</sup>	1 ms
Emissivity/Gain (adjustable via programming keys or software)	0.100 - 1.100
Transmissivity/Gain (adjustable via programming keys or software)	0.100 - 1.000
Signal processing (parameter adjustable via programming keys or software, respectively)	peak hold, valley hold, average; extended hold function with threshold and hysteresis

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

<sup>2)</sup> with dynamic adaptation at low signal levels

## Optical specifications

1MH/ 2MH CF2 300:1  
0,5 mm@ 150 mm



1 mm@ 150 mm  
1ML/ 2ML CF2 150:1



1MH/ 2MH CF4 300:1  
1,5 mm@ 450 mm

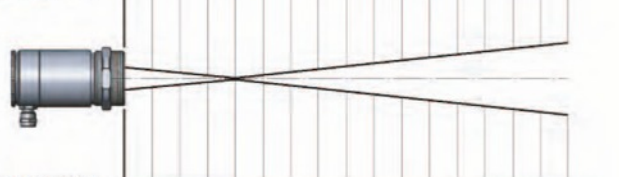


3 mm@ 450 mm  
1ML/ 2ML CF4 150:1



D = Distance  
S = Spotsize

1MH/2MH CF3 300:1  
0,7 mm@ 200 mm



1,3 mm@ 200 mm  
1ML/ 2ML CF3 150:1



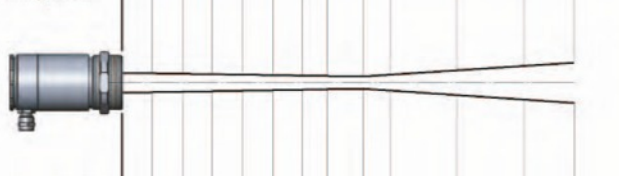
1MH/ 2MH SF 300:1  
3,7 mm@ 1100 mm



7,3 mm@ 1100 mm  
1ML/ 2ML SF 150:1



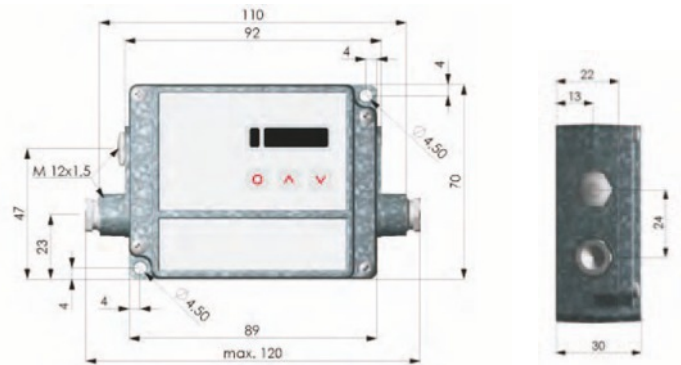
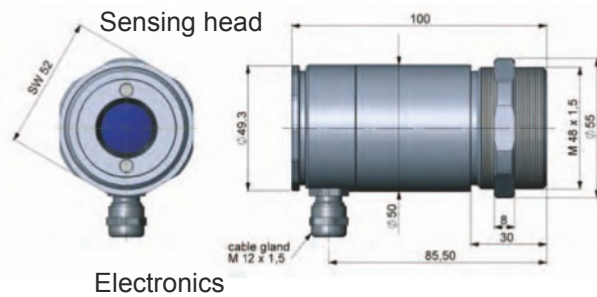
1MH/ 2MH FF 300:1  
12 mm@ 3600 mm



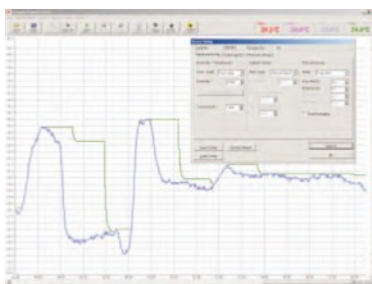
24 mm@ 3600 mm  
1ML/ 2ML FF 150:1



## Dimensions



## Compact Connect software



- Software for easy sensor setup and remote controlling, supports multi tasking
- Graphic display for temperature trends and automatic data logging for analysis and documentation with 1 ms response time
- Adjustment of signal processing functions and programming of outputs and functional inputs of the sensor
- Automatic emissivity adjustment
- The software CompactConnect allows to customize the sensor to application needs of the user

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