

Very small infrared thermometer for temperature measurements on metal from 250 to 1600 °C (482 to 2912 °F)

Features:

- Temperature range: 250 to 1600 °C (482 to 2912 °F)
- Small sensing head: M12x1, 28 mm long, 28 mm, stainless steel housing
- Usable up to 125 °C (257 °F) ambient temperature without cooling (sensing head)
- Green LED alarm indication, aiming support, self diagnostic or temperature code indication
- Scalable analog output: 0 – 5/10 V or 4 – 20 mA (two-wire); additional simultaneous alarm output
- Easy programming via smartphone app (IR mobile) or Windows software (Compact Connect)
- Wide power range: 5–30 V DC



General specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	-20 ... 125 °C (-4 ... 257 °F) (sensing head) -20 ... 80 °C (-4 ... 176 °F) (electronics) -20 ... 75 °C (-4 ... 167 °F) (electronics / mA version) ¹⁾
Storage temperature	-40 ... 85 °C (-40 ... 185 °F) (sensing head and electronics)
Relative humidity	10–95 %, non condensing
Vibration	IEC 60068-2-6 / -64
Shock	IEC 60068-2-27 (25 G and 50 G)
Weight	42 g (1.5 oz)

Electrical specifications

Output / analog	0 – 5 or 10 V or 4 – 20 mA
Output / alarm	0 – 30 V / 50 mA (open collector) (mA version: 500 mA)
Output / digital	Uni/ bidirectional, 9.6 kBaud, 0/3 V digital level, USB (option)
LED functions	Alarm indication, automatic aiming support, self diagnostic, temperature indication (via temp. code)
Input (0–10 V)	Programmable functional input for external emissivity setting ²⁾ / ambient temperature adjustment ²⁾ , triggered signal output or peak-hold function
Cable length head – electronics: after electronics:	0.5 m (standard), 3 m, 6 m (1.6 ft [standard], 3.3 ft, 19.7 ft) 0.5 m (standard), 3 m, 6 m (1.6 ft [standard], 3.3 ft, 19.7 ft)
Current draw	9 mA (mV version)

Measurement specifications

Temperature range (scalable via software)	250 ... 800 °C (482 ... 1472 °F) (2ML) 385 ... 1600 °C (725 ... 2912 °F) (2MH)
Spectral range	1.6 µm
Optical resolution (90 % energy)	40:1 (2ML) 75:1 (2MH)
CF lens (optional)	2.7 mm @ 110 mm (0.11 in @ 4.33 in) (2ML) 1.5 mm @ 110 mm (0.06 in @ 4.33 in) (2MH)
System accuracy	±(0.3 % of reading + 1 °C [1.8 °F]) ^{3), 4)}
Repeatability	±(0.1 % of reading + 1 °C [1.8 °F]) ^{3), 4)}
Temperature coefficient	±0.05 K/K or ±0.05 % / K ⁵⁾
NETD ⁶⁾	40 mK (2ML) 50 mK (2MH)
Response time (90 %)	8 ms (mA version: 20 ms)
Emissivity / Gain (adjustable via software)	0.100–1.100
Transmissivity (adjustable via software)	0.100–1.100
Signal processing (parameter adjustable via software)	Peak hold, valley hold, average; extended hold function with threshold and hysteresis
Dimensions of electronics	Length: 35 mm (1.38 in) Diameter: 12 mm (0.47 in)
Software	optris® Compact Connect (Windows) IR mobile (Android)

¹⁾ mA version: For Vcc (supply voltage) 5 – 12 V DC/ the electronic's max. ambient temperature is 65 °C (149 °F) at Vcc >12 V DC

²⁾ mV version only

³⁾ At ambient temperature 23 ±5 °C (73±41), ε = 1, response time 1 s

⁴⁾ Object temperature >300 °C (572 °F)

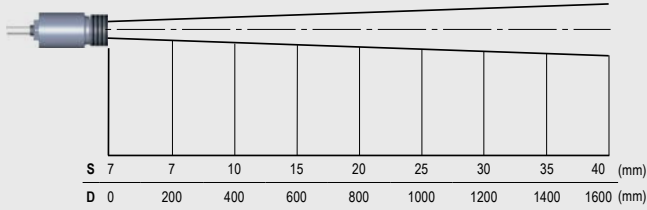
⁵⁾ For ambient temperatures <18 °C (<64 °F) and >28 °C (>82 °F); whichever is greater

⁶⁾ At time constant of 8 ms and T_{Obj} 500 °C (932 °F) (2ML) / 800 °C (1472 °F) (2MH)

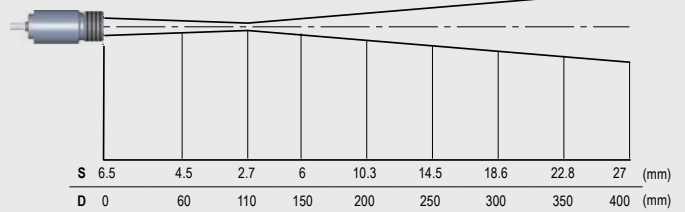
optris® CSmicro 2M

Optical parameters

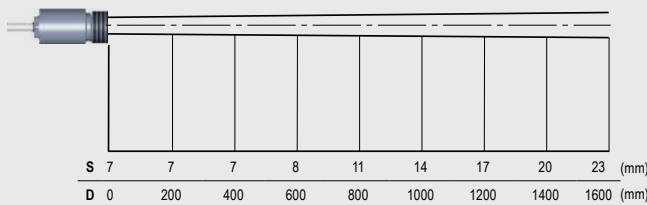
SF optics, D:S = 40:1



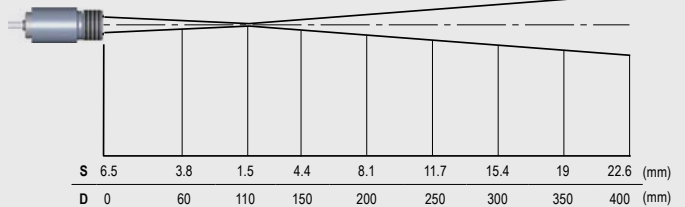
CF optics, D:S = 40:1



SF optics, D:S = 75:1

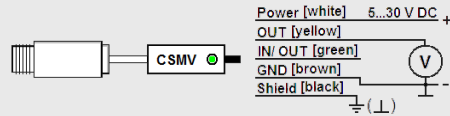


CF optics, D:S = 75:1

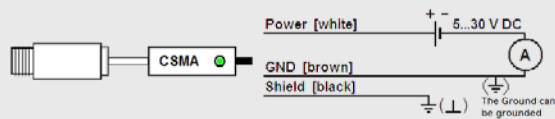


Connections

Connection mV version



Connection mA version

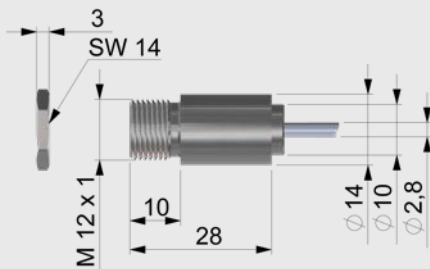


The CSmicro can be connected to a smartphone via the IR app connector

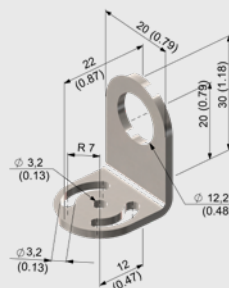


Dimensions

Dimensions CSmicro



Mounting bracket, fixed (ACCTFB)



Air purge with integrated CF optics (ACCTAPLCF)

