

**Very small two-wire
infrared thermometer
for 250 °C to 1600 °C**

Features:

- Temperature range: 250 °C to 1600 °C
- Size: M12x1, 28 mm long, stainless steel housing
- Scalable 4–20 mA analog output/additional simultaneous alarm output
- Usable up to 125 °C ambient temperature without cooling (sensing head)
- Green LED alarm indication, aiming support, self diagnostic or temperature code indication
- Electronics build in cable
- Short circuit and polarity reversal protection
- Adjustable signal processing
- Optional USB programming interface and software
- Wide power range: 5–30 V DC



General Specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	–20 °C ... 125 °C (sensing head) –20 °C ... 75 °C ¹⁾ (electronics)
Storage temperature	–40 °C ... 85 °C (sensing head and electronics)
Relative humidity	10–95 %, non condensing
Vibration	IEC 68-2-6: 3 G, 11–200 Hz, any axis
Shock	IEC 68-2-27: 50 G, 11 ms, any axis
Weight	42 g

Electrical Specifications

Output / analog	4–20 mA
Loop resistance	Max. 1000 Ω ²⁾
Output / alarm	0–30 V/500 mA (open collector)
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	Programmable functional input for triggered signal output or peakhold function
Cable length head – electronics: after electronics:	0.5 m (standard), 3 m, 6 m 0.5 m (standard), 3 m
Power supply	5–30 V DC

Measurement Specifications

Temperature range (scalable via software)	250 °C ... 800 °C (2ML) 385 °C ... 1600 °C (2MH)
Spectral range	1.6 µm
Optical resolution (90 % energy)	40:1 (2ML) 75:1 (2MH)
CF-lens (optional)	0.4 mm @ 11 mm (2ML) 0.2 mm @ 11 mm (2MH)
System accuracy	±(0.3 % of reading + 2 °C) ^{3), 4)}
Repeatability	±(0.1 % of reading + 1 °C) ^{3), 4)}
Temperature coefficient	±0.05 K/K or ±0.05 % / K ⁵⁾
Temperature resolution	0.1 K
Response time (90 %)	10 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 Diameter: 12 mm
Software	optris® Compact Connect

¹⁾ For V_{cc} (supply voltage) 5–12 V DC/ at V_{cc} >12 V DC the max. ambient temperature of the electronics is 65 °C

²⁾ In dependence on supply voltage

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

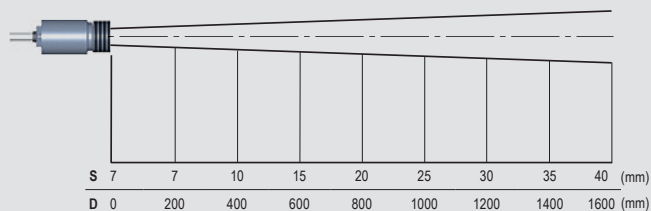
⁴⁾ Object temperature >450 °C

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

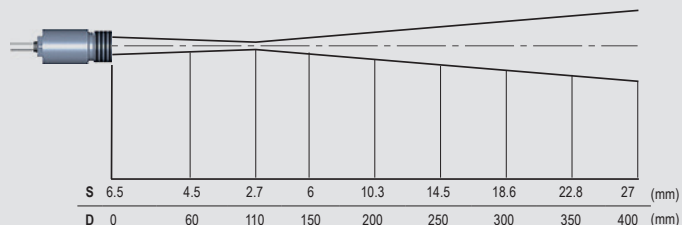
optris® CSmicro 2W 2M

Optical Specifications

Optics SF, D:S = 40:1



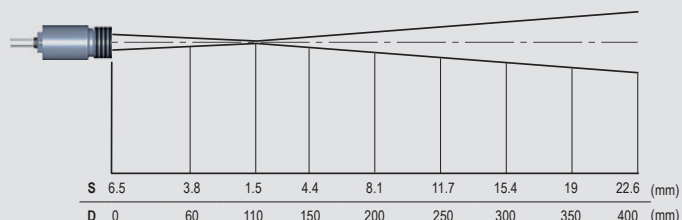
Optics CF, D:S = 40:1



Optics SF, D:S = 75:1

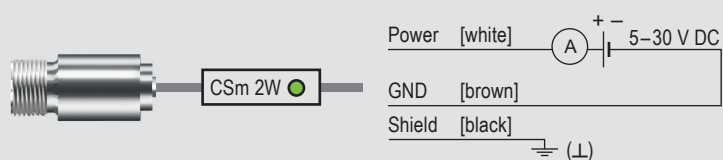


Optics CF, D:S = 75:1

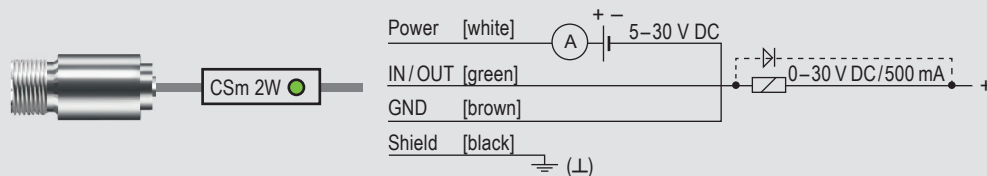


Dimensions / Interfaces

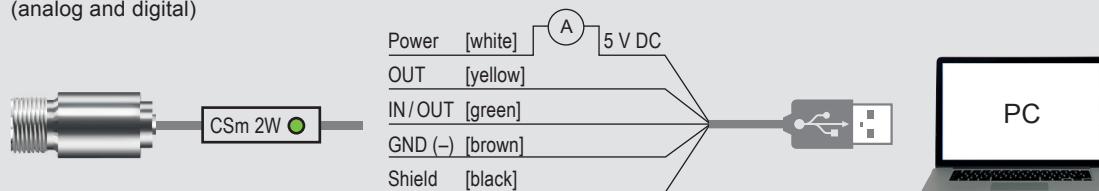
Analog Mode (Two wire connection)



Connection analog with open collector alarm output



Combined Mode (analog and digital)



Dimensions optris CSmicro 2W

