

**Very small two-wire  
infrared thermometer  
for 250 °C to 1600 °C  
(482 °F to 2912 °F)**



**Features:**

- Temperature range: 250 °C to 1600 °C (482 °F to 2912 °F)
- Size: M12x1, 28 mm (1.1 in) long, stainless steel housing
- Scalable 4–20 mA analog output/additional simultaneous alarm output
- 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
- 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

**Measurement Specifications**

Temperature range (scalable via software)	250 °C ... 800 °C (482 °F ... 1472 °F) (2ML) 385 °C ... 1600 °C (725 °F ... 2912 °F) (2MH)
Spectral range	1.6 µm
Optical resolution (90 % energy)	40:1 (2ML) 75:1 (2MH)
CF-lens (optional)	0.4 mm (0.02 in) @ 11 mm (0.43 in) (2ML) 0.2 mm (0.01 in) @ 11 mm (0.43 in) (2MH)
System accuracy	±(0.3 % of reading +2 °C [3.6 °F]) <sup>3), 4)</sup>
Repeatability	±(0.1 % of reading +1 °C [1.8 °F]) <sup>3), 4)</sup>
Temperature coefficient	±0.05 K/K or ±0.05 % / K <sup>5)</sup>
Temperature resolution (NETD)	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 (1.38 in) Diameter: 12 mm (0.47 in)
Software	optris® Compact Connect

<sup>1)</sup> For Vcc (supply voltage) 5–12 V DC/ at Vcc >12 V DC the max. ambient temperature of the electronics is 65 °C (149 °F)  
<sup>2)</sup> In dependence on supply voltage  
<sup>3)</sup> At ambient temperature 23 ±5 °C, ε = 1, response time 1 s  
<sup>4)</sup> Object temperature >450 °C (842 °F)  
<sup>5)</sup> For ambient temperatures <18 °C (64.4 °F) and >28 °C (82.4 °F); whichever is greater

**General Specifications**

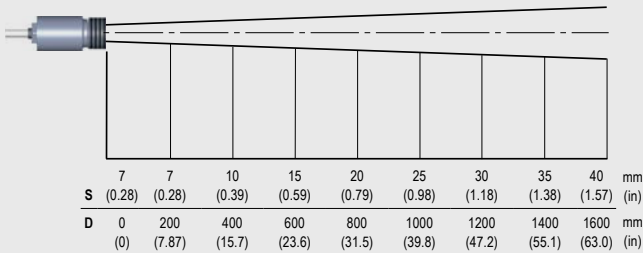
Environmental rating	IP 65 (NEMA-4)
Ambient temperature	–20 °C ... 125 °C (–4 °F ... 257 °F) (sensing head) –20 °C ... 75 °C <sup>1)</sup> (–4 °F ... 167 °F) (electronics)
Storage temperature	–40 °C ... 85 °C (–40 °F ... 185 °F) (sensing head and electronics)
Relative humidity	10–95 %, non condensing
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 (1.5 oz)

**Electrical Specifications**

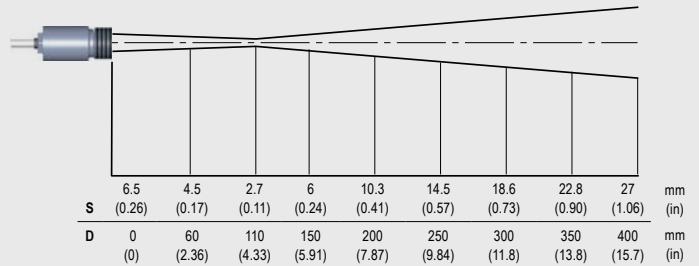
Output / analog	4–20 mA
Loop resistance	Max. 1000 Ω <sup>2)</sup>
Output / alarm	0–30 V/ 500 mA (open collector)
Output / digital	Uni/ bidirectional, 9.6 kBaud, 0/3 V digital level/ USB optional
LED functions	Alarm indication, automatic aiming support, self diagnostic, temperature indication (via temp. code)
Input	Programmable functional input for triggered signal output or peakhold function
Cable length Head – electronics After electronics:	0.5 m (1.65 ft) (standard), 3 m (9.8 ft), 6 m (19.7 ft) 0.5 m (1.65 ft) (standard), 3 m (9.8 ft)
Power supply	5–30 V DC

## Optical Specifications

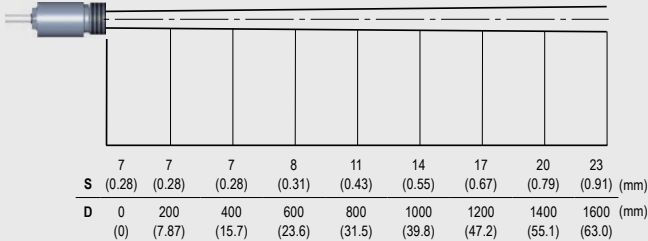
Optics SF, D:S = 40:1



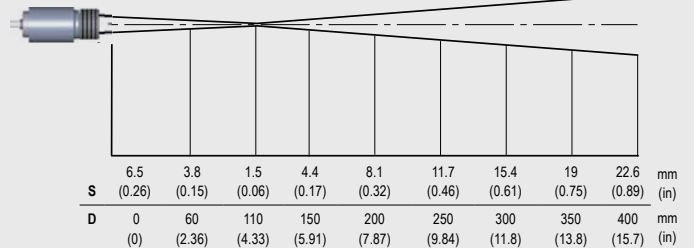
Optics CF, D:S = 40:1



Optics SF, D:S = 75:1

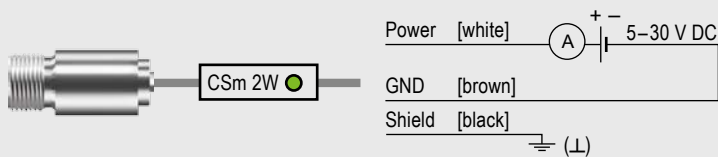


Optics CF, D:S = 75:1

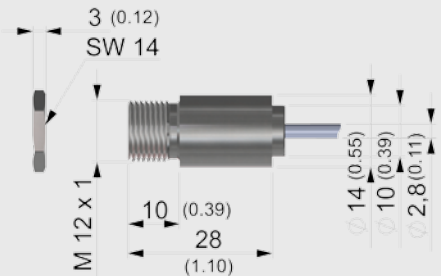


## Dimensions / interfaces

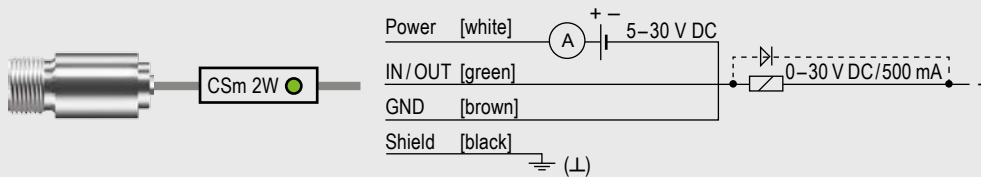
Analog Mode (Two wire connection)



Dimensions optris CSmicro 2W



Connection analog with open collector alarm output



Combined Mode (analog and digital)

