

## optris® CSmicro 2W 2M

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 <sup>1)</sup> (electronics)
Storage temperature	-40°C - 85°C (sensing head) -40°C - 85°C (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 <sup>2)</sup>
Output/alarm	0-30 V/500 mA (open collector)
Output/digital	uni-/bidirectional, 9.6 kBaud, 0/3V digital level, USB (option)
Input	Programmable functional input for triggered signal output or peak-hold function
LED functions	alarm indication, automatic aiming support, self diagnostic, temperature indication (via temp. code)
Cable length	
head - electronics:	0.5 m (standard), 3 m, 6 m
after electronics:	0.5 m (standard), 3 m
Power supply	5-30 V DC

#### Measurement Specifications

Temperature range (scalable via software)	250°C to 800°C (2ML) 385°C to 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) <sup>1),2)</sup>
Repeatability	±(0.1% of reading +1°C) <sup>1),2)</sup>
Temperature coefficient	± 0.05 K/K oder ± 0.05 % K <sup>3)</sup>
Temperature resolution	0.1°C
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

<sup>1)</sup> at ambient temperature 23 ± 5°C, ε = 1, response time 1s

<sup>2)</sup> object temperature > 450°C

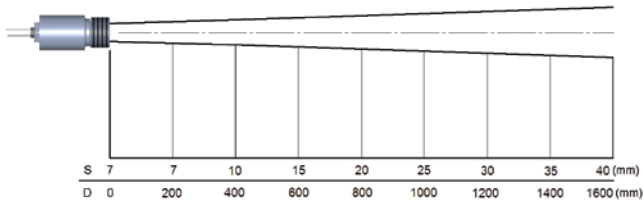
<sup>3)</sup> for ambient temperatures <18°C and >28°C; whichever is greater

<sup>1)</sup> for Vcc (supply voltage) 5-12 VDC/ at Vcc > 12 VDC the max. ambient temperature of the electronics is 65 °C

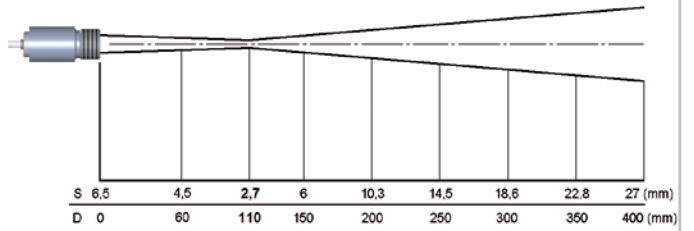
<sup>2)</sup> in dependence on supply voltage

## Optical Specifications

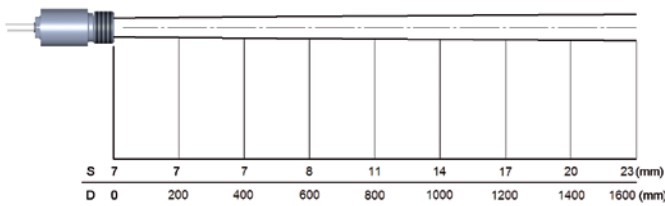
Optics SF, D:S = 40:1



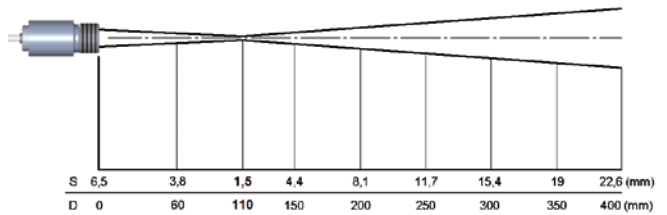
Optics CF, D:S = 40:1



Optics SF, D:S = 75:1

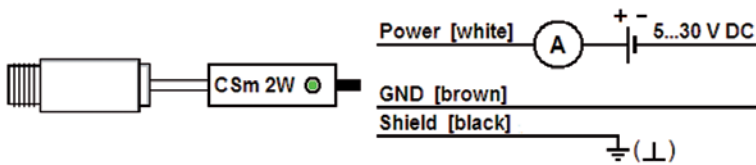


Optics CF, D:S = 75:1

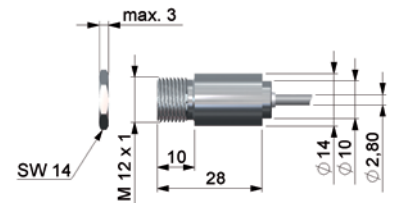


## Dimensions/Interfaces

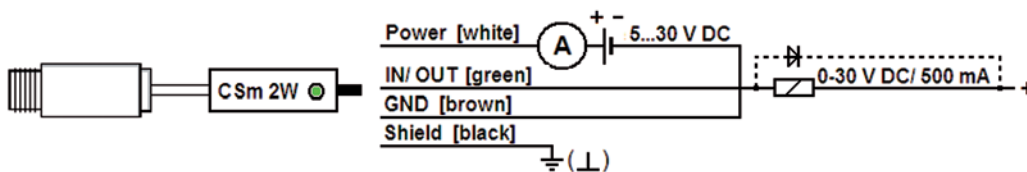
Analog Mode (Two wire connection)



Dimensions optris CSmicro 2W



Connection analog with open collector alarm output



Combined Mode (analog and digital)

