

**Very small two-wire
infrared thermometer
from -40 °C to 1030 °C**

Features:

- Temperature range: -40 °C to 1030 °C
- Size: M12x1, 28 mm long, stainless steel housing
- Scalable 4–20 mA analog output/ additional simultaneous alarm output
- Rugged coated silicon optics
- Usable up to 180 °C ambient temperature without cooling (LTH sensing head)
- Green LED alarm indication, aiming support, self diagnostic or temperature code indication
- Electronics build in cable
- Adjustable signal processing
- Optional USB programming interface and software
- Wide power range: 5–30 V DC



Measurement Specifications

Temperature range (scalable via software)	-40 °C ... 1030 °C
Spectral range	8–14 µm
Optical resolution (90 % energy)	2:1 (LT) 15:1 (LT, LTH) 22:1 (LTH)
CF-lens (optional)	0.8 mm @ 10 mm (15:1) 0.6 mm @ 10 mm (22:1)
System accuracy	±1.0 % or ±1.0 °C ^{3), 4)}
Repeatability	±0.5 % or ±0.5 °C ^{3), 4)}
Temperature coefficient	±0.05 K/K or ±0.05 %/K ⁵⁾
Temperature resolution	0.1 K
Response time (90 %)	25 ms (LT) 150 ms (LTH)
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

General specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	-20 °C - 120 °C (LT sensing head) -20 °C - 180 °C (LTH sensing head) -20 °C - 75 °C ⁴⁾ (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 ⁵⁾
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, temp. 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

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

²⁾ In dependence on supply voltage

³⁾ Object temperature >23 °C; whichever is greater

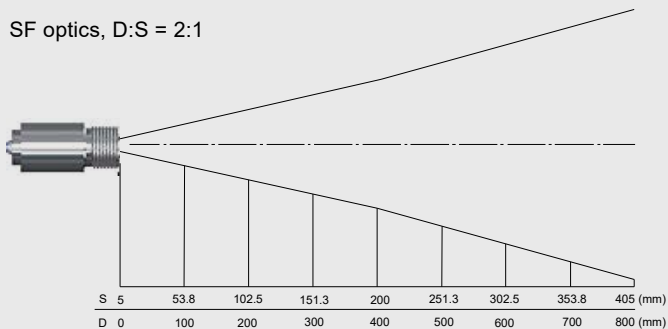
⁴⁾ At ambient temperature 23 ±5 °C, ε = 1, response time 1 s

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

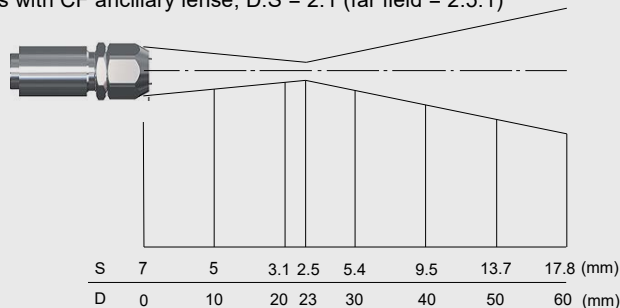
optris® CSmicro 2W LT/LTH

Optical Specifications

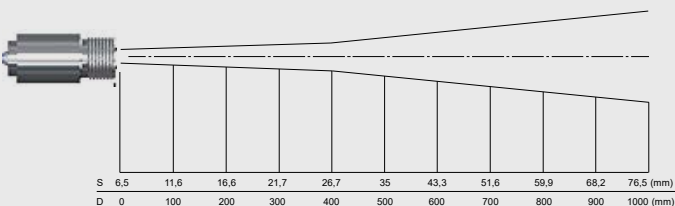
SF optics, D:S = 2:1



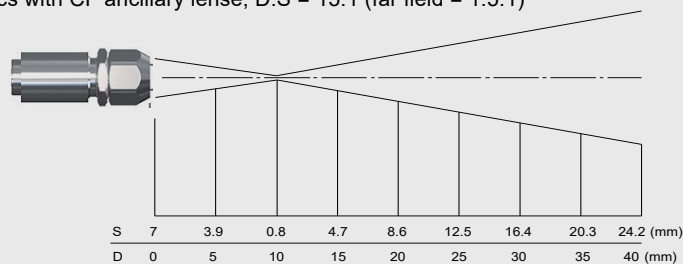
Optics with CF ancillary lens, D:S = 2:1 (far field = 2.5:1)



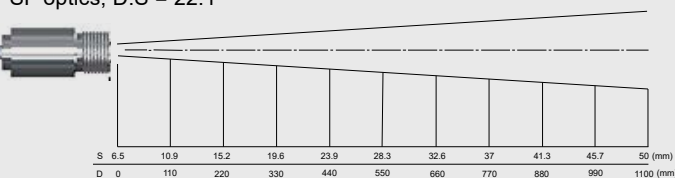
SF optics, D:S = 15:1



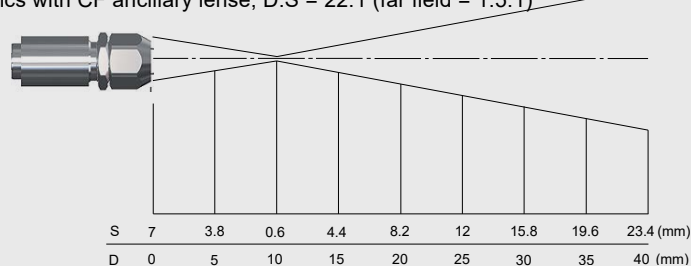
Optics with CF ancillary lens, D:S = 15:1 (far field = 1.5:1)



SF optics, D:S = 22:1

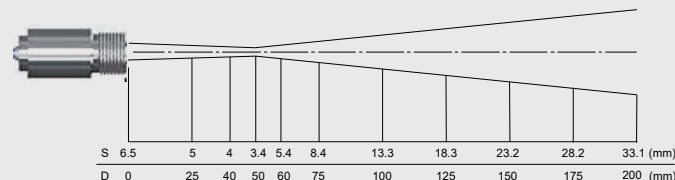


Optics with CF ancillary lens, D:S = 22:1 (far field = 1.5:1)

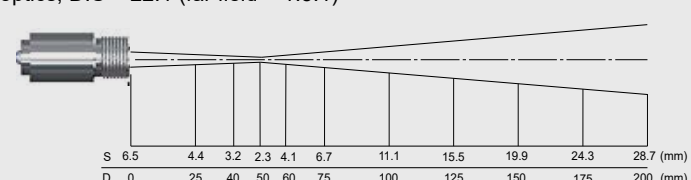


Options with integrated CF lens

CF optics, D:S = 15:1 (far field = 5:1)

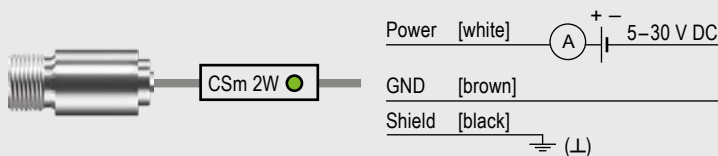


CF optics, D:S = 22:1 (far field = 1.5:1)

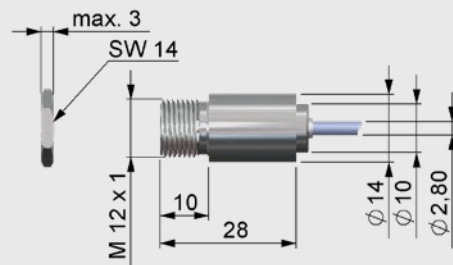


Dimensions / Interfaces

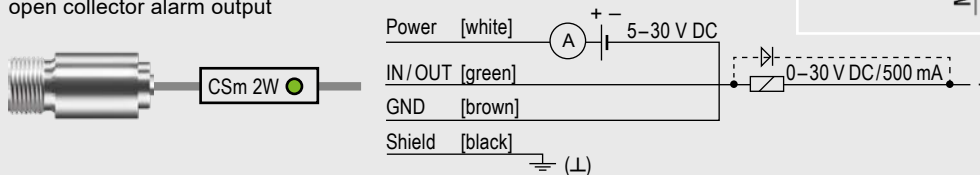
Analog Mode (Two wire connection)



Dimensions CSmicro 2W



Connection analog with open collector alarm output



Combined Mode (analog and digital)

