

More Precision.



optris® CSmicro

low cost micro size infrared thermometer
for -20 - 350°C



FEATURES

- Size: M12x1, 28 mm long, stainless steel housing
- Temperature range: -20°C to 350°C
- Rugged coated silicon optics
- Usable up to 120°C ambient temperature without cooling (sensing head)
- Cable built in electronics
- Scalable analog output: 0 - 10 V or 0 - 5 V and additional simultaneous alarm output
- 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	IP65 (NEMA-4)
Ambient temperature	-20 - 120°C (sensing head) -20 - 75°C (electronics)
Storage temperature	-40 - 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	0 - 5 V or 0 - 10 V 1/10/100 mV/°C
Output / alarm	24 V / 50 mA (open collector)
Alternative: Output/digital	uni, bidirectional, 9.6 kBaud, 0/3 V digital level, USB optional
Inputs	programmable functional input for external emissivity adjustment (0 - 5 V DC), hold function, ambient temperature compensation
Cable length	1 m 0.5 m between sensing head and electronics 0.4 m between electronics and terminal
Power supply	5 - 30 V DC
Current draw	9 mA

Measurement Specifications	
Temperature range (scalable via software)	-20 - 350°C
Spectral range	8 - 14 μm
Optical resolution (90% energy)	15:1 (precision glass optics) 2:1 (with flat front window)
CF-lens (optional)	0.8 mm @ 10 mm (15:1) 2.5 mm @ 23 mm (2:1)
System accuracy	±1.5% or ±1.5°C ^{1, 2}
Repeatability	±0.75% or ±0.75°C ^{1, 2}
NETD	0.15 K ^{1, 3}
Response time (90%)	30 ms - 999 s, adjustable
Emissivity/Gain (adjustable via 0 - 5 VDC input or software)	0.100 - 1.100
Transmissivity (adjustable via software)	0.100 - 1.100
Signal processing (parameter adjustable via software)	peak hold, valley hold, average
Dimensions of electronics	
length	70 mm
diameter	12 mm

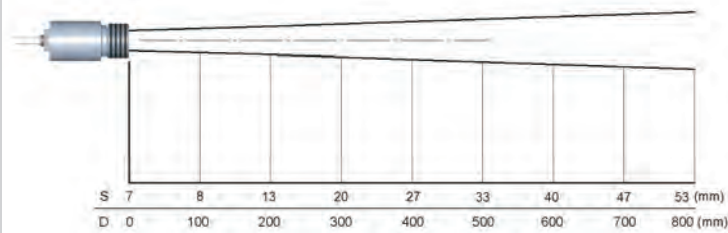
¹⁾ object temperature > 0°C; whichever is greater

²⁾ at ambient temperature 23 ±5°C

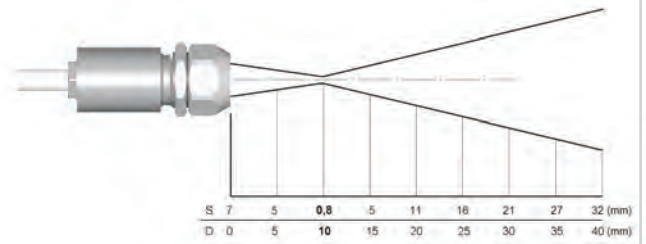
³⁾ at time constant 90 ms and T_{obj} 25°C

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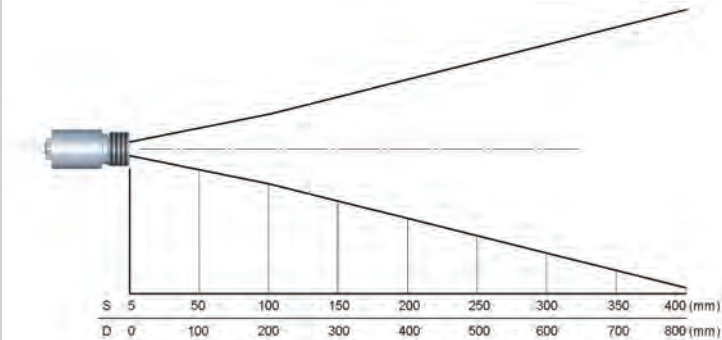
Optical Specifications



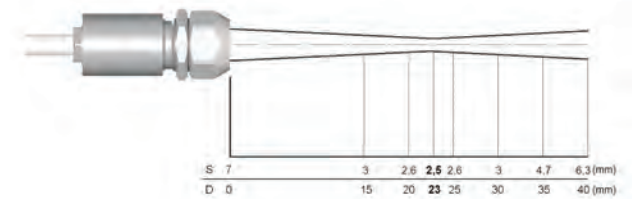
15:1 optics



15:1 optics with CF-lens

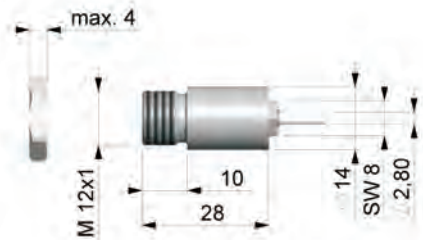


2:1 optics

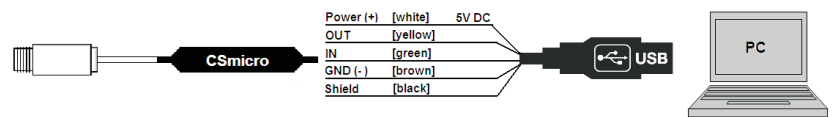


2:1 optics with CF-lens

Dimensions/Connections

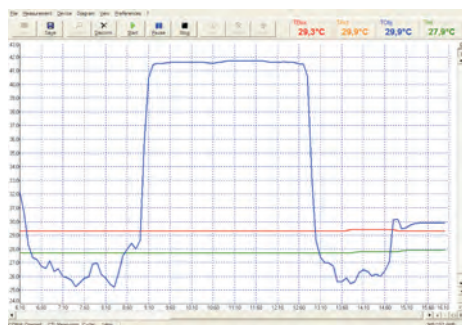


Dimensions CSmicro



Connection diagram CSmicro/USB programming interface

Compact Connect Software



- Software for easy sensor setup and remote controlling, supports multi tasking
- Graphic display for temperature trends and automatic data logging for analysis and documentation with 1 ms response time
- Adjustment of signal processing functions and programming of outputs and functional inputs of the sensor
- The software Compact Connect allows to customize the sensor to application needs of the user