optris CSmicro LT HS
TECHNICAL DATA

Infrared thermometer for measurement of smallest temperature differences of 0.025 °C

Features:

- New benchmark in low noise IR pyrometry for the measurement of smallest temperature differences of 0.025 °C
- Touches the physical limits ensuring low ambient temperature drift
- Green LED alarm indication, aiming support, self diagnostic or temperature code indication
- Scalable analog output: 0 – 5/10 V or 4 – 20 mA (two-wire); additional simultaneous alarm output
- Easy programming via smartphone app (IR mobile) or Windows software (Compact Connect)
- Stainless steel housing with compact dimensions

General specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	–20 ... 75 °C (sensing head) –20 ... 80 °C (electronics) –20 ... 75 °C (electronics / mA version)[1]
Storage temperature	–40 ... 85 °C
Relative humidity	10 – 95 %, non condensing
Vibration	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)
Shock	IEC 60068-2-27 (25 G and 50 G)
Weight	200 g

Electrical specifications

Output / analog	0 – 5 or 10 V or 4 – 20 mA
Output / alarm	0 – 30 V / 50 mA (open collector) (mA version: 500 mA)
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 (0 – 10 V)	Programmable functional input for external emissivity setting[2] / ambient temperature adjustment[2], triggered signal output or peak-hold function
Cable length head – electronics: after electronics:	 0.5 m (standard) 0.5 m (standard), 3 m, 6 m
Power supply	5 – 30 V DC
Current draw	9 mA (mV version)

Measurement specifications

Temperature range	–20 ... 150 °C
Spectral range	8 – 14 µm
Optical resolution (90 % energy)	15:1
CF optics (optional)	3.4 mm @ 50 mm
System accuracy	±1.0 % or ±1.0 °C[3), 4)]
Repeatability	±0.3 % or ±0.3 °C[3), 4)]
Temperature coefficient	±0.05 K/K or ±0.05 % K[5)]
NETD	0.025 K[6)]
Response time	150 ms
Emissivity / gain (adjustable via software)	0.100 – 1.100
Transmissivity (adjustable via software)	0.100 – 1.100
Signal processing (parameter adjustable only via optional 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 (Windows) IR mobile (Android)

[1] mA version: For Vcc (supply voltage) 5 – 12 V DC/ the electronic's max. ambient temperature is 65 °C at Vcc >12 V DC

[2] mV version only

[3] Object temperature >20 °C; whichever is greater

[4] At ambient temperature 23 ±5 °C

[5] At ambient temperatures <18 °C and >28 °C; whichever is greater

[6] At time constant of 150 ms and T_{Obj} 20 °C

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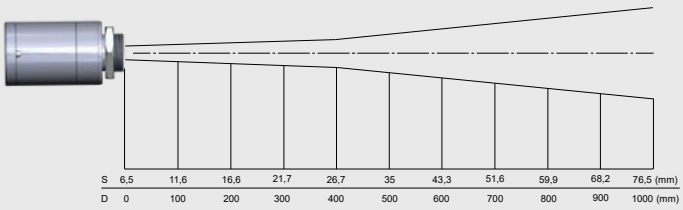
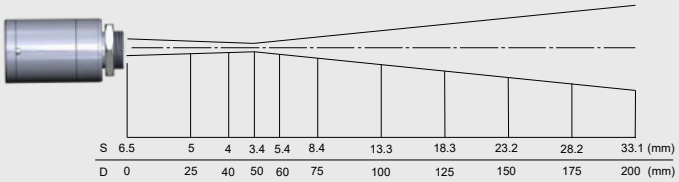
Optical parameters

SF optics, D:S = 15:1

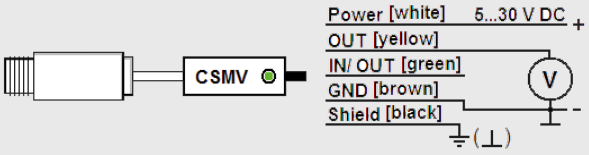


Integrated CF optics, D:S = 15:1 (far field = 5:1)

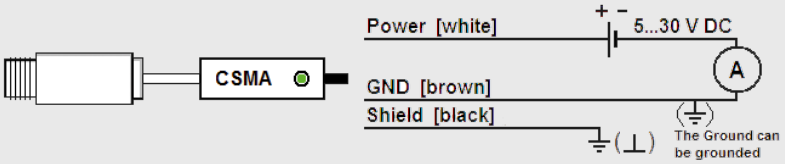


Connections

Connection mV version



Connection mA version



The CSmicro can be connected to a smartphone via the IR app connector

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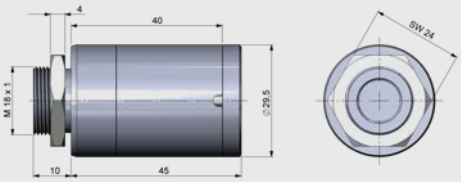
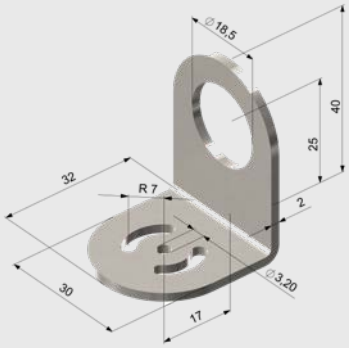
Dimensions

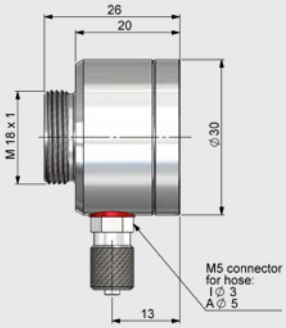
Dimensions CSmicro LT HS



Mounting bracket, fixed (ACCTFBMH)



Air purge with integrated CFoptics (ACCTAPMH)



Specifications are subject to change without further notice · CSmicro LT HS-DS-EN2018-07-A