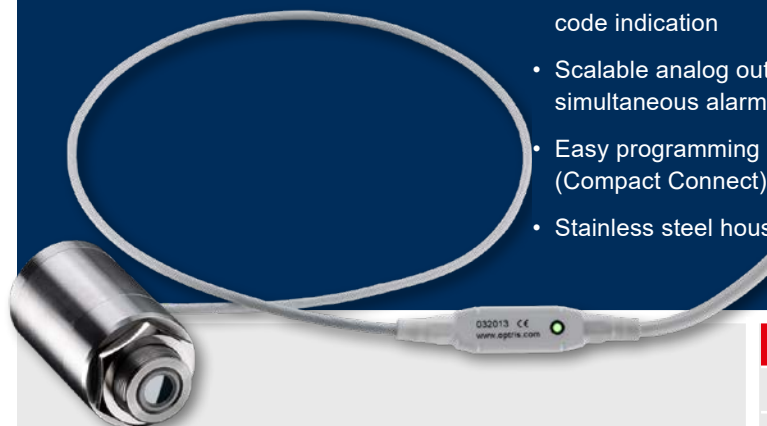# optris **CSmicro LT HS**
TECHNICAL DATA

Infrared thermometer for measurement of smallest temperature differences of 0.025 °C (32.05 °F)

Features:

- New benchmark in low noise IR pyrometry for the measurement of smallest temperature differences of 0.025 °C (32.05 °F)

- 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 (–4 ... 167 °F) (sensing head) –20 ... 80 °C (–4 ... 176 °F) (electronics) –20 ... 75 °C (–4 ... 167 °F) (electronics / mA version)[1]
Storage temperature	–40 ... 85 °C (–40 ... 185 °F)
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) (1.6 ft [standard]) 0.5 m (standard), 3 m, 6 m (1.6 ft [standard], 9.8 ft, 19.7 ft)
Power supply	5 – 30 V DC
Current draw	9 mA (mV version)

Measurement specifications

Temperature range	–20 ... 150 °C (–4 ... 302 °F)
Spectral range	8 – 14 μm
Optical resolution (90 % energy)	15:1
CF optics (optional)	3.4 mm @ 50 mm (0.13 in @ 1.97 in)
System accuracy	±1.0 % or ±1.0 °C (±1.8 °F)[3],[4]
Repeatability	±0.3 % or ±0.3 °C (±0.5 °F)[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 (149 °F) at Vcc >12 V DC*
[2] *mV version only*
[3] *Object temperature >20 °C (68 °F); whichever is greater*
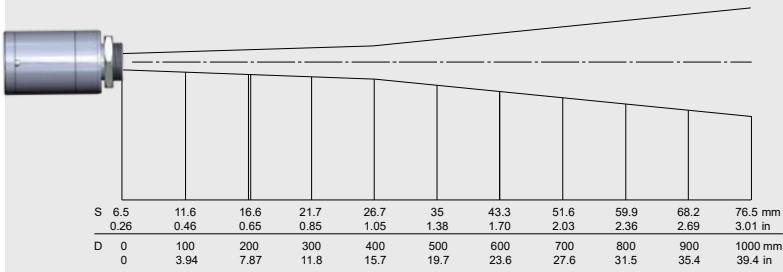[4] *At ambient temperature 23 ±5 °C (73±41 °F)*
[5] *At ambient temperatures <18 °C (<64 °F) and >28 °C (>82 °F); whichever is greater*
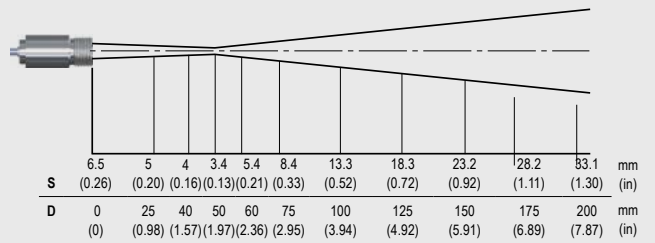[6] *At time constant of 150 ms and T_{Obj} 20 °C 68 °F)*

optris **CSmicro LT HS**
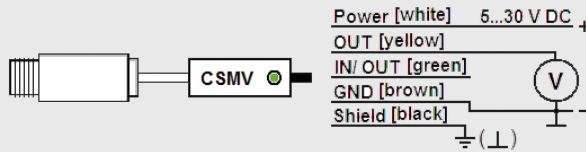
Optical parameters

SF optics, D:S = 15:1

S	6.5 0.26	11.6 0.46	16.6 0.65	21.7 0.85	26.7 1.05	35 1.38	43.3 1.70	51.6 2.03	59.9 2.36	68.2 2.69	76.5 mm 3.01 in
D	0 0	100 3.94	200 7.87	300 11.8	400 15.7	500 19.7	600 23.6	700 27.6	800 31.5	900 35.4	1000 mm 39.4 in

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

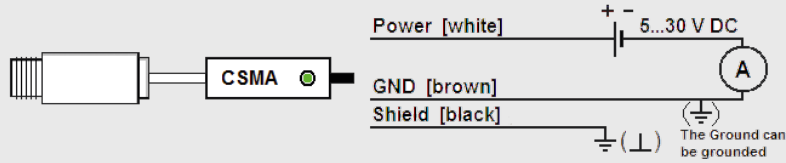| S	6.5 (0.26)	5 (0.20)	4 (0.16)	3.4 (0.13)	5.4 (0.21)	8.4 (0.33)	13.3 (0.52)	18.3 (0.72)	23.2 (0.92)	28.2 (1.11)	33.1 (1.30)	mm (in)
D	0 (0)	25 (0.98)	40 (1.57)	50 (1.97)	60 (2.36)	75 (2.95)	100 (3.94)	125 (4.92)	150 (5.91)	175 (6.89)	200 (7.87)	mm (in)

Connections

Connection mV version
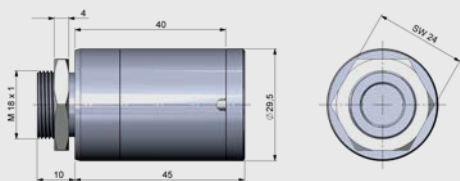

Connection mA version

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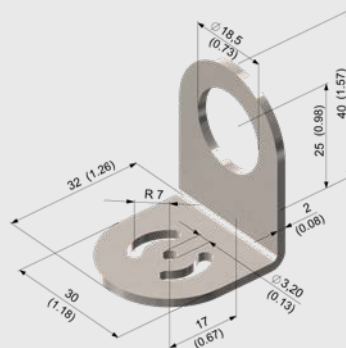

Dimensions

Dimensions CSmicro LT HS

Mounting bracket, fixed (ACCTFBMH)

Air purge with integrated CFoptics (ACCTAPMH)