2-Color, Infrared Temperature Sensor

PSC-SSS-Ratio-1M

Glass fiber ratio thermometer for noncontact
temperature measurement from 700°C to 1800°C

- 2-Color Sensor Benefits: Sees through dirty windows/
  dusty environments, measures weighted peak tem-
  perature within FOV and compensates for emissivity.

- 5 ms fast temperature measurements of hot objects

- Rugged stainless steel sensing head withstands
  250°C without cooling

- Built in laser marks actual spot size at any distance
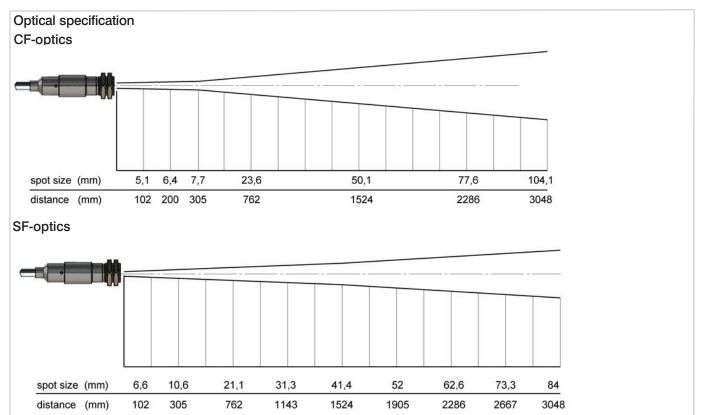
- Programmable 1 or 2 color mode

General specifications	
Environmental rating	IP 65 (NEMA-4)
Ambient temperature	sensing head: -20 - 250°C (70°C with laser ON) electronics: 0 - 85°C
Storage temperature	sensing head: -40 - 250°C electronics: -40 - 85°C
Relative humidity	10 - 95 %, non condensing
Vibration (sensor)	IEC 68-2-6: 3 G, 11-200 Hz, any axis
Shock (sensor)	IEC 68-2-27: 50 G, 11 ms, any axis
Weight	fiber cable (3 m) with head 375 g electronics 420 g
Electrical specifications	
Output/analog	0/4 - 20 mA, 0 - 5/10 V
Output impedances	mA max. 500Ω (with 5 - 36 V DC) mV min. 100 kΩ load impedance
Digital Interfaces (optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Optional	relay: 2 x 60 V DC/42 V AC$_{eff}$; 0.4 A; optically isolated
Digital I/O pins	two programmable in-/outputs; selectable as alarm output (open collector 24 V/1 A) or input for triggered signal output and peak-hold function
Fiberoptics length	3 m (standard), 6 m, 10 m, 15 m, 22 m stainless steel armour
Current draw	max. 200 mA
Power supply	8 - 36 V DC or USB powered
Aiming laser	Laser 650 nm, 1mW, ON/OFF via electronic box or software

Measurement specifications	
Temperature range	700°C - 1800°C
Spectral range	0.7 - 1.1 μm
Optical resolution (95% Energy)	40:1
System accuracy [1] (at ambient temperature 23 $\pm$5°C)	$\pm$(0.5% of reading +1°C)
Repeatability [1] (at ambient temperature 23 $\pm$5°C)	$\pm$(0.2% of reading +1°C)
Temperature resolution (> 900°C)	0.1 K
Exposure time (95% signal) [2]	5 ms - 10 s
Slope (adjustable via programming keys or software)	0.800 - 1.200
Emissivity (adjustable via programming keys or software)	0.100 - 1.000
Signal processing (parameter adjustable via programming keys or software, respectively)	1 color / 2 color mode; attenuation monitoring / alarms; peak hold, valley hold, average; extended hold function with threshold and hysteresis

[1] E = 1, response time 1s

[2] with dynamic adaptation at low signal levels

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Optical specification

Optical specification
CF-optics

spot size (mm)	5,1	6,4	7,7	23,6	50,1	77,6	104,1
distance (mm)	102	200	305	762	1524	2286	3048

SF-optics

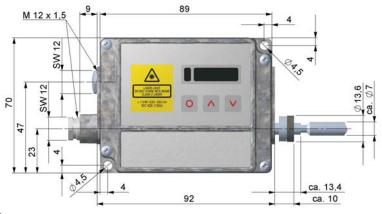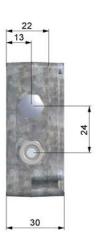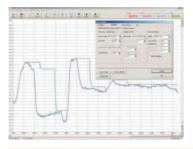| spot size (mm)	6,6	10,6	21,1	31,3	41,4	52	62,6	73,3	84
distance (mm)	102	305	762	1143	1524	1905	2286	2667	3048

Dimensions

Sensing head

Electronics

PSC 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 5 ms response time
- Adjustment of signal processing functions and programming of outputs and functional inputs of the sensor
- The PSC Connect software allows to customize the sensor to application needs of the user