

2-Color Sensor

PSC-SSS-Ratio-1M

Dual wavelength, non-contact infrared
Fiber Optic Thermometer



FEATURES

- 2-Color Sensor Benefits: Sees through dirty windows/dusty environments, measures weighted peak temperature within FOV and compensates for emissivity
- Fast 5 ms response speed
- Rugged stainless steel sensing head withstands 250°C without cooling
- High optical resolution up to 80:1 with variable focus optics
- Built in laser aiming and temperature display
- Programmable 1 or 2 color mode
- Variable Focus Lens: from 2.6" (65mm) to Infinity

General specifications	
Environmental rating	IP 65 (NEMA-4)
Ambient temperature	sensing head: -20 - 250°C 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 with head 400g electronics 420 g
Electrical specifications	
Outputs/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
Outputs/digital (optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Alarm output	2 x open - collector (24 V/1 A)
Optional	relay: 2 x 60 V DC/42 V AC _{eff} ; 0.4 A; optically isolated
Fiber cable length	2 m (standard), 5 m, 10 m, stainless steel armour, 400 μm fiber dia
Current draw	max. 160 mA
Power supply	8 - 36 V DC or USB powered
Optical aiming	Laser 635 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)	60:1 (CF) / 80:1 (SF)
System accuracy ¹⁾ (at ambient temperature 23 ± 5°C)	± (0.5% of reading + 1°C)
Repeatability ¹⁾ (at ambient temperature 23 ± 5°C)	± (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

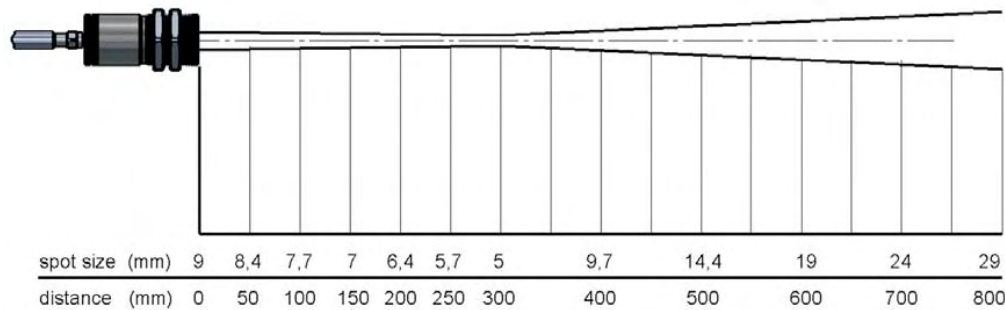
PSC-SSS-Ratio-1M

Optical specification

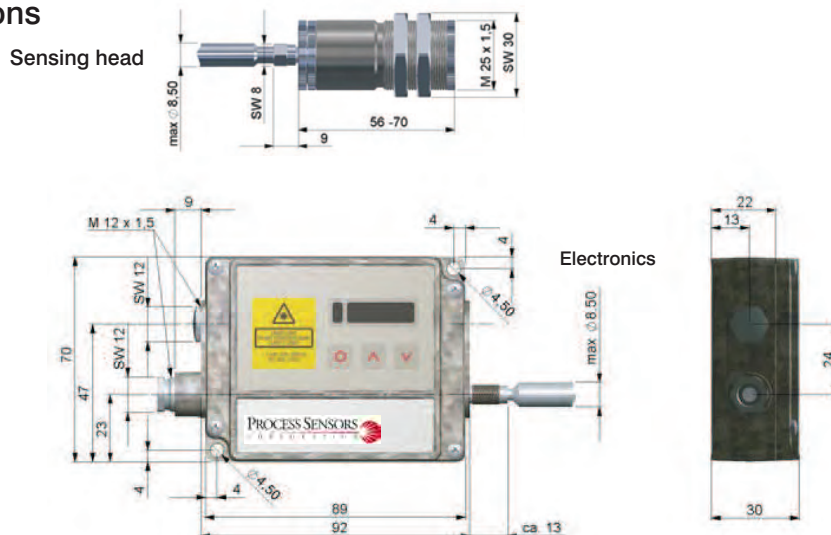
Variable focus optics - CF version (2.6" - 12")								
focussing distance (mm)	2.6" (65)	3.4" (85)	4.4" (110)	6" (150)	8" (200)	9.6" (240)	12" (300)	
spot size @ focus distance (mm)	0.052" (1.3)	0.068" (1.7)	0.084" (2.1)	0.11" (2.8)	0.14" (3.6)	0.16" (4.2)	0.2" (5.0)	
sensor length (mm)	2.8" (70)	2.68" (67)	2.52" (63)	2.4" (60)	2.32" (58)	2.28" (57)	2.24" (56)	

Variable focus optics - SF version (10" - 94.4")										
focussing distance (mm)	10" (250)	12" (300)	15.75" (400)	24" (600)	31.5" (800)	39.4" (1000)	59" (1500)	78.3" (2000)	94.4" (2500)	
spot size @ focus distance (mm)	0.12" (3.0)	0.148" (3.7)	0.2" (5.0)	0.28" (7.2)	0.37" (9.2)	0.48" (12.0)	0.72" (18.0)	0.96" (24.0)	1.24" (31.0)	
sensor length (mm)	2.78" (69.5)	2.72" (68.0)	2.66" (66.5)	2.6" (65.0)	2.58" (64.4)	2.56" (64.0)	2.54" (63.5)	2.53" (63.2)	2.52" (63.0)	

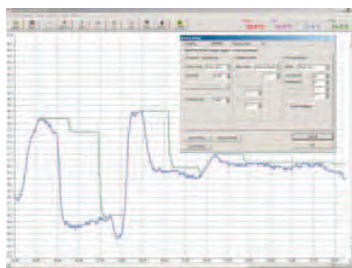
Optical diagram example: Close Focus-optic at 300mm distance



Dimensions



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