



PSC-SSS-Laser-05M

Non-Contact Temperature Measurement of Molten / Shiny Metals from 1000°C to 2000°C (1832°F to 3632°F)



FEATURES

- Accurate temperature measurements of liquid metals
- Short measuring wavelength of 525 nm minimizes errors due to emissivity uncertainty and atmospheric conditions
- Temperature range from 1000°C to 2000°C
- High resolution optics: Spot sizes from 1 mm
- Fast response of 1 ms
- Usable up to 85°C ambient temperature without cooling and automatic laser switch off at 50°C
- Industrial accessories available
- 150:1 (FOV) with choice of fixed focus optics
- Dual Lasers pinpoint targets at any distance

General Specifications

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	-20°C to 85°C (sensing head, 50°C with laser ON) 0°C to 85°C (electronics)
Storage temperature	Sensing head: -40°C to 85°C Electronics: -40°C to 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	600 g (sensing head) 420 g (electronics)

Electrical Specifications

Outputs/analog	0/4 - 20 mA, 0-5/10 V, thermocouple J, K
Alarm output	24 V/50 mA (open collector)
Optional	relay: 2 x 60 V DC/42 V AC _{eff} ; 0.4 A; optically isolated
Outputs/digital (optional)	USB, RS232, RS485, CAN, Profibus DP, Ethernet
Output impedances	mA max. 500 Ω (with 8-36 V DC) mV min. 100 kΩ load impedance thermocouple 20 Ω
Inputs	Programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)
Cable length	3 m (standard), 8 m, 15 m
Current draw	max. 160 mA
Power Supply	8-36 V DC
Laser 635 nm	1mW, ON/OFF via electronic box or software

Measurement Specifications

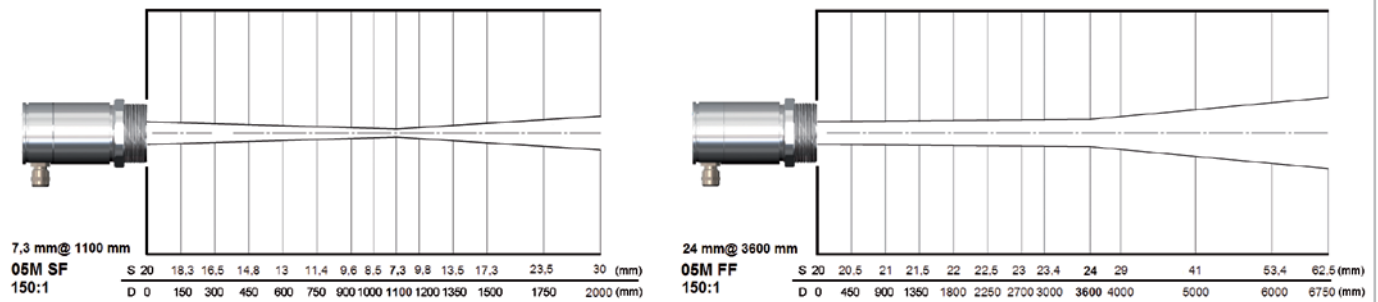
Temperature range (scalable via programming keys or software)	1000°C to 2000°C
Spectral range	525 nm
Optical resolution (90% energy)	150:1
System accuracy ¹⁾ (at ambient temp. 23 ±5°C)	± 1% of reading (≤ 1100°C) ± (0.3% of reading + 2°C) (> 1100°C)
Repeatability (at ambient temp. 23 ±5°C)	± 0.5% of reading (≤ 1100°C) ± (0.1% of reading + 1°C) (> 1100°C)
Temperature resolution	0.2 K
Exposure time ²⁾	1 ms (90 %)
Emissivity/Gain (adjustable via programming keys or software)	0.100 - 1.100
Transmissivity/Gain (adjustable via programming keys or software)	0.100 - 1.100
Signal processing (parameter adjustable via programming keys or software, respectively)	peak hold, valley hold, average; extended hold function with threshold and hysteresis
Software	PSC Connect

¹⁾ $\epsilon = 1$, exposure time 1 s

²⁾ with dynamic adaptation at low signal levels

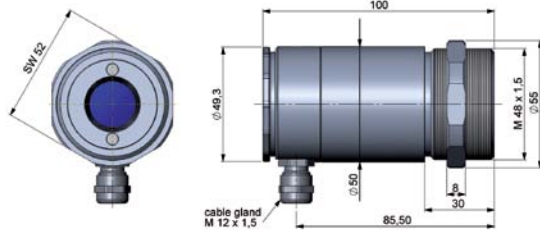
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Optical Specifications

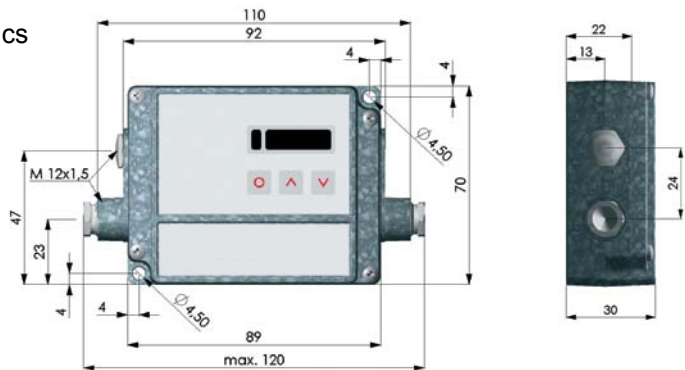


Dimensions

Sensing head



Electronics



Accessories (examples)

Mounting angle, adjustable in two axes (AC-SSS-LAB)



Cooling housing (AC-CJ-SSSL)



Mounting angle for cooling housing, adjustable in two axes (AC-CJ-AB)



Water cooling and air purge for sensing head (AC-SSS-LW + AC-SSS-LAP)



Mounting device for cooling housing (AC-SSS-LRM)

