PROCESS SENSORS® CORPORATION

a KPM ANALYTICS brand

High Speed

PSC **S**mall **S**mart **S**ensor**fast**

Precise noncontact temperature measurement from -50 to 975°C

FEATURES

- One of the smallest infrared sensors worldwide with extremely short response time down to 6 ms (90 % signal)
- A variety of analog and digital outputs
- Instant digital 0/10 V output with a response time of 4 ms (50% signal)
- Easy to assemble in multiple arrays for line scanning application using a RS485 bus communication
- 120°C sensor ambient temperature without cooling

General specifications	
Environmental rating	IP 65 (NEMA-4)
Ambient temperature	sensing head: -20 - 120°C electronics: 0 - 85°C
Storage temperature	sensing head: -40 - 120°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	sensing head 40 g electronics 420 g
Electrical specifications	
Analog output	0/4 - 20 mA, 0 - 5/10 V or thermocouple J, K
Alarm output	Open - collector (24V / 50mA)
Digital output	0/10 V (10 mA) 0.4 A; optically isolated
Digital interface (optional)	USB, RS232 or RS485 , CAN, Profibus DP, Ethernet optional: relay: 2 x 60 V DC/42 V AC;
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	1 m (standard), 3 m, 8 m, 15 m
Current draw	max. 100 mA
Power supply	8 - 36 V DC

Model Selection: PSC-SSS-LT15F or PSC-SSS-LT25F

Measurement specifications	
Temperature range (scalable via programming keys or software)	-50°C bis 975°C
Spectral range	8 - 14 µm
Optical resolution (90% energy)	LT15F 15:1
	LT25F 25:1
System accuracy (at ambient temperature 23 ±5°C	±1% oder ±2°C[1), 2)]
Repeatability (at ambient temperature 23 ±5°C)	±0.75% oder ±0.75°C[1), 2)]
Temperature resolution (NETD)	LT15F 0.2 K[2), 3)]
	LT25F 0.4 K[2), 3)]
Response time[4)]	analog output (90%): LT15F 9 ms LT25F 6 ms
	digital output (50%): LT15F 4 ms LT25F 3 ms
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

1) whichever is greater with dynamic noise compression
2) at object temperatures ≥ 20°C
3) at time constant 100 ms with smart averaging and T_{obj} 25°C
4) with dynamic adaption at low signal levels

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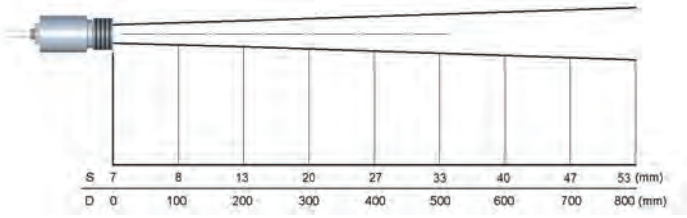
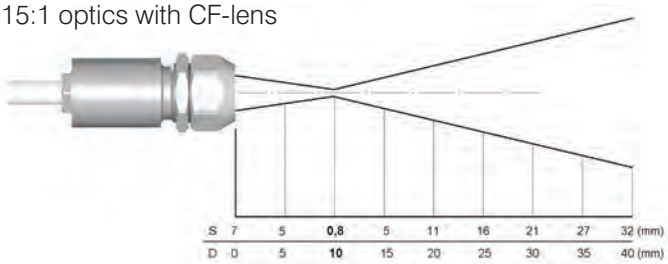
Optical specifications

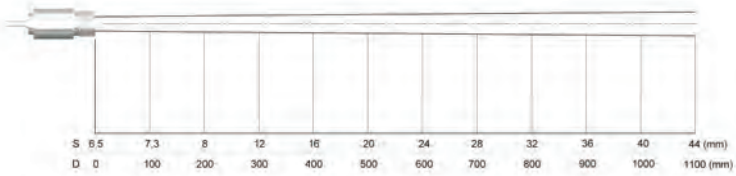
15:1 optics



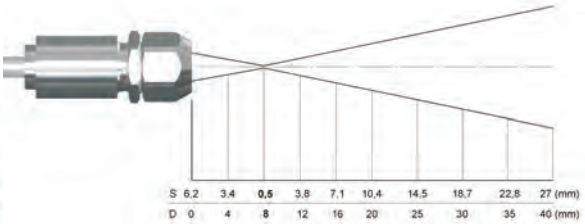
15:1 optics with CF-lens



25:1 optics

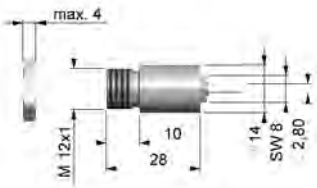


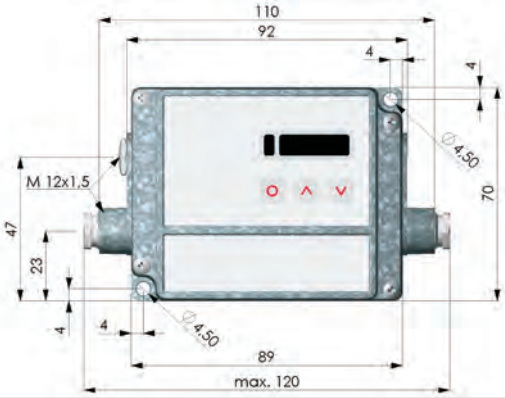
25:1 optics with CF-lens



Dimensions

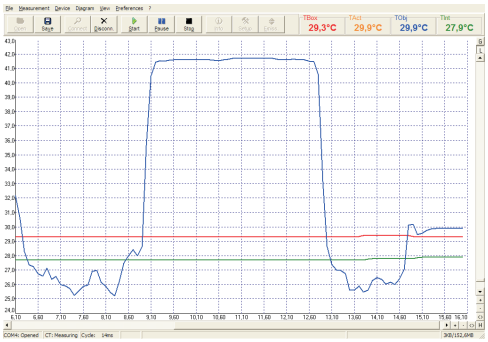
Sensing head





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 1 ms response time
- Adjustment of signal processing functions and programming of outputs and functional inputs of the sensor
- Automatic emissivity adjustment
- The software allows to customize the sensor to application needs of the user

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