

**Precise non-contact
temperature measurement
from $-50\text{ }^{\circ}\text{C}$ to $975\text{ }^{\circ}\text{C}$**



Features:

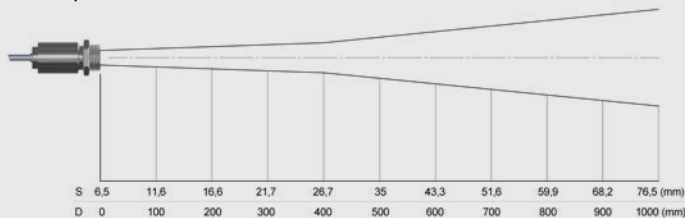
- One of the smallest infrared sensors worldwide with extrem short response time down to 6 ms (90 % signal)
- Fast analog output (0/4–20 mA, 0–5/10 V) with smart real time data processing
- Instant digital 0/10 V output with a response time of 4 ms (50 % signal)
- Continuous process monitoring with an unchoppered sensor system Note: Conventional fast pyroelectrical infrared sensors with mechanical chopper see processes only part of the time
- Easy to assemble in multiple arrays for line scanning of small and fast objects (hot spot detection) using a RS485 bus communication
- Rugged up to $120\text{ }^{\circ}\text{C}$ ambient temperature without cooling

General specifications		Measurement specifications	
Environmental rating	IP 65 (NEMA-4)	Temperature range (scalable via programming keys or software)	$-50\text{ }^{\circ}\text{C}$... $975\text{ }^{\circ}\text{C}$
Ambient temperature	Sensing head: $-20\text{ }^{\circ}\text{C}$... $120\text{ }^{\circ}\text{C}$ Electronics: $0\text{ }^{\circ}\text{C}$... $85\text{ }^{\circ}\text{C}$	Spectral range	8–14 μm
Storage temperature	Sensing head: $-40\text{ }^{\circ}\text{C}$... $120\text{ }^{\circ}\text{C}$ Electronics: $-40\text{ }^{\circ}\text{C}$... $85\text{ }^{\circ}\text{C}$	Optical resolution (90 % energy)	LT15F 15:1 LT25F 25:1
Relative humidity	10–95 %, non condensing	System accuracy (at ambient temperature $23 \pm 5\text{ }^{\circ}\text{C}$)	$\pm 1\%$ or $\pm 2\text{ }^{\circ}\text{C}^{1), 2)}$
Vibration (sensor)	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)	Repeatability (at ambient temperature $23 \pm 5\text{ }^{\circ}\text{C}$)	$\pm 0.75\%$ or $\pm 0.75\text{ }^{\circ}\text{C}^{1), 2)}$
Shock (sensor)	IEC 60068-2-27 (25G and 50G)	Temperature resolution (NETD)	LT15F 0.2 $\text{K}^{2), 3)}$ LT25F 0.4 $\text{K}^{2), 3)}$
Weight	Sensing head: 40 g / electronics: 420 g	Response time	Analog output (90 %) LT15F 9 ms LT25F 6 ms Digital output (50 %) LT15F 4 ms LT25F 3 ms
Electrical specifications		Emissivity/ Gain (adjustable via programming keys or software)	0.100–1.100
Output/analog	0/4–20 mA, 0–5/ 10 V or thermocouple J, K	Transmissivity/ Gain (adjustable via programming keys or software)	0.100–1.100
Alarm output	Open-collector (24 V/ 50 mA)	Signal processing (parameter adjustable via programming keys or software, respectively)	Peak hold, valley hold, average; extended hold function with threshold and hysteresis
Output/digital	0/10 V (10 mA) optional: relay: 2 x 60 V DC/ 42 V AC; 0.4 A; optically isolated	Software	optris Compact Connect
Digital interface	USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)	¹⁾ Whichever is greater with dynamic noise compression ²⁾ At object temperatures $\geq 20\text{ }^{\circ}\text{C}$ ³⁾ At time constant 100 ms with smart averaging and $T_{\text{Obj}} 25\text{ }^{\circ}\text{C}$	
Output impedances	mA max. 500 Ω (with 8–36 V DC) mV min. 100 $\text{k}\Omega$ 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		
Power supply	8–36 V DC		
Current draw	max. 100 mA		

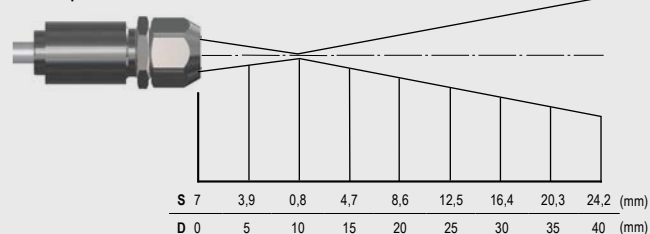
optris CTfast LT

Optical specifications

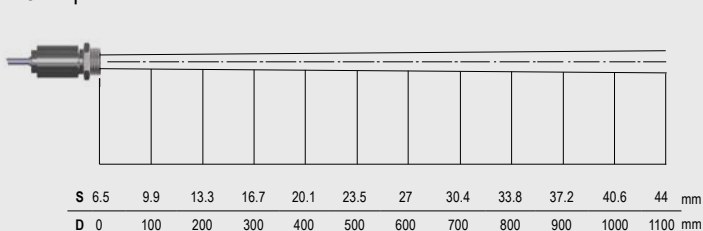
15:1 optics



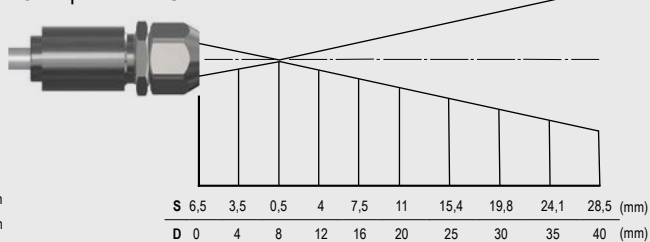
15:1 optics with CF-lens



25:1 optics

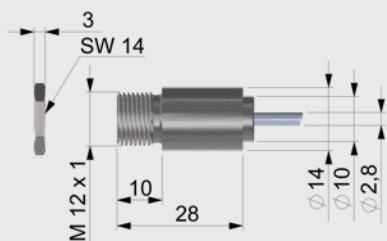


25:1 optics with CF-lens

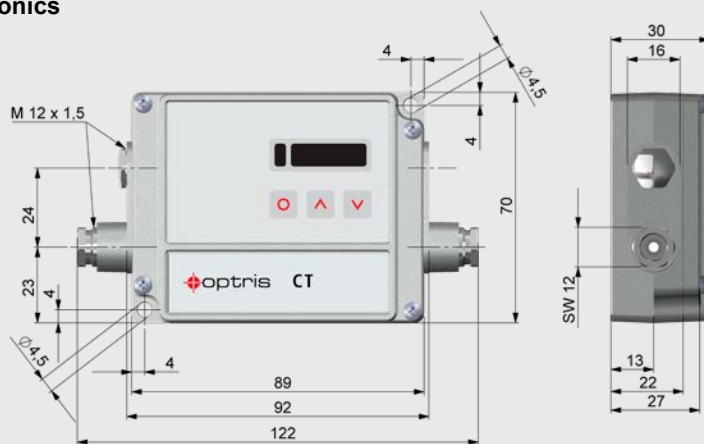


Dimensions

Sensing head



Electronics



Compact 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 CompactConnect allows to customize the sensor to application needs of the user

