

**Precise non-contact  
temperature measurement  
from  $-50\text{ }^{\circ}\text{C}$  to  $975\text{ }^{\circ}\text{C}$   
( $-58\text{ }^{\circ}\text{F}$  to  $1787\text{ }^{\circ}\text{F}$ )**



**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  $120\text{ }^{\circ}\text{C}$  ( $248\text{ }^{\circ}\text{F}$ ) ambient temperature without cooling

**General specifications**

Environmental rating	IP 65 (NEMA-4)
Ambient temperature	$-20\text{ }^{\circ}\text{C} \dots 120\text{ }^{\circ}\text{C}$ ( $-4\text{ }^{\circ}\text{F} \dots 248\text{ }^{\circ}\text{F}$ ) (sensing head) $0\text{ }^{\circ}\text{C} \dots 85\text{ }^{\circ}\text{C}$ ( $32\text{ }^{\circ}\text{F} \dots 185\text{ }^{\circ}\text{F}$ ) (electronics)
Storage temperature	$-40\text{ }^{\circ}\text{C} \dots 120\text{ }^{\circ}\text{C}$ ( $-40\text{ }^{\circ}\text{F} \dots 248\text{ }^{\circ}\text{F}$ ) (sensing head) $-40\text{ }^{\circ}\text{C} \dots 85\text{ }^{\circ}\text{C}$ ( $-40\text{ }^{\circ}\text{F} \dots 185\text{ }^{\circ}\text{F}$ ) (electronics)
Relative humidity	10–95%, non condensing
Vibration (sensor)	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)
Shock (sensor)	IEC 60068-2-27 (25G and 50G)
Weight	40 g (1.4 oz) (sensing head) / 420 g (14.8 oz) (electronics)

**Electrical Specifications**

Outputs / analog	0/4–20 mA, 0–5/10 V, thermocouple J, K, alarm
Output / alarm	24 V / 50 mA (open collector)
Outputs / digital	0/10 V (10 mA) optional: relay: 2 x 60 V DC/ 42 V AC; 0.4 A; optically isolated
Digital interface	USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)
Output impedances	mA max. 500 $\Omega$ (with 8–36 V DC) mV min. 100 k $\Omega$ load impedance, thermocouple 20 $\Omega$
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 (3.3 ft [standard], 9.8 ft, 26.2 ft, 49.2 ft)
Power Supply	8–36 V DC
Current draw	Max. 100 mA

**Measurement specifications**

Temperature range (scalable via programming keys or software)	$-50\text{ }^{\circ}\text{C} \dots 975\text{ }^{\circ}\text{C}$ ( $-58\text{ }^{\circ}\text{F} \dots 1787\text{ }^{\circ}\text{F}$ )
Spectral range	8–14 $\mu\text{m}$
Optical resolution (90 % energy)	LT15F 15:1 LT25F 25:1
System accuracy (at ambient temp. $23 \pm 5\text{ }^{\circ}\text{C}$ ) ( $73 \pm 9\text{ }^{\circ}\text{F}$ )	$\pm 1\text{ }^{\circ}\text{C}$ or $\pm 2\text{ }^{\circ}\text{C}^{1), 2)}$ ( $\pm 1\text{ }^{\circ}\text{C}$ of reading +3.6 $^{\circ}\text{F}$ )
Repeatability (at ambient temp. $23 \pm 5\text{ }^{\circ}\text{C}$ ) ( $73 \pm 9\text{ }^{\circ}\text{F}$ )	$\pm 0.75\text{ }^{\circ}\text{C}$ or $\pm 0.75\text{ }^{\circ}\text{C}^{1), 2)}$ ( $\pm 0.75\text{ }^{\circ}\text{C}$ of reading +1.4 $^{\circ}\text{F}$ )
Temperature resolution	LT15F 0.2 K <sup>2), 3)</sup> LT25F 0.4 K <sup>2), 3)</sup>
Response time	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
Software	optris® Compact Connect

<sup>1)</sup> Whichever is greater with dynamic noise compression

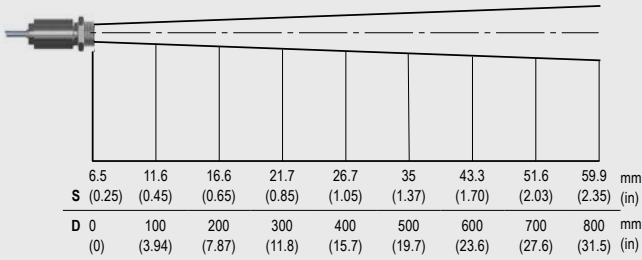
<sup>2)</sup> At object temperatures  $\geq 20\text{ }^{\circ}\text{C}$  ( $\geq 68\text{ }^{\circ}\text{C}$ )

<sup>3)</sup> At time constant 100 ms with smart averaging and  $T_{obj} 25\text{ }^{\circ}\text{C}$  ( $T_{obj} 77\text{ }^{\circ}\text{F}$ )

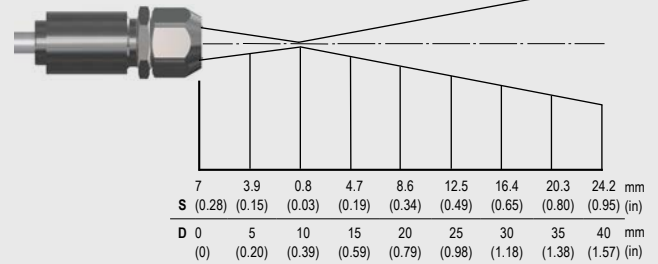
# optris CTfast LT

## Optical specifications

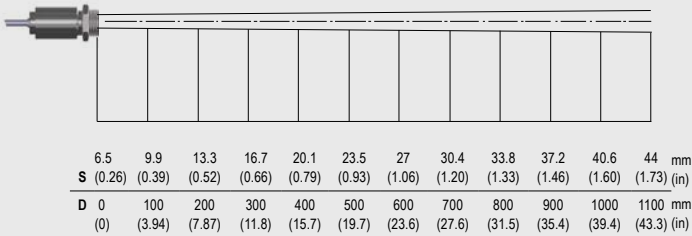
### 15:1 optics



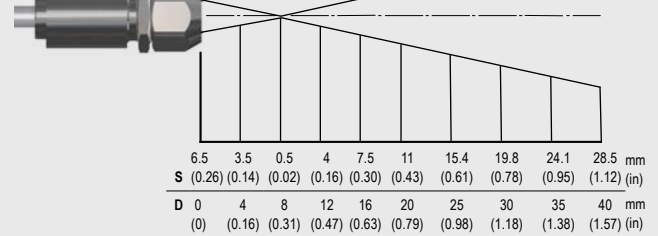
### 15:1 optics with CF-lens



### 25:1 optics

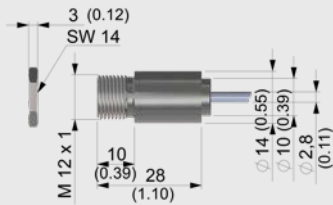


### 25:1 optics with CF-lens

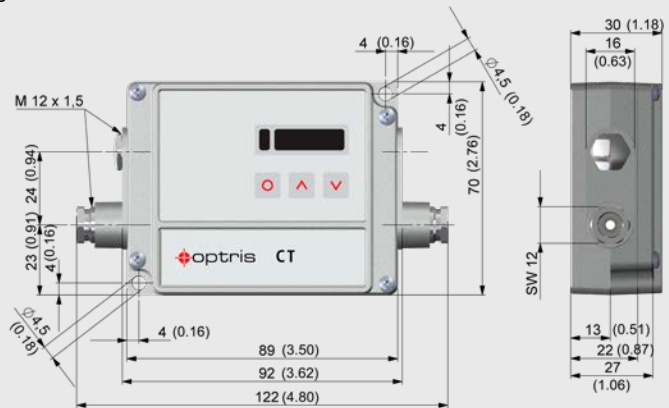


## Dimensions in mm (in)

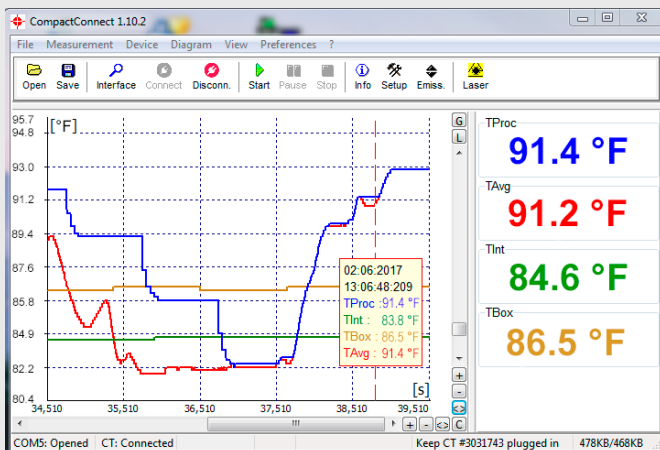
### Sensing head (standard)



### 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