



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

**Features:**

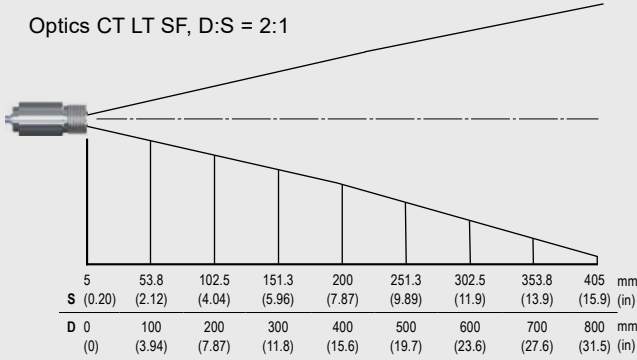
- One of the smallest infrared sensors worldwide with 22:1 optical resolution
- Rugged and usable up to  $180^{\circ}\text{C}$  ( $356^{\circ}\text{F}$ ) ambient temperature without cooling
- Separate electronics with easy accessible programming keys and LCD backlit display
- Selectable analog output: 0/4–20 mA, 0–5 V, 0–10 V, thermocouple type K or J
- Optional USB, RS485, RS232 interface, relay outputs (2 x optically isolated), CAN-Bus, Profibus DP, Ethernet
- Installation of up to 32 sensing heads
- CTex: Explosion proof version (ATEX)



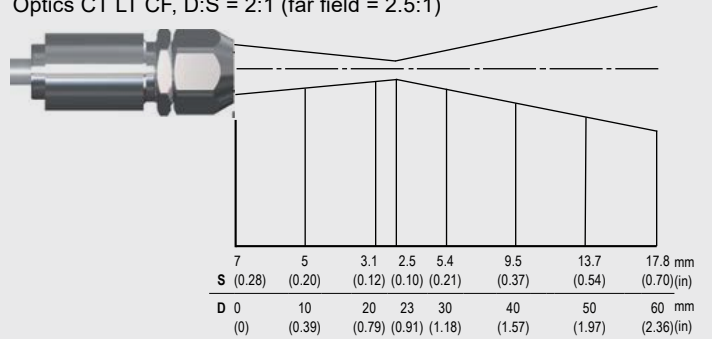
General specifications		Measurement specifications	
Environmental rating	IP 65 (NEMA-4)	Temperature range (scalable via programming keys or software)	$-50^{\circ}\text{C}$ to $975^{\circ}\text{C}$ (LT22) ( $-58^{\circ}\text{F}$ to $1787^{\circ}\text{F}$ ) $-50^{\circ}\text{C}$ to $600^{\circ}\text{C}$ (LT15) ( $-58^{\circ}\text{F}$ to $1112^{\circ}\text{F}$ ) $-50^{\circ}\text{C}$ to $600^{\circ}\text{C}$ (LT02) ( $-58^{\circ}\text{F}$ to $1112^{\circ}\text{F}$ )
Ambient temperature	$-20^{\circ}\text{C}$ to $180^{\circ}\text{C}$ ( $-4^{\circ}\text{F}$ to $356^{\circ}\text{F}$ ) ( $130^{\circ}\text{C}$ ( $266^{\circ}\text{F}$ ) to LT02) (sensing head) $0^{\circ}\text{C}$ to $85^{\circ}\text{C}$ ( $32^{\circ}\text{F}$ to $185^{\circ}\text{F}$ ) (electronics)	Spectral range	8–14 $\mu\text{m}$
Storage temperature	$-40^{\circ}\text{C}$ to $130^{\circ}\text{C}$ ( $-40^{\circ}\text{F}$ to $266^{\circ}\text{F}$ ) (sensing head) $-40^{\circ}\text{C}$ to $85^{\circ}\text{C}$ ( $-40^{\circ}\text{F}$ to $185^{\circ}\text{F}$ ) (electronics)	Optical resolution (90% energy)	22:1 (precision glass optics) 15:1 (precision glass optics) 2:1 (with flat front window)
Relative humidity	10–95%, non condensing	CF-lens (optional)	0.6 mm @ 10 mm (with LT22) (0.02 in @ 0.4 in) 0.8 mm @ 10 mm (with LT15) (0.03 in @ 0.4 in) 2.5 mm @ 23 mm (with LT02) (0.1 in @ 0.9 in)
Vibration (sensor)	IEC 68-2-6: 3 G, 11–200 Hz, any axis	System accuracy <sup>1),2)</sup> (at ambient temp. $23 \pm 5^{\circ}\text{C}$ ) ( $73 \pm 9^{\circ}\text{F}$ )	$\pm 1\%$ or $\pm 1^{\circ}\text{C}$ ( $\pm 1\%$ or $\pm 1.8^{\circ}\text{F}$ )
Shock (sensor)	IEC 68-2-27: 50 G, 11 ms, any axis	Repeatability <sup>1),2)</sup> (at ambient temp. $23 \pm 5^{\circ}\text{C}$ ) ( $73 \pm 9^{\circ}\text{F}$ )	$\pm 0.5\%$ or $\pm 0.5^{\circ}\text{C}$ ( $\pm 0.5\%$ or $\pm 0.9^{\circ}\text{F}$ )
Weight	40 g (1.4 oz) (sensing head) / 420 g (14.8 oz) (electronics)	Temperature resolution (display)	0.1 K
Electrical Specifications		NETD <sup>2),3)</sup>	0.05 K (LT22/LT15) 0.1 K (LT02)
Outputs / analog	Channel 1: 0/4–20 mA, 0–5/ 10 V, thermocouple J, K Channel 2: sensing head temperature ( $-20^{\circ}\text{C}$ to $180^{\circ}\text{C}$ ( $-4^{\circ}\text{F}$ to $356^{\circ}\text{F}$ ) as 0–5 V or 0–10 V), alarm output	Response time	150 ms (95%)
Output / alarm	24 V / 50 mA (open collector)	Emissivity/ Gain (adjustable via programming keys or software)	0.100–1.100
Optional	Relay: 2 x 60 V DC/ 42 V AC <sub>eff</sub> ; 0.4 A; optically isolated	Transmissivity/ Gain (adjustable via programming keys or software)	0.100–1.100
Outputs / digital	USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)	Signal processing (parameter adjustable via programming keys or software, respectively)	Peak hold, valley hold, average; extended hold function with threshold and hysteresis
Output impedances	mA max. 500 $\Omega$ (with 8–36 V DC) mV min. 100 k $\Omega$ load impedance thermocouple 20 $\Omega$	Software	optris® Compact Connect
Inputs	Programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)	<sup>1)</sup> Whichever is greater <sup>2)</sup> At object temperatures $>0^{\circ}\text{C}$ ( $>32^{\circ}\text{F}$ ), $\epsilon = 1$ <sup>3)</sup> At time constant 200 ms and $T_{\text{obj}} 25^{\circ}\text{C}$ ( $77^{\circ}\text{F}$ )	
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		

## Optical specifications

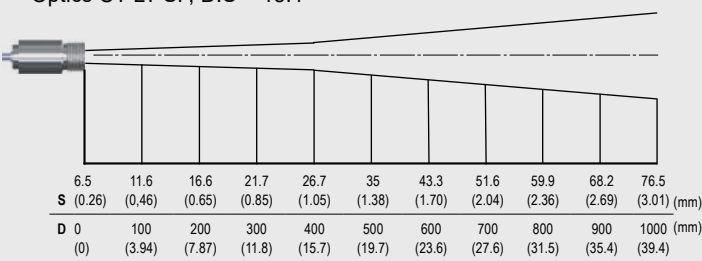
Optics CT LT SF, D:S = 2:1



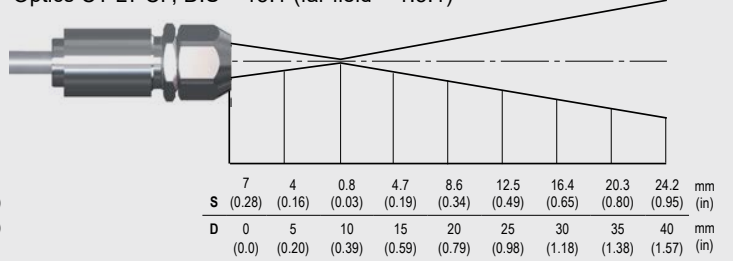
Optics CT LT CF, D:S = 2:1 (far field = 2.5:1)



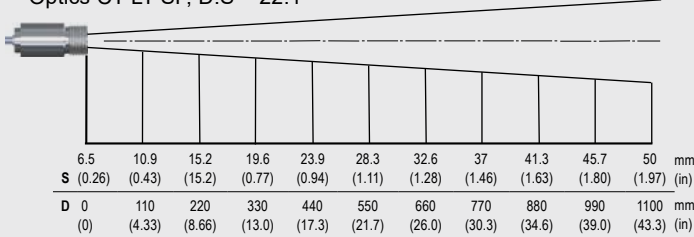
Optics CT LT SF, D:S = 15:1



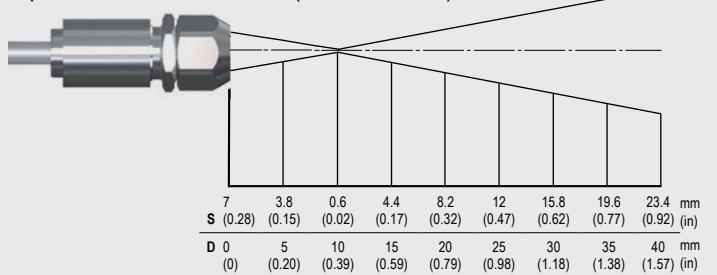
Optics CT LT CF, D:S = 15:1 (far field = 1.5:1)



Optics CT LT SF, D:S = 22:1

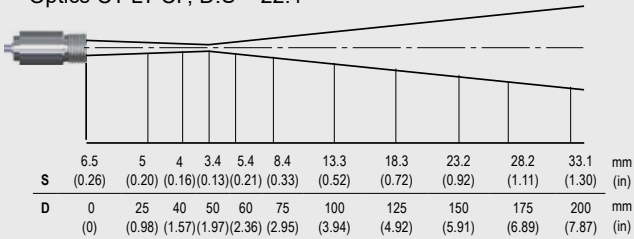


Optics CT LT CF, D:S = 22:1 (far field = 1.5:1)

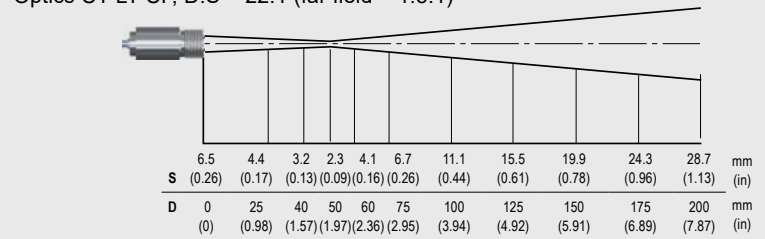


### Versions with built-in CF lenses

Optics CT LT CF, D:S = 22:1

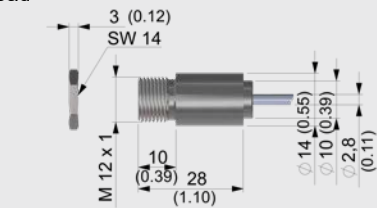


Optics CT LT CF, D:S = 22:1 (far field = 1.5:1)

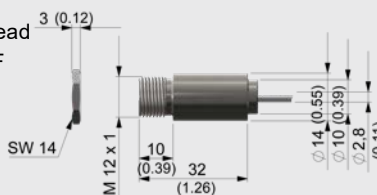


## Dimensions

Sensing head (standard)



Sensing head (built-in CF lenses)



Electronics

