

Precise non-contact temperature measurement from -50 °C to 975 °C



Features:

- One of the smallest infrared sensors worldwide with 22:1 optical resolution
- Rugged and usable up to 180 °C 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

Environmental rating	IP 65 (NEMA-4)
Ambient temperature ¹⁾	-20 °C ... 180 °C (130 °C to LT02) (sensing head) -20 °C ... 85 °C (electronics)
Storage temperature	-40 °C ... 130 °C (sensing head) -40 °C ... 85 °C (electronics)
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	40 g (sensing head) / 420 g (electronics)

Electrical Specifications

Outputs / analog	Channel 1: 0/4–20 mA, 0–5 / 10 V, thermocouple J, K Channel 2: sensind head temperature (-20 °C ... 180 °C as 0–5 V or 0–10 V), alarm output
Output / alarm	24 V / 50 mA (open collector)
Optional	Relay: 2 x 60 V DC / 42 V AC _{eff} ; 0.4 A; optically isolated
Outputs / digital	USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional)
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
Power Supply	8–36 V DC
Current draw	Max. 100 mA

Measurement specifications

Temperature range (scalable via programming keys or software)	-50 °C ... 975 °C (LT22) -50 °C ... 600 °C (LT15) -50 °C ... 600 °C (LT02)
Spectral range	8–14 μm
Optical resolution (90 % energy)	22:1 (precision glass optics) 15:1 (precision glass optics) 2:1 (with flat front window)
CF-lens (optional)	0.6 mm @ 10 mm (with LT22) 0.8 mm @ 10 mm (with LT15) 2.5 mm @ 23 mm (with LT02)
System accuracy ^{2),3)} (at ambient temp. 23 ± 5 °C)	± 1 % or ± 1 °C
Repeatability ^{2),3)} (at ambient temp. 23 ± 5 °C)	± 0.5 % or ± 0.5 °C
Temperature resolution (display)	0.1 K
NETD ^{3),4)}	0.05 K (LT22 / LT15) 0.1 K (LT02)
Response time	150 ms (95 %)
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

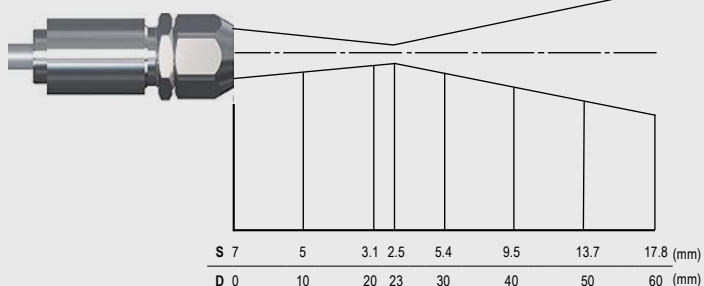
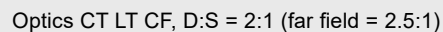
¹⁾ The LCD displays capacity may be limited at ambient temperatures below 0 °C.

²⁾ Whichever is greater

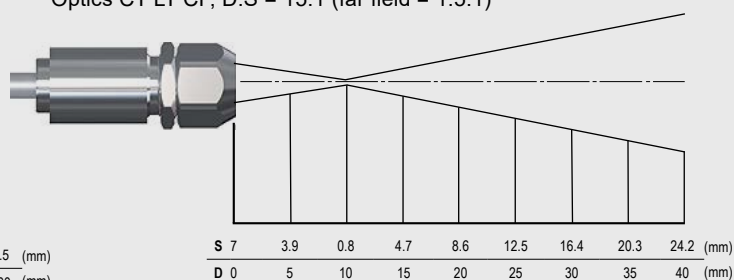
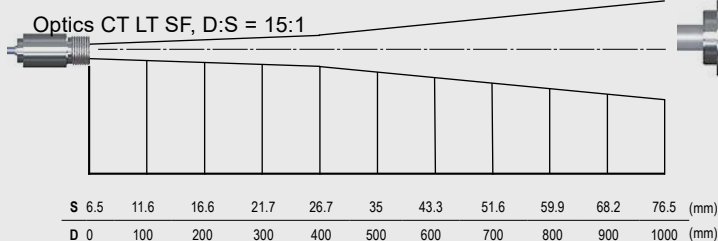
³⁾ At object temperatures > 0 °C, ε = 1

⁴⁾ At time constant 200 ms and T_{obj} 25 °C

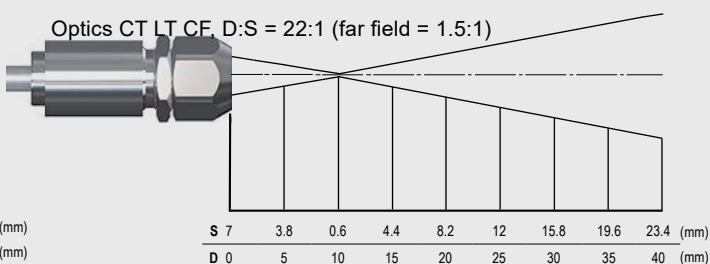
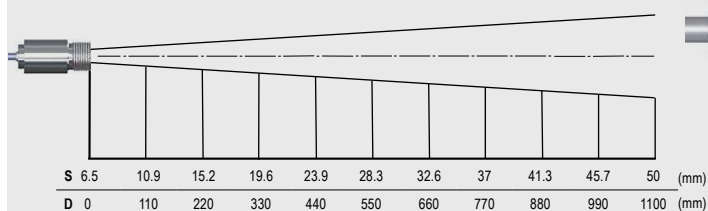
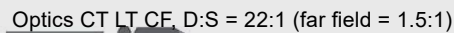
Optics CT LT SF, D:S = 2:1



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

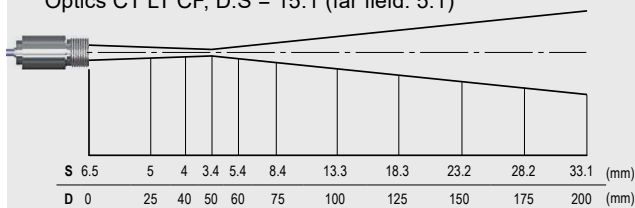


Optics CT LT SF, D:S = 22:1

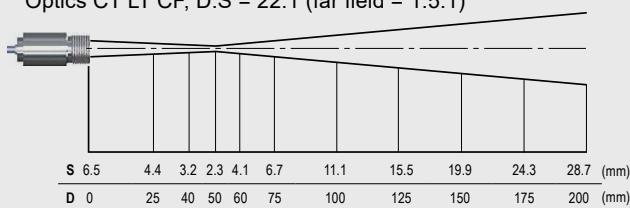


Versions with built-in CF lenses

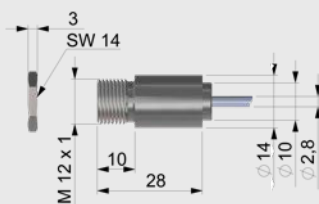
Optics CT LT CF, D:S = 15:1 (far field: 5:1)



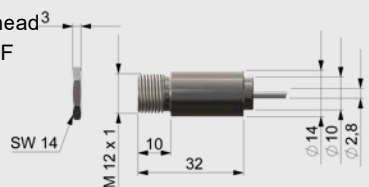
Optics CT LT CF, D:S = 22:1 (far field = 1.5:1)



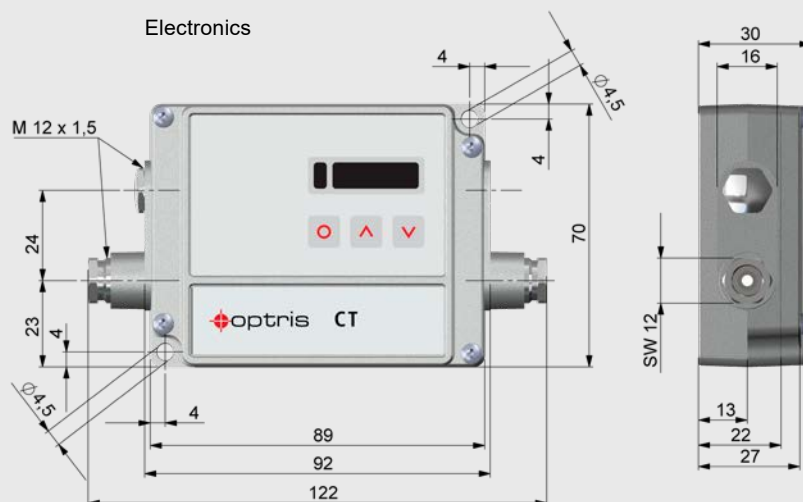
Sensing head
(standard)



Sensing head³
(built-in CF
lenses)



Electronics





SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk