

**Precise non-contact
temperature measurement
from -50 °C to 975 °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 unchopped 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 °C ambient temperature without cooling

General specifications		Measurement specifications	
Environmental rating	IP 65 (NEMA-4)	Temperature range (scalable via programming keys or software)	-50 °C ... 975 °C
Ambient temperature	Sensing head: -20 °C ... 120 °C Electronics: 0 °C ... 85 °C	Spectral range	8 – 14 µm
Storage temperature	Sensing head: -40 °C ... 120 °C Electronics: -40 °C ... 85 °C	Optical resolution (90 % energy)	LT15F 15:1 LT25F 25:1
Relative humidity	10–95 %, non condensing	System accuracy (at ambient temperature 23 ±5 °C)	±1 % or ±2 °C ^{1), 2)}
Vibration (sensor)	IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)	Repeatability (at ambient temperature 23 ±5 °C)	±0.75 % or ±0.75 °C ^{1), 2)}
Shock (sensor)	IEC 60068-2-27 (25G and 50G)	Temperature resolution (NETD)	LT15F 0.2 K ^{2), 3)} LT25F 0.4 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	
Output impedances	mA max. 500 Ω (with 8–36 V DC) mV min. 100 kΩ load impedance thermocouple 20 Ω	²⁾ At object temperatures ≥20 °C	
Inputs	Programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)	³⁾ At time constant 100 ms with smart averaging and T _{obj} 25 °C	
Cable length	1 m (standard), 3 m, 8 m, 15 m		
Power supply	8 – 36 V DC		
Current draw	max. 100 mA		

