

Precise noncontact temperature measurement from -40 to 900 °C

- One of the smallest infrared sensors worldwide with 20:1 optical resolution
- Rugged and useable up to 180 °C ambient temperature without cooling
- Separate electronics with easy accessible programming keys and LCD backlit display
- Selectable analog outputs: 0/ 4-20 mA, 0-10 V, thermocouple type K or J
- Optional USB, RS485, RS232 interface or two relays outputs (optically isolated)
- Installation of up to 32 sensors in one network (with RS485)
- Wide power range: 8 – 36 VDC



General Specifications

Environmental Rating	IP65 (NEMA-4)
Ambient Temperature	
Head	-20 – 180 °C (130 °C at 2:1)
Electronics	0 – 65 °C
Storage Temperature	
Head	-40 – 180 °C (130 °C at 2:1)
Electronics	-40 – 85 °C
Relative Humidity	10 – 95 %, non condensing
Vibration (Head)	IEC 68-2-6: 3G, 11-200 Hz, any axis
Shock (Head)	IEC 68-2-27: 50G, 11 ms, any axis
Weight	
Head	40 g
Electronics	420 g

Electrical Specifications

Outputs/ analog	
Channel 1:	0/ 4 – 20 mA, 0 – 5/ 10 V, thermocouple J, K
Channel 2:	Head temperature (-20 – 180 °C as 0 – 5 V or 0 – 10 V signal), Alarmoutput
optional:	
Relais:	2 x 60 VDC/ 42 VAC _{RMS} :0,4 A; optic. isolated
Outputs/ digital (optional)	USB, RS232, RS485 (alternative)
Output Impedances	
mA	max. 500 Ω (at 8 – 36 VDC)
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
Current Draw	max. 100 mA
Power Supply	8 – 36 VDC

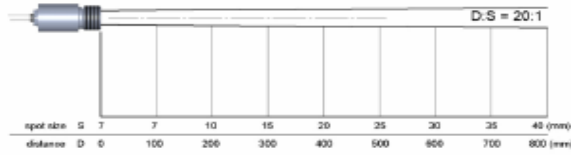
Measurement Specifications

Temperature Range	-40 – 900 °C (20:1) -40 – 600 °C (15:1) -40 – 600 °C (2:1) (scaleable via programming keys or software)
Spectral Range	8 – 14 μm
Optical Resolution	20:1 15:1 2:1
CF-lens (optional)	0,6 mm@ 10 mm (with 20:1) 0,8 mm@ 10 mm (with 15:1) 2,5 mm@ 23 mm (with 2:1)
System Accuracy (at ambient temperature: 23 ± 5 °C)	± 1 % or ± 1 °C ¹
Repeatability (at ambient temperature: 23 ± 5 °C)	± 0,5 % or ± 0,5 °C ¹
Temperature Coefficient	0,05 % or 0,05 °C/ K ^{1,2}
Temperature Resolution	0,1 °C
Response Time	150 ms (95 %)
Emissivity (adjustable via programming keys or software)	0,100 – 1,100
Transmissivity (adjustable via programming keys or software)	0,100 – 1,100
Signal Processing	Peak hold, Valley hold, Average; Advanced hold functions with threshold and hysteresis (parameter adjustable via programming keys respectively software)
Certificate of Calibration	optional

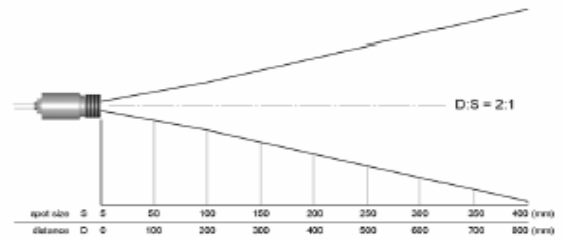
¹ whichever is greater

² at head temperature 0 – 180 °C (130 °C at 2:1)

Optical Specifications

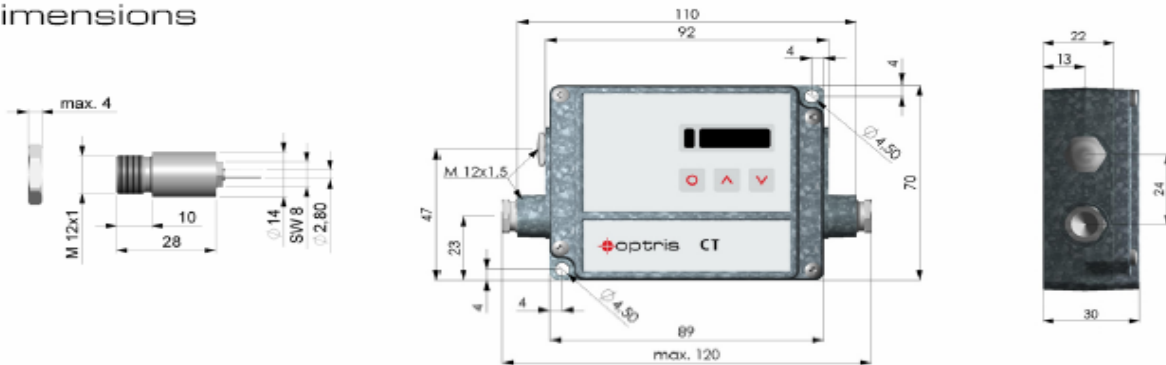


20:1 Optics



2:1 Optics

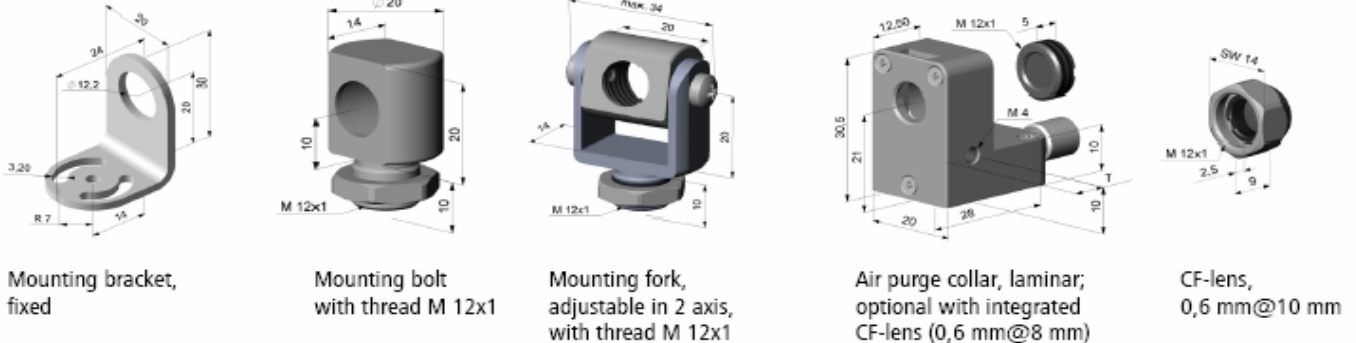
Dimensions



Head

Electronics

Accessories



Mounting bracket, fixed

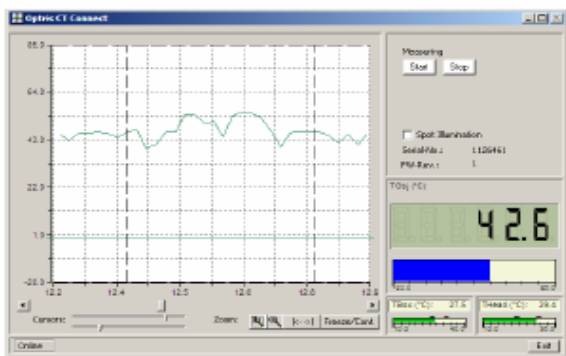
Mounting bolt with thread M 12x1

Mounting fork, adjustable in 2 axis, with thread M 12x1

Air purge collar, laminar; optional with integrated CF-lens (0,6 mm@8 mm)

CF-lens, 0,6 mm@10 mm

CTconnect - Software



- Easy sensor setup and remote monitoring
- Automatic data logging for analysis and documentation
- Graphic display of temperature trends
- Adjustment of extended signal processing functions
- Programming of the analog and digital input for external emissivity adjustment and ambient temperature compensation
- Programming of the alarm output (head or object temperature)
- Digital remote communication of up to 32 sensors in an RS485-network