

## optris® CT hot

Precise non-contact temperature measurement from -40°C to 975°C under rough environmental conditions



## FEATURES

- The new infrared thermometer for hot environmental temperatures up to 250°C without any need of cooling
- A variety of applications in dryers, ovens, heat treatment lines in the metal and glass industry, paper, plastic and textile manufacturing and semiconductor processing in the temperature range of -40°C to 975°C and a response time up from 100 ms
- Selectable 10:1 or 2:1 optics, compact sensor head size
- Narrow beam optics allows oblique aiming to avoid material thickness dependent temperature readings
- Monitor box for programming and temperature display
- Analog outputs 0/4 - 20 mA, 0 - 5/10 V, thermocouple type K or J and integrated digital interfaces (optional) Profibus DP, USB, RS232, RS485 or CAN

| General specifications     |   |
|----------------------------|---|
| Environmental rating       | IP 65 (NEMA-4)  |
| Ambient temperature        | sensing head: -20 - 250°C<br>electronics: 0 - 85°C  |
| Storage temperature        | sensing head: -40 - 250°C<br>electronics: -40 - 85°C  |
| 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                     | sensing head 40 g (without massive housing)<br>electronics 420 g  |
| Electrical specifications  |   |
| Outputs/analog             | channel 1: 0/4 - 20 mA, 0 - 5/10 V, thermocouple J, K<br>channel 2: sensing head temperature (-40 - 250°C as 0 - 5 V or 0 - 10 V), alarm output |
| Alarm output               | Open - collector (24V / 50mA)   |
| Optional                   | relay: 2 x 60 V DC/42 V AC <sub>eff</sub> ; 0.4 A; optically isolated   |
| Outputs/digital (optional) | USB, RS232, RS485, CAN, Profibus DP   |
| Output impedances          | mA max. 500Ω (with 5 - 36 V DC)<br>mV min. 100 kΩ load impedance<br>thermocouple 20Ω  |
| Inputs                     | programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions)          |
| Cable length               | 3 m (standard), 8 m, 15 m   |
| Current draw               | max. 100 mA   |
| Power supply               | 8 - 36 V DC   |

| Measurement specifications  |   |
|---|---|
| Temperature range (scalable via programming keys or software)                           | -40 - 975°C   |
| Spectral range  | 8 - 14 μm   |
| Optical resolution (90% energy)   | 10:1, 2:1   |
| System accuracy <sup>2</sup> (at ambient temperature 23 ±5°C)                           | ±1% or ±1,5°C <sup>1</sup>  |
| Repeatability <sup>2</sup> (at ambient temperature 23 ±5°C)                             | ±0.5% or ±0.5°C <sup>1</sup>  |
| Temperature resolution (NETD)   | 0.25°C  |
| Response time   | 100 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 |

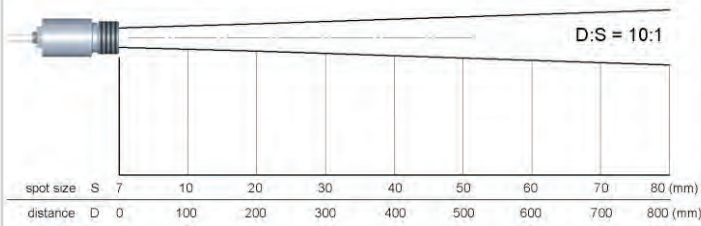
<sup>1</sup> whichever is greater

<sup>2</sup> at objekt temperatures  $\geq 20^\circ\text{C}$

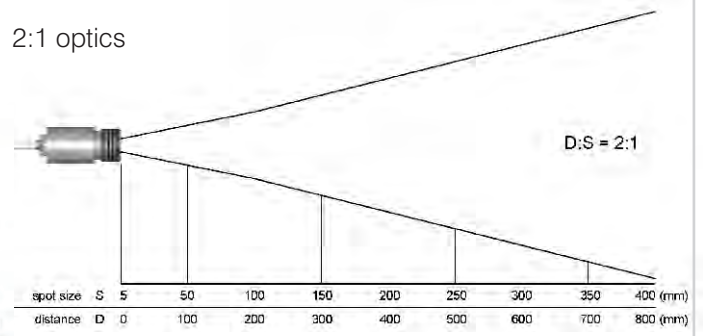
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## Optical specifications

10:1 optics

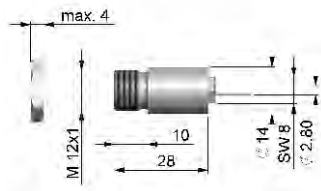


2:1 optics

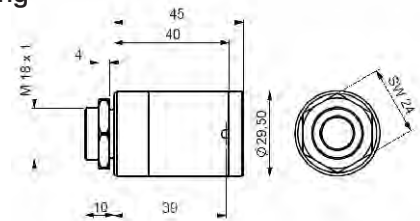


## Dimensions

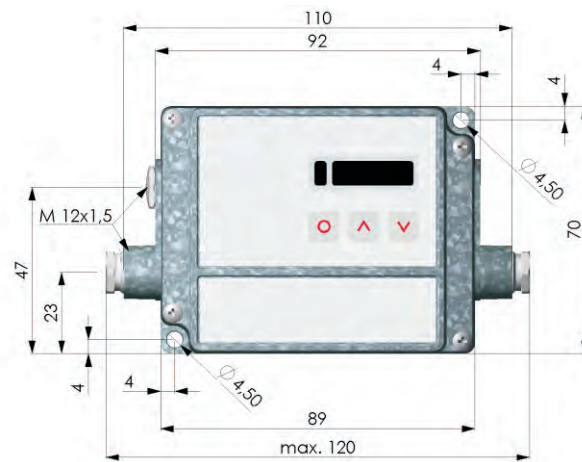
### Sensing head



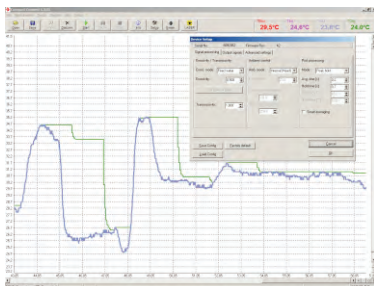
### Massive housing



### Electronics



## CompactConnect 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