

Technical Data Sheet

CT18.03 LL

Infrared Radiation Thermometer

- Robust stainless steel housing IP67
- Very fast response time from 1 ms on
- Focusable: spot size from 0.9 mm
- Fibre optic for ambient temperatures up to 180 °C



Measurement specifications

| | |
|--|--|
| Temperature range (select one or more): | 450 ... 1000 °C, 500 ... 1400 °C, 550 ... 1800 °C, 600 ... 2000 °C, 650 ... 2200 °C, 700 ... 2500 °C, 750 ... 3000 °C |
| Spectral range: | 0.85 ... 1.1 µm |
| Measurement uncertainty: | 0.1 °C ± 0.4 % of the measured value in temperature units at an ambient temperature of 25 °C for the given temperature range or value of temperature resolution. The higher value shall prevail. |
| Temperature resolution (NETD): | Depending on the measured temperature and the response time Typical value is 0.6 °C (2 Sigma, by t_{90} : 0.1 s, 450 °C; $\epsilon = 1$) |
| Temperature drift: | 0.004 % of the measured temperature where the internal temperature of the radiation thermometer deviates from 25 °C |
| Long-term stability: | Better than 0.01 % of the absolute measured temperature in Kelvin per month |
| Field of view: | from Ø 0.9 mm (± 5 %) on, depending on optic and detector |
| Response time (t_{90}): | Adjustable from 1 ms ... 10 s |
| Temperature unit: | °C, K or °F |
| Emissivity: | 0.050 ... 1.000 in 0.001 steps |
| Fibre optic: | Mono fibre optic 2 m, 5 m, 10 m |
| Lens: | ACR – optimized flint glass combination |

Electrical specifications / Functions

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|---|---|
| Analog output: | 0 ... 1 V; 0 ... 10 V; 0 ... 20 mA; 4 ... 20 mA; resolution: 16 bit |
| Function: | Actual, maximum or minimum value (scalable (minimum span 50 K)) |
| Digital output option: | Programmable relais contact |
| Function: | Switching capacity: < 10 VA Load: voltage < 24 V, current < 0.5 A |
| Digital input option: | Dry contact switch, operating voltage, open-collector |
| Function: | Reset of memory, (de-)activate digital outputs or laser |
| Serial interface: | Switchable RS232/RS485 interface, 9.6 ... 230.4 kBaud RS232 interface: bi-directional RS485 interface: half duplex or full duplex For programming and data transfer |
| Focus laser option: | Laser class 2, < 1 mW, 650 nm |
| Programmable via serial interface: | Emissivity, analog output, analog output function, response time, temperature unit, Min and Max value memory adjustable with decay rate, reset by contact or temperature threshold, alarm switching point, time period etc. |
| Operating voltage: | DC: 10.5 ... 30 V |
| Power consumption: | 2.5 W |

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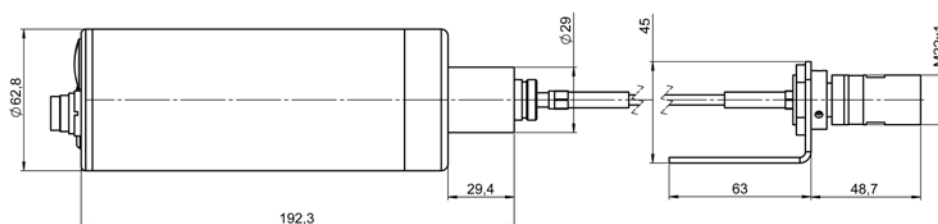
General specifications

| | |
|---|--|
| Storage temperature: | -20 ... 80 °C |
| Permissible ambient temperature: | -20 ... 70 °C (optional with protective cooling jacket up to 250 °C) |
| Protection class: | IP67 |
| Protection against oscillation: | EN 60068-2-6, frequency range: 10 ... 500 Hz, 10 ... 60 Hz, amplitude: 0.35 mm, 60 ... 500 Hz, acceleration: 100 m/s ² Resistance to vibrations: class B |
| Housing: | Stainless steel |
| Weight: | Appr. 1.5 kg |

Scope of supply and options¹

| | |
|---------------------------------|---|
| Accessories: | <ul style="list-style-type: none"> ■² Manual CT18 ■ Software EasyConfig □ Software EasyMeas ■ Connecting cable with 12-pin female connector 2 m length, PVC, unterminated ends □ Connecting cable ≥ 5 m length: PTFE; PUR; PVC; TPE, unterminated ends or 12-pin plug |
| Calibration certificate: | □ HEITRONICS certificate |
| Laser aiming option: | □ Focus laser (class 2) defines the measurement spot diameter and center point by producing a red centering circle with cross hairs when the adjusted focus distance and the actual working distance are the same. |
| Housing: | □ Protective cooling jacket (water) WK15 up to 250 °C ambient temperature |
| Fibre optic: | □ HD option with air-cooling and air purge |
| Adapter and flanges: | □ See document Options and Accessories |
| Bus interface: | □ Different Gateway options to connect to different fieldbus types |

Dimensions³



Unit: mm

¹ Special model specification on request.

² ■ Standard function

□ Option

³ The dimensions given within this document will be valid for the drawing shown.