

Technical Data Sheet

CT18.03

Infrared Radiation Thermometer

- Robust stainless steel housing IP67
- Very fast response time from 1 ms on
- Focusable from 0.4 mm
- Focus laser displays the size of the target



Measurement specifications

Temperature range:	450 ... 1000 °C, 500 ... 1400 °C, 550 ... 1800 °C, 600 ... 2000 °C, 650 ... 2200 °C, 700 ... 2500 °C, 750 ... 3000 °C
Spectral response:	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 0.2 °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 0.4 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
Lens:	ACR – optimized flint glass combination

Electrical specifications / Functions

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	
Laser aiming options:	Integrated focus laser (protection class 2) and view finder show the center and the size of the measurement spot	
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.	

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Operating voltage: DC: 10.5 ... 30 V

Power consumption: 2.5 W

General specifications

Storage temperature: -20 ... 80 °C

Permissible ambient temperature: -20 ... 70 °C (protective cooling jacket option 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/s²
Resistance to vibrations: class B

Housing: Stainless steel

Weight: Appr. 1.5 kg

Scope of supply and options¹

■ Standard function; □ Option

Accessories:

- 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

Housing:

- Protective cooling jacket (water) WK15 up to 250 °C ambient temperature
- Ex-proof housing stainless steel
(II 2 G, Ex D e IIC T5 Gb Tamp: -50 ... 60 °C)

Adapter and flanges:

- See document Options and Accessories

Bus interface:

- with transducer (except RS485 interface)

Dimensions



Dimensions in mm

¹ Special model specification on request.

² ■ Standard function
□ Option