

## 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

<b>Temperature range:</b>	450 ... 1000 °C, 500 ... 1400 °C, 550 ... 1800 °C, 600 ... 2000 °C, 650 ... 2200 °C, 700 ... 2500 °C, 750 ... 3000 °C
<b>Spectral response:</b>	0.85 ... 1.1 µm
<b>Measurement uncertainty:</b>	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.
<b>Temperature resolution (NETD):</b>	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; $\epsilon = 1$ )
<b>Temperature drift:</b>	0.004 % of the measured temperature where the internal temperature of the radiation thermometer deviates from 25 °C
<b>Long-term stability:</b>	Better than 0.01 % of the absolute measured temperature in Kelvin per month
<b>Field of view:</b>	From Ø 0.4 mm (± 5 %) on, depending on optic and detector
<b>Response time (<math>t_{90}</math>):</b>	Adjustable from 1 ms ... 10 s
<b>Temperature unit:</b>	°C, K or °F
<b>Emissivity:</b>	0.050 ... 1.000 in 0.001 steps
<b>Lens:</b>	ACR – optimized flint glass combination

### Electrical specifications / Functions

<b>Analog output:</b>	0 ... 1 V; 0 ... 10 V; 0 ... 20 mA; 4 ... 20 mA; resolution: 16 bit	
<b>Function:</b>	Actual, maximum or minimum value (scalable (minimum span 50 K))	
<b>Digital output option:</b>	Programmable relais contact	
<b>Function:</b>	Switching capacity: < 10 VA	Load: voltage < 24 V, current < 0.5 A
<b>Digital input option:</b>	Dry contact switch, operating voltage, open-collector	
<b>Function:</b>	Reset of memory, (de-)activate digital outputs or laser	
<b>Serial interface:</b>	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	
<b>Laser aiming options:</b>	Integrated focus laser (protection class 2) and view finder show the center and the size of the measurement spot	
<b>Programmable via serial interface:</b>	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.	

## Technical Data Sheet

**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/s<sup>2</sup>  
Resistance to vibrations: class B

**Housing:** Stainless steel

**Weight:** Appr. 1.5 kg

### Scope of supply and options<sup>1</sup>

■ Standard function; □ Option

#### Accessories:

- <sup>2</sup> 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 Temp: -50 ... 60 °C)

#### Adapter and flanges:

- See document Options and Accessories

#### Bus interface:

- with transducer (except RS485 interface)

### Dimensions



Dimensions in mm

<sup>1</sup> Special model specification on request.

<sup>2</sup> ■ Standard function  
□ Option