

## Technical Data Sheet

### CT18.04

#### Infrared Radiation Thermometer

- Robust stainless steel housing IP67
- Very fast response time from 1 ms on
- Focusable: spot size from 0.4 mm
- Focus laser or viewfinder option indicate the size of the measurement spot



#### Measurement specifications

<b>Temperature range (select one or more):</b>	200 ... 700 °C, 250 ... 1200 °C, 300 ... 1400 °C, 350 ... 1700 °C, 400 ... 2300 °C, 450 ... 2900 °C
<b>Spectral range:</b>	1.5 ... 1.65 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 0.3 °C (2 Sigma, by $t_{90}$ : 0.1 s, 350 °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>Focus laser option:</b>	Laser class 2, < 1 mW, 650 nm
<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.
<b>Operating voltage:</b>	DC: 10.5 ... 30 V
<b>Power consumption:</b>	2.5 W

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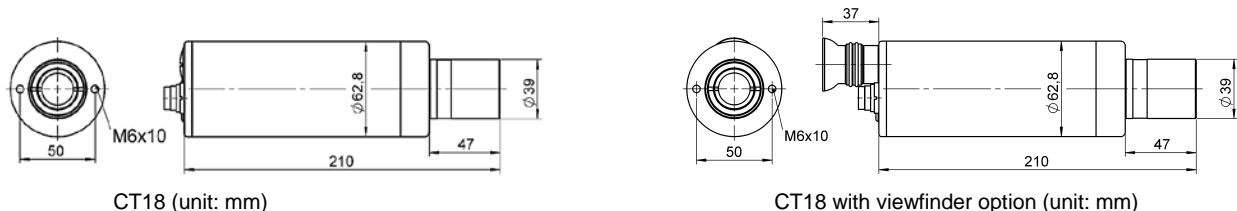
### General specifications

<b>Storage temperature:</b>	-20 ... 80 °C
<b>Permissible ambient temperature:</b>	-20 ... 70 °C (protective cooling jacket option up to 250 °C)
<b>Protection class:</b>	IP67
<b>Protection against oscillation:</b>	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
<b>Housing:</b>	Stainless steel
<b>Weight:</b>	Appr. 1.5 kg

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

<b>Accessories:</b>	<ul style="list-style-type: none"> <li>■<sup>2</sup> Manual CT18</li> <li>■ Software EasyConfig</li> <li>□ Software EasyMeas</li> <li>■ Connecting cable with 12-pin female connector 2 m length, PVC, unterminated ends</li> <li>□ Connecting cable ≥ 5 m length: PTFE; PUR; PVC; TPE, unterminated ends or 12-pin plug</li> </ul>
<b>Calibration certificate:</b>	□ HEITRONICS certificate
<b>Laser aiming options (either ... or):</b>	<ul style="list-style-type: none"> <li>□ 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.</li> <li>□ A centering circle in the viewfinder defines the measurement spot diameter when the adjusted focus distance and the actual working distance are the same.</li> </ul>
<b>Housing:</b>	<ul style="list-style-type: none"> <li>□ Protective cooling jacket (water) WK15 up to 250 °C ambient temperature</li> <li>□ Ex-proof housing stainless steel (II 2 G, Ex D e IIC T5 Gb Tamp: -50 ... 60 °C)</li> </ul>
<b>Adapter and flanges:</b>	□ See document Options and Accessories
<b>Bus interface:</b>	□ Different Gateway options to connect to different fieldbus types

### Dimensions<sup>3</sup>



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

<sup>2</sup> ■ Standard function

□ Option

<sup>3</sup> The dimensions given within this document will be valid for the drawing shown.