

# CT18.03

## Infrared Radiation Pyrometer CT18.03

for Non-Contact Temperature Measurement

- Rugged stainless steel housing, IP65
- Wide temperature ranges from **450 °C to 3000 °C**
- Very fast response times  $\geq 1$  ms (programmable)
- Focusable Lens provides Fields-of-View as small as **0.7 mm**
- Laser aims the size of the Field-of-View in focus



## GENERAL SPECIFICATION

<b>Temperature ranges:</b>	<ul style="list-style-type: none"> <li>■ <input type="checkbox"/> 450 °C to 1000 °C, <input type="checkbox"/> 500 °C to 1400 °C, <input checked="" type="checkbox"/> 550 °C to 1800 °C,</li> <li><input type="checkbox"/> 650 °C to 2200 °C, <input type="checkbox"/> 700 °C to 2500 °C, <input type="checkbox"/> 750 °C to 3000 °C</li> </ul>
<b>Temperature resolution (NETD):</b>	<ul style="list-style-type: none"> <li>■ Depends on measured temperature and response time, typical value 0.1 °C (at 100 ms, 350 °C, <math>\epsilon = 1</math>)</li> </ul>
<b>Accuracy (uncertainty):</b>	<ul style="list-style-type: none"> <li>■ <math>\pm 0.5</math> °C plus 0.5% of the difference between target and sensor head temperature</li> </ul>
<b>Long term stability:</b>	<ul style="list-style-type: none"> <li>■ Better than 0.01% of the absolute measured value per month</li> </ul>
<b>Spectral response:</b>	<ul style="list-style-type: none"> <li>■ 0.95 <math>\mu\text{m}</math></li> </ul>
<b>Programmable functions via serial interface:</b>	<ul style="list-style-type: none"> <li>■ Emissivity, environmental temperature, analog output, function of analog output, response time, temperature unit, valley/peak picker with decay function, reset after time, laser function, alarm values and output</li> </ul>
<b>Emissivity:</b>	<ul style="list-style-type: none"> <li>■ 0.050 to 1.000 in 0.001-steps</li> </ul>
<b>Response time:</b>	<ul style="list-style-type: none"> <li>■ From 1 ms to 10 s (0.001, 0.003, 0.01, 0.03, 0.1, 0.3, 1, 3, 10 s)</li> </ul>
<b>Temperature unit:</b>	<ul style="list-style-type: none"> <li>■ °C, K or °F</li> </ul>
<b>Analog output (Hardware):</b>	<ul style="list-style-type: none"> <li>■ Linear 0 - 20 mA or 4 - 20 mA or 0 - 10 V scalable temperature span <math>\geq 200</math> °C</li> </ul>
<b>Analog output (Functions):</b>	<ul style="list-style-type: none"> <li>■ Actual value, max-value or min-value</li> </ul>
<b>Analog output (Resolution):</b>	<ul style="list-style-type: none"> <li>■ 16 bit</li> </ul>
<b>Valley/peak picker programmable:</b>	<ul style="list-style-type: none"> <li>■ Reset: internal</li> <li><input type="checkbox"/> Reset: external input</li> <li><input type="checkbox"/> Reset: after time (programmable)</li> </ul>
<b>Serial interface: (switchable)</b>	<ul style="list-style-type: none"> <li>■ RS232-interface, bi-directional, 9.6 kbps to 230 kbps and RS485 interface, Half-Duplex or Full-Duplex, 9.6 kbps to 230 kbps for programming and data transfer</li> </ul>
<b>Alarm output:</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Programmable dry contact (relay)</li> </ul>
<b>Operating voltage:</b>	<ul style="list-style-type: none"> <li>■ 10 VDC to 30 VDC</li> </ul>
<b>Power consumption:</b>	<ul style="list-style-type: none"> <li>■ Approx. 2.5 W</li> </ul>
<b>Permissible ambient temperature:</b>	<ul style="list-style-type: none"> <li>■ -20 °C to 70 °C</li> <li><input type="checkbox"/> With protective and cooling housing WK15 up to 300 °C</li> </ul>
<b>Storage temperature:</b>	<ul style="list-style-type: none"> <li>■ -40 °C to 85 °C</li> </ul>
<b>Protective class:</b>	<ul style="list-style-type: none"> <li>■ IP65 (IEC), (NEMA 4 equivalent)</li> </ul>
<b>Housing:</b>	<ul style="list-style-type: none"> <li>■ Stainless steel</li> </ul>
<b>PC-based Software:</b>	<ul style="list-style-type: none"> <li>■ EasyConfig: Software for parameter setting</li> <li><input type="checkbox"/> EasyMeas: Software for parameter setting, data recording, data storage and data evaluation</li> </ul>

<ul style="list-style-type: none"> <li>■ Standard function</li> <li><input type="checkbox"/> Option</li> </ul>
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**OPTICS**

- Objectives (Lenses):** ■ Focusable from 132 mm to infinite
- Field of view diameter:** ■ From  $\varnothing$  0.7 mm, depends on lens
- Field of view marking:** □ Laser built-in: aims the center and the size of the field of view in focus
- Laser function:** ■ Time out or permanent operation, while flashing or continuous marking
- Through the lens view finder:** ■ displays the Field of View of the target

**APPLICATION**

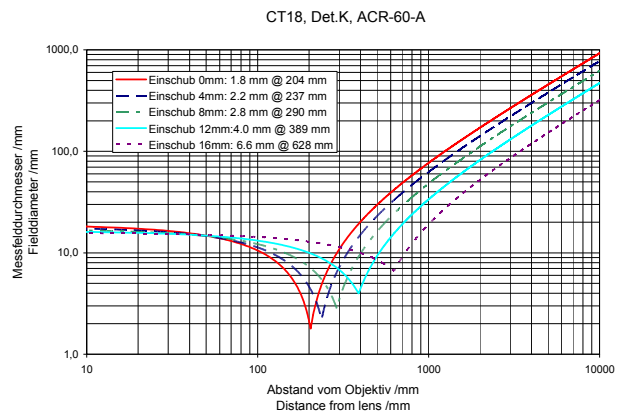
**FIELD OF VIEW DIAGRAM (Example)**

Temperature Measurement of:

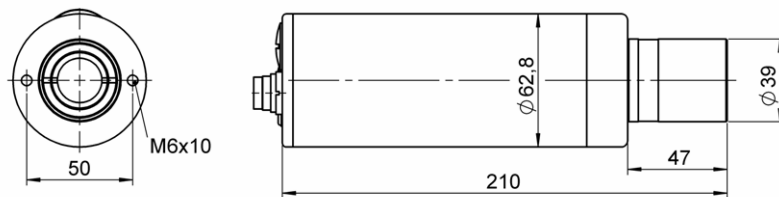
- Metals
- Metal oxid
- Semiconductors
- Glass
- Graphite
- Silicium
- ...

Prozess Temperatures in:

- Hardening
- Soldering
- Forging
- Induction heating
- Epitaxy
- Casting
- Annealing



**DIMENSIONS**



Dimensions in mm

**ACCESSORIES**



Protective and cooling housing WK15



Protective and cooling housing with air purge and extension tube