thermoMETER CTM-4SF10-C3

Non-contact temperature sensor

- High measurement speed for extremely fast processes
- Measurement of metals and non-metals due to large, short-wave spectral range
- Temperature measurement from 0 °C, ideal for industrial applications
- Integrated UBS interface

<table>
<thead>
<tr>
<th>Model</th>
<th>CTM-4SF10-C3</th>
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<tbody>
<tr>
<td>Optical resolution</td>
<td>10:1</td>
</tr>
<tr>
<td>Measuring range</td>
<td>0 ... +500 °C</td>
</tr>
<tr>
<td>Spectral range</td>
<td>2.2 to 6 μm</td>
</tr>
<tr>
<td>System accuracy 1)</td>
<td>±(0.3 % T_{reading} + 2 °C)</td>
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<tr>
<td>Repeatability 2)</td>
<td>±(0.1 % T_{reading} + 1 °C)</td>
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<tr>
<td>Temperature coefficient</td>
<td>±0.05 K / K or ±0.03 % / K</td>
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<tr>
<td>Temperature resolution 3)</td>
<td>0.12 °C</td>
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<tr>
<td>Response time 4)</td>
<td>300 μs / 90 μs</td>
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<tr>
<td>Emissivity</td>
<td>0.100 to 1.100</td>
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<tr>
<td>Transmissivity</td>
<td>0.100 to 1.100</td>
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<tr>
<td>Signal processing</td>
<td>Peak hold, valley hold, peak picker (high speed detection of hot spots), average, extended hold function with threshold and hysteresis</td>
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<tr>
<td>Supply voltage</td>
<td>8 ... 30 VDC; 5 V via USB (1.2 W)</td>
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<tr>
<td>Signal input</td>
<td>programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold function)</td>
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<tr>
<td>Digital interface</td>
<td>USB (integrated)</td>
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<tr>
<td>Analog output</td>
<td>0/4 ... 20 mA (max. 500 Ω)</td>
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<td>0 ... 5/10 V (min. 100 KΩ load impedance)</td>
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<tr>
<td>Switching output</td>
<td>open collector: 24 V / 50 mA</td>
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<td></td>
<td>relays (optional): 2 x 60 VDC / 42 VAC; 0.4 A; electrically isolated</td>
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<tr>
<td>Connection</td>
<td>integrated cable, standard length 3 m, optional 8 m or 15 m possible</td>
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<tr>
<td>Temperature range</td>
<td>Storage: -40 ... +85 °C (sensor and controller)</td>
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<td>Operation: 0 ... +70 °C (sensor and controller)</td>
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<tr>
<td>Humidity</td>
<td>10 ... 95 % r.H., non-condensing</td>
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<tr>
<td>Shock (DIN EN 60068-2-27)</td>
<td>25 and 50 g / 11 ms, each axis</td>
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<tr>
<td>Vibration (DIN EN 60068-2-6)</td>
<td>3 g / 11 ... 200 Hz, each axis</td>
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<td>Protection class (DIN EN 60529)</td>
<td>IP65 (NEMA-4)</td>
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<tr>
<td>Weight</td>
<td>Sensor: approx. 40 g; controller: approx. 420 g</td>
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1) With ambient temperature: 23 ±5 °C, ε = 1, response time 1 s
2) With ambient temperature: 23 ±5 °C
3) With time constant of 1 ms and T_{obj} = 50 °C
4) With 90 % signal, with dynamic adaption at low signal levels / 90 μs response time

Optical specifications thermoMETER CTM4

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<tr>
<th>Standard Focus</th>
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<tbody>
<tr>
<td>SF10</td>
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<tr>
<td>10:1</td>
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<tr>
<td>0.5</td>
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<tr>
<td>14.9</td>
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<tr>
<td>23.3</td>
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<tr>
<td>31.6</td>
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<tr>
<td>40</td>
</tr>
<tr>
<td>51.6</td>
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<td>63.3</td>
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<td>74.9</td>
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<td>86.5</td>
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<td>distance in mm</td>
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Dimensions:

Dimensions in mm, not to scale.