

## Technical Data Sheet

### KT19.21 II

#### Infrared Radiation Thermometer

- Highest accuracy and long-term stability
- Application: Plastic films, oil, paint
- View finder option or camera set
- Fast response for real time process controls



| Measurement specifications                   |                                                                                                                                                                                                                             |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Temperature range<sup>1</sup>:</b>        | 100 ... 400 °C                                                                                                                                                                                                              |
| <b>Spectral range:</b>                       | 3.43 µm                                                                                                                                                                                                                     |
| <b>Measurement uncertainty:</b>              | ± 0.5 °C plus 0.7 % of the temperature difference between measured target and instrument                                                                                                                                    |
| <b>Temperature resolution (NETD):</b>        | Depending on the measured temperature and the response time<br>Typical value 0.15 °C (2 Sigma, by t <sub>90</sub> : 3 s, 300 °C; ε = 1)                                                                                     |
| <b>Long-term stability:</b>                  | Better than 0.01 % of the absolute measured temperature per month                                                                                                                                                           |
| <b>Field of view:</b>                        | from Ø 0.7 mm (± 5 %) on, depending on optic and detector                                                                                                                                                                   |
| <b>Response time (t<sub>90</sub>):</b>       | Selectable from 5 ms ... 600 s                                                                                                                                                                                              |
| <b>Temperature unit:</b>                     | °C, K or °F                                                                                                                                                                                                                 |
| <b>Emissivity:</b>                           | 0.100 ... 1.000 in 0.001 steps                                                                                                                                                                                              |
| <b>Lens</b>                                  | CaF <sub>2</sub> , ZnSe                                                                                                                                                                                                     |
| Electrical specifications / Functions        |                                                                                                                                                                                                                             |
| <b>Analog output:</b>                        | 0 ... 1 V; 0 ... 10 V; 0 ... 20 mA; 4 ... 20 mA; resolution: 12 bit                                                                                                                                                         |
| <b>Function:</b>                             | Actual, maximum or minimum value (scalable (minimum span 50 K))                                                                                                                                                             |
| <b>Analog input:</b>                         | 0 ... 10 V                                                                                                                                                                                                                  |
| <b>Function:</b>                             | Compensation of ambient temperature influence, transmittance, reflection, emissivity                                                                                                                                        |
| <b>Keyboard and multifunctional display:</b> | For displaying measured value, programming parameters, alarm etc.                                                                                                                                                           |
| <b>Digital output:</b>                       | 2 Relay output (normally open)                                                                                                                                                                                              |
| <b>Function:</b>                             | Threshold detection Min, Max temperature value                                                                                                                                                                              |
| <b>Digital input:</b>                        | Dry contact switch or voltage or open-collector                                                                                                                                                                             |
| <b>Function:</b>                             | Reset of memory function, (de-)activate digital outputs or laser                                                                                                                                                            |
| <b>Thermal switch:</b>                       | Switching temperature > 70 °C, maximum load ≤ 48 V, ≤ 0.5 A                                                                                                                                                                 |
| <b>Function:</b>                             | Internal temperature alarm                                                                                                                                                                                                  |
| <b>Serial interface:</b>                     | RS232 interface, bi-directional 9.6 ... 115.2 kBaud, connecting cable optional                                                                                                                                              |
| <b>Laser aiming options:</b>                 | Integrated pilot laser or focus laser                                                                                                                                                                                       |
| <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: 20 ... 30 V                      AC: 24 V ± 10 %, 48 ... 400 Hz                                                                                                                                                         |
| <b>Power consumption:</b>                    | ≤ 4 W                                                                                                                                                                                                                       |

<sup>1</sup> depending on configuration

## Technical Data Sheet

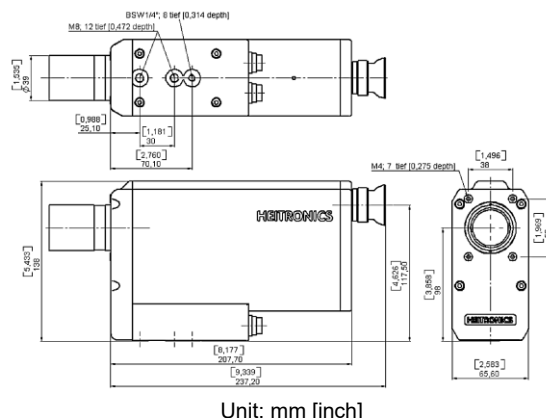
### General specifications

|                                         |                                                                                                                                                |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage temperature:</b>             | -20 ... 70 °C                                                                                                                                  |
| <b>Permissible ambient temperature:</b> | -20 ... 70 °C (optional with protective cooling jacket up to 250 °C)                                                                           |
| <b>Protection class:</b>                | IP65                                                                                                                                           |
| <b>Protection against oscillation:</b>  | DIN 40046 BL.8, test: FC, vibration resistance: A B1 E,<br>frequency range: 10 ... 55 Hz, amplitude: $\pm 0.2$ mm,<br>Duration of test: 30 min |
| <b>Housing:</b>                         | Coated aluminum                                                                                                                                |
| <b>Weight:</b>                          | Appr. 2.4 kg                                                                                                                                   |
| <b>Electrical connection:</b>           | Analog output / supply voltage: 7-pin<br>Digital: 12-pin                                                                                       |

### Scope of supply and options<sup>2</sup>

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Accessories:</b>             | <ul style="list-style-type: none"> <li>■<sup>3</sup> Manual KT19 II</li> <li>■ Software EasyMeas</li> <li>■ Connecting cable with 7-pin female connector, 2 m length, PVC and unterminated ends</li> <li>□ Connecting cable, <math>\geq 5</math> m length: PTFE; PUR; PVC; TPE, unterminated ends or female connector</li> <li>□ Interface cable standard: 12-pin, 2 m length, PVC and unterminated ends<br/>Special: <math>\geq 5</math> m length: PTFE; PUR; PVC; TPE, unterminated ends or female connector</li> </ul> |
| <b>Calibration certificate:</b> | □ HEITRONICS certificate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Housing:</b>                 | □ Protective cooling jacket (water) WK300 up to 250 °C ambient temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Adapter and flanges:</b>     | □ See document Options and Accessories                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Bus interface:</b>           | □ With transducer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### Dimensions<sup>4</sup>



<sup>2</sup> Special model specification on request.

<sup>3</sup> ■ Standard function

□ Option

<sup>4</sup> The dimensions given within this document will be valid for the drawing shown.