# HEITRONICS
Infrarot Messtechnik

# KT19 II SERIES

THE KT19 II IS THE REFERENCE CLASS OF RADIATION THERMOMETERS.
NON-CONTACT TEMPERATURE MEASUREMENT FOR DEMANDING,
VERY FAST AND PRECISE APPLICATIONS.

## MAIN FEATURES

✓ 18 standard spectral ranges

  (with measuring temperature ranges
  from -100 to 3000 °C)

✓ Very fast response time ≥ 5 ms even at
  low temperatures

✓ Measured value resolution of 0.01 °C

✓ Optional viewfinder

✓ User friendly keyboard with display

✓ Complete accessory packages available

**KT19 II Series allows non-contact temperature measurement for demanding, very fast and precise applications. Thanks to the vast variety of available configurations, the KT19 II is a high-tech specialist with a broad impact that delivers the highest performance.**

# MAIN FEATURES

The KT19 II Series was designed for a very wide range of applications such as research, in laboratories, factory automation and manufacturing process quality control.

More than 530 field of view options are available. Measurement diameter starting from 0.7 mm and distance-to-spot-size ratio up to 250 : 1 are available.

Via the serial interface, it is also possible to set parameters of the KT19 II series and to set the measured value "recording". View finder option or camera set support laser aiming options. The KT19 II Series offers a wide range of options such as lenses, pilot or focus laser, as well as mounting equipment and other accessories. A calibration certificate can be issued upon customer request.
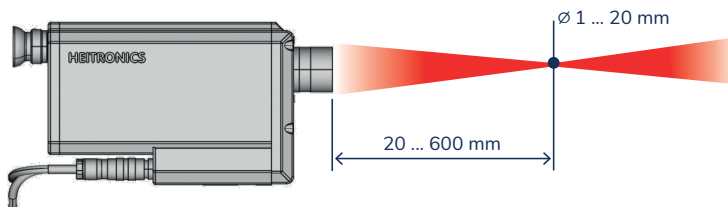
# OVERVIEW

Versatile, high quality
HEITRONICS technology
Options:
➤ Special spectral ranges
➤ Extended temperature range
➤ Customized solutions
➤ Accessories

KT19 II with camera set

Viewfinder with temperature display

Pilot laser option

39 mm lens with spacer

High quality lens

Focus laser option

Vacuum tight lenses

26 mm lens

Dispersion free mirror optic

Connecting cable assemblies with unterminated ends or specified connectors in a variety of jacket materials

➤ PVC
➤ PTFE
➤ PUR
➤ etc.

Control panel on the rear side

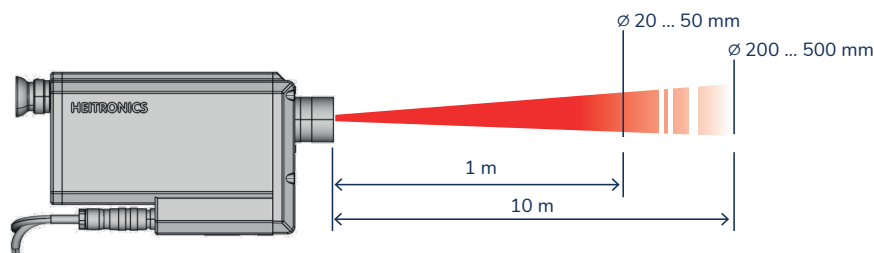Digital interface

Power input and analog output signal

# LENSES

A large selection of lenses is available to optimize the required measurement. The following figures show the measuring spot sizes depending on the distance between the thermometer and the object to be measured. Detailed field of view diagrams depend on temperature range, spectral range and other specific application criteria.

## CLOSE FOCUS

Ø 1 ... 20 mm

20 ... 600 mm

## FAR FIELD FOCUS

Ø 20 ... 50 mm

Ø 200 ... 500 mm

1 m

10 m

# INTERFACES

KT19 II Radiation Thermometers have a configurable analog output. It can be set as voltage or mA output and scaled to a desired temperature range. The devices can be parameterized via serial interface using HEITRONICS EasyConfig or EasyMeas software.

Measured (value) data is exchanged by serial ASCII protocol and can be evaluated via EasyMeas software or with software provided by the customer.

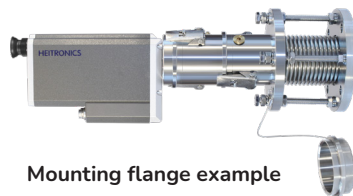| ANALOG INTERFACES | DIGITAL INTERFACE |
|---|---|
| Analog output<br>➤ 0 ... 1 V, 0 ... 10 V; 0 ... 20 mA, 4 ... 20 mA<br>➤ Actual, maximum or minimum value (scalable) | ➤ RS232 (others via accessories) |
| Analog input<br>➤ 0 ... 10 V<br>➤ Compensation of ambient temperature influence,<br>transmittance, reflection and emissivity | Software<br>➤ EasyConfig configuration and display software<br>➤ EasyMeas includes recording and playback (option) |
| Thermal switch option<br>➤ Switching temperature > 70 °C<br>➤ Maximum load ≤ 48 V, ≤ 0.5 A<br>➤ Internal temperature alarm | ASCII universal protocol to use with<br>➤ other hyperterminal software (not supplied by HEITRONICS)<br>➤ customer based Data exchange |
| | Digital output option<br>➤ 2x open-collector-output<br>➤ Threshold detection Min, Max temperature value<br>➤ Alarm status |
| | Digital input option<br>➤ Dry contact switch<br>➤ Operating voltage or open-collector<br>➤ Reset of memory, (de-)activate digital outputs or laser |

# MODELS

| MODEL | SPECTRAL RANGE | APPLICATION | |
|---|---|---|---|
| KT19.01 II | 2.00 ... 2.70 µm | ➤ High temperatures | **Metals, metal oxide, Ceramic, Glass volume** |
| KT19.02 II | 2.00 ... 4.50 µm | ➤ Low temperatures | |
| KT19.21 II | 3.43 ± 0.15 µm | ➤ Thin plastic films with CH band<br>➤ Organic coating materials (oil, paint) | **Plastic films** |
| KT19.23 II | 6.80 ± 0.15 µm | ➤ Thin plastic films (e.g. PE, PP, PVC) | |
| KT19.24 II | 7.93 ± 0.15 µm | ➤ Thin plastic films (e.g. PET, PA, fluorocarbon) | |
| KT19.25 II | 8.05 ± 0.15 µm | ➤ Thin plastic films (e.g. PTFE, PET, PVC) | |
| KT19.41 II | 3.90 ± 0.10 µm | ➤ Glass volume<br>➤ Measurements through hot gases and flames | **Glass, Quartz Gases** |
| KT19.42 II | 4.90 ... 5.50 µm | ➤ Glass (processing), quartz | |
| KT19.43 II | 7.50 ... 8.20 µm | ➤ Glass, quartz, ceramics, thin glass | |
| KT19.45 II | 7.50 ... 7.90 µm | ➤ Ultra-thin glass and minimized influence of background temperatures | |
| KT19.61 II | 4.26 ± 0.13 µm | ➤ Hot gases and flames ($CO_2$ band) | **Hot gases, Flames** |
| KT19.62 II | 4.50 ± 0.10 µm | ➤ Hot gases and flames ($CO_2$ and CO band) | |
| KT19.63 II | 4.66 ± 0.10 µm | ➤ Hot gases and flames (CO band) | |
| KT19.67 II | | ➤ Boiler diameter < 4 m | **Combustion gas** |
| KT19.69 II | | ➤ Hot gases in incinerators, rotary kilns | |
| KT19.81 II | 8.00 ... 10.00 µm | ➤ Paper, textiles, rubber, wood, ceramics, thicker plastics (> 1 mm) | **Materials without high surface reflectivity** |
| KT19.82 II | 8.00 ... 14.00 µm | ➤ Painted or coated surfaces, asphalt, building materials | |
| KT19.83 II | 8.00 ... 20.00 µm | ➤ Electronic components, food, liquids | |
| KT19.85 II | 9.60 ... 11.50 µm | ➤ Meteorological, biological, agricultural studies, large measuring distances | |
| KT19.xx II | | ➤ Several spectral ranges available, temperature range depending on application | **Special applications** |

# MOUNTING AND ACCESSORIES



**Dispersion free mirror optic**



**Mounting flange example**



**Cooling jacket with adapter for mounting flange options**

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