

# TRT SERIES

HIGH-END TRANSFER RADIATION THERMOMETER (TRT)  
FOR CALIBRATION LABORATORIES AND SCIENTIFIC RESEARCH

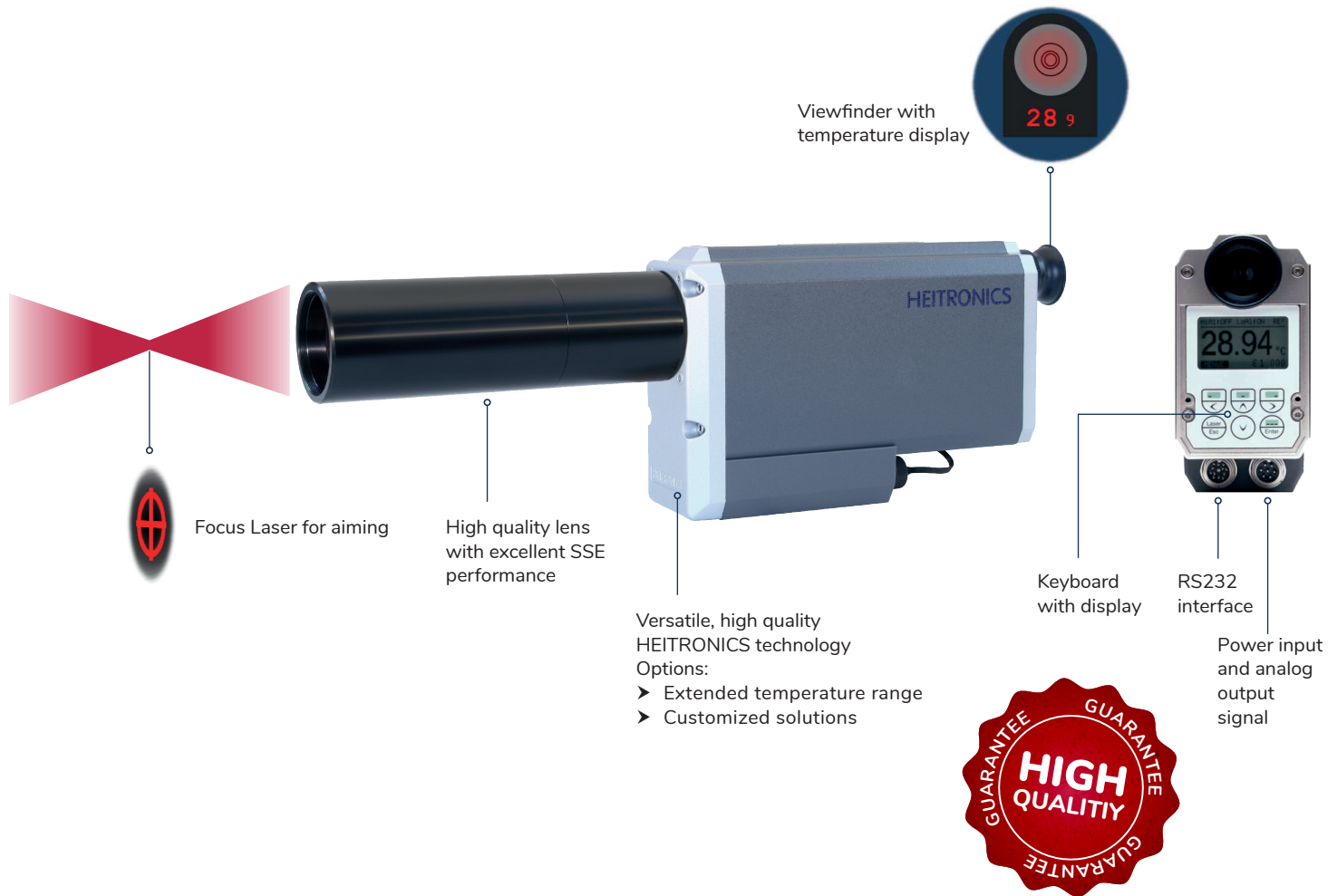
## MAIN FEATURES

- ✓ Optimized Uncertainty from approx. 70 mK using coverage factor  $k=2$   
Equivalent to approx. 35 mK using  $k=1$  standard uncertainty
- ✓ Temperature resolution (NETD) from approximately 20 mK
- ✓ High Quality Zinc Selenide lens with excellent Size of Source Effect (SSE) performance
- ✓ User friendly keyboard with display
- ✓ Complete accessory package included



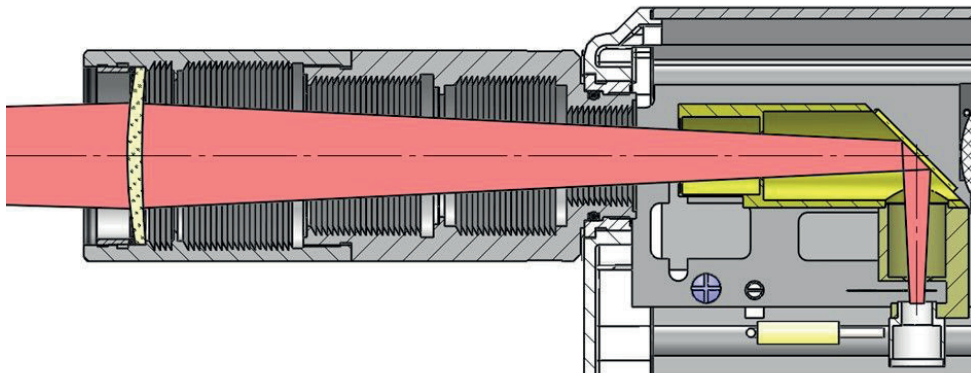
**HEITRONICS TRT Series** guarantees precise and long-term stable temperature measurement for calibrating infrared thermometers, thermal imaging cameras and blackbodies. Certification of a TRT enables traceability to a national metrological institute (NMI).

## OVERVIEW



## HISTORY AND TECHNOLOGY

The TRT Series is based on the HEITRONICS KT19 II Series and its refined and proven chopped radiation method of measurement, utilizing a pyroelectric detector for industrial and scientific research applications. An optical design with minimized internal scattering in conjunction with high performance optical components guarantees a defined measuring field with a minimized Size of Source Effect (minimized influence of radiation from outside the target area). A complex compensation procedure assures a stable temperature reading, independent from fluctuations in ambient temperature of the laboratory.



Today, the TRT Series is used and accepted by numerous laboratories and institutes worldwide.



## MODELS

Three different models are available each with standard temperature measuring range:

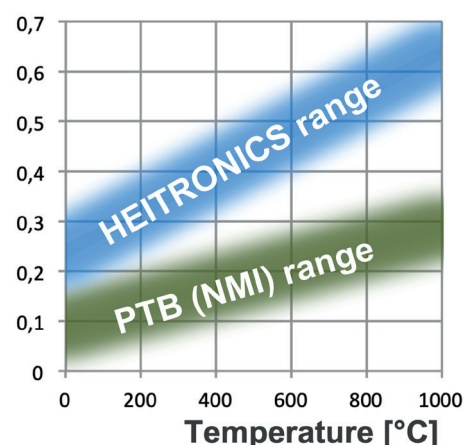
- Single or Dualband for 3.9  $\mu\text{m}$  and 8 ... 14  $\mu\text{m}$
- Options: Temperature range up to 2500  $^{\circ}\text{C}$

MODEL	NUMBER OF SPECTRAL RANGES	SPECTRAL RANGE	STANDARD TEMPERATURE RANGE	FOCAL DISTANCE	MEASUREMENT DIAMETER approx. 98 % energy	TEMPERATURE RANGE UP TO 2500 $^{\circ}\text{C}$
TRT II (Dualband)	2	3.9 $\mu\text{m}$ 8 ... 14 $\mu\text{m}$	150 ... 1000 $^{\circ}\text{C}$ -50 ... 300 $^{\circ}\text{C}$	360 mm 380 mm	5.5 mm 6.8 mm	On request
TRT II spectral ranges are switched electronically to be used one at a time.						
TRT IV.41	1	3.9 $\mu\text{m}$	150 ... 1000 $^{\circ}\text{C}$	360 mm	5.5 mm	On request
TRT IV.82	1	8 ... 14 $\mu\text{m}$	-50 ... 1000 $^{\circ}\text{C}$	380 mm	6.8 mm	On request
TRT IV is available with optional spectral or temperature ranges on request.						

## PRECISION

To meet the very high demands of a transfer radiation thermometer, each TRT is subjected to extensive testing and adjustments during production. The standard supplied HEITRONICS calibration certificate is traceable to the standards of *Physikalisch Technische Bundesanstalt* (PTB), the German NMI located in Berlin. Optionally a PTB certification may be requested.

Uncertainty (k=2) [ $^{\circ}\text{C}$ ]



## SCOPE OF SUPPLY



## SSE DIAGRAM

The exact focal distance and an SSE diagram are measured for each instrument at the end of the production cycle. The SSE diagram is part of the scope of supply.

## BASIC OPERATION

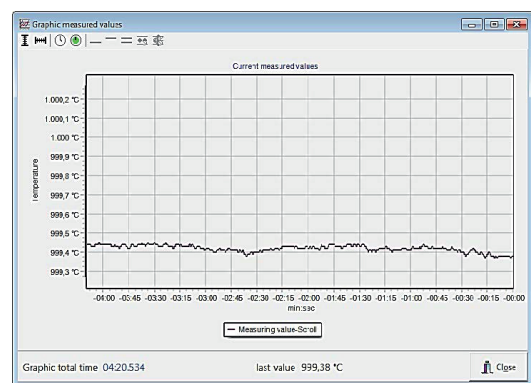
The keyboard and display allows the user to navigate through the internal settings and parameters, alternative to using EasyTRT Software. The unique Focus Laser and the Viewfinder allow alignment to the source to be done accurately with ease.

## SETTINGS, UNIVERSAL PROTOCOL AND EASYTRT SOFTWARE

The ASCII protocol utilized via the RS232 interface is documented within the Universal Protocol manual provided with each HEITRONICS thermometer. If clients do not want to create their own program to communicate with the TRT, the supplied EasyTRT software application provides extensive functionality for adjusting internal settings, recording, graphing and playback as well as converting saved data into spreadsheets.

## EXAMPLES OF SETTINGS AND WINDOWS IN EASYTRT SOFTWARE

Basic settings

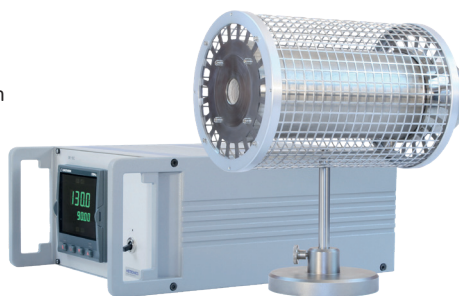


Graphic measured values

## HEITRONICS BLACKBODY CALIBRATION SOURCES



Model ME30  
-20 ... 350 °C  
Aperture: Ø 60 mm



Models SW10 and SW11  
50 ... 1000 °C  
Aperture: Ø 25 mm



Model SW40  
-25 ... 110 °C  
Aperture: Ø 40 mm

# HEITRONICS

Infrarot Messtechnik

 **qualityaustria**  
**SYSTEM CERTIFIED**  
ISO 9001:2015 No.21628/95

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