

Laser pyrometer

For contact-free surface temperature measurement



BENEFITS IN PRACTICE:

Highly accurate – quick reaction time

Extensive measuring range from -50 °C to +1,600 °C (depending on the model)

Measuring spot diameter information thanks to dual-laser technology

Degree of emission freely adjustable from 0.1 to 1.0

Alarm function as well as a variety of additional functions

Backlit display

Maximum value indicator for quick and exact determination of the hottest spot in the target area (TP9)

Data-logging function for the determination and storage of as many as 100 measuring spots (TP9)

Combined infrared and contact sensor temperature measurements (TP9)

Battery-saving power supply via the USB port of your PC – ideal for long-term measurements (TP9)

Software-supported series of measurement optional possible (TP9)

Pyrometer TP6

The universal infrared thermometer for a variety of applications

Impressive technical data, for example a temperature range from -50 °C to +1,000 °C, a high optical resolution of 30:1 or the innovative dual laser – this all combined with a truly remarkable price/performance ratio make the TP6 universal professional pyrometer the ideal measuring device for a multitude of applications.

The emission degree can be set according to the specific type of material; the TP6 can present all values on a brilliant, backlit display for fatigue-free reading which is also possible in poor lighting conditions.

The TP6 has much more to offer: professional details like the alarm function with freely definable threshold values for example, a non-stop measuring mode, a hold function which freezes the last reading and a maximum value function to determine and display the maximum measuring value.

The TP6's innovative dual-laser technology, which is able to visualize the measuring spot size automatically, offers the user yet more comfort. The distance between the laser beams equals the diameter of the measuring spot size.



The TP6's high temperature range and the contact-free measuring principle make it ideal for temperature measuring in inaccessible, dangerous or hot places and the measuring of moving objects. The improved optical characteristics mean that even smaller targets can now be measured from even greater distances.



Despite a plethora of professional features, the compact TP6 is undoubtedly designed to suit the user's needs and it is immediately ready to use.

Simply point the TP6 at the object, pull the trigger, and read the surface temperature from the backlit display.

A note regarding the optical resolution specification:

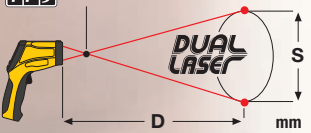
The optical resolution (D:S) means the ratio of the measuring distance to the diameter of the measuring spot (distance-to-spot ratio).

The greater the distance to the measured object, the larger the measuring spot detected by the device.

Contrary to appliances with only one laser spot which simply specify the middle of the measuring spot, the TP6 and TP9 are both equipped with a dual-laser which automatically visualises the size of the measuring spot. The distance between the laser beams corresponds to the size of the measuring spot.

TP6 @ 25.4 mm @ 762 mm **D:S = 30:1**

TP9 @ 25.4 mm @ 1,270 mm **D:S = 50:1**



Features and functions in a quick comparison	TP6	TP9
Separately activatable dual laser	●	●
Optional temperature display °C or °F	●	●
Display resolution 0.1 °C	●	●
Non-stop measuring function	●	●
Minimum value display	–	●
Maximum value display	●	●
Differential value display	–	●
Average value display	–	●
Hold displayed value	●	●
Alarm function with user-defined threshold values	●	●
Emissivity - Variable, 0.1 to 1.00	●	●
Backlit LCD display	●	●
Automatic switch off	●	●
Maximum value indicator	–	●
Open target eyepiece	–	●
Saveable measuring values	–	100
Additional temperature measurements with type K sensor	–	●
Can be used for software-supported measurement series	–	●
USB port	–	●
Tripod thread 1/4-20 UNC	–	●

The TP9 pyrometer

The versatile precision infrared thermometer for professional applications



The TP9 professional pyrometer combines precision measurement technology, flexible application possibilities and a variety of superior measuring functions with easy handling, unbeatable value for money and premium quality, thus putting it a cut above the rest.

Whether it is used for diagnostics or maintenance work on heating, climate or ventilation installations or extensive servicing tasks in the fields of industry and crafts – an extensive measuring

range from -50 °C to +1600 °C, an optical resolution of 50:1, a freely-adjustable degree of emission and an abundance of technical features mean that the TP9 precision infrared thermometer is ideally-suited to deal with a whole catalogue of complex and demanding measurement tasks in the field of maintenance, inspection, analysis and documentation.

The integrated data-logging function for the determination and storage of as many as 100 measuring spots enables inspection paths to be retraced with the utmost of ease. Each time a measurement is carried out, the TP9 determines the maximum, minimum, difference and average value in addition to the current value displayed on the monitor.

The measurement values are easy to read on the backlit display; this makes the TP9 highly suited to operations in conditions with poor or insufficient lighting.

Furthermore the infrared thermometer is equipped with an alarm function that can be set to respond to individually configured upper and lower alarm thresh-

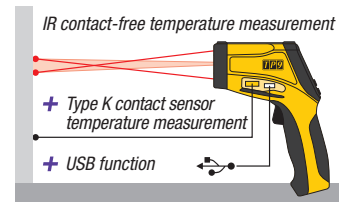
olds. The acoustic alarm signal and the visual alarm are both activated when the measured value exceeds the set thresholds. The two dual laser spots which automatically visualise the size of the measuring spot and the TP9's improved optical characteristics mean that surface temperature measurements can be carried out on extremely small components and faraway objects with the utmost precision.

The TP9 can also be easily mounted on a tripod for long-term measuring.



Combined infrared and contact temperature measurement

The TP9's miniature contact pin widens the application possibilities for additional contact temperature measurements using the type K sensor, as included in the scope of delivery, or any other third-party temperature sensor that is identical in construction.



The TP9 can also be connected directly to the USB port of a computer via the cable included in the scope of delivery in order to save battery power. The USB function also offers the possibility to carry out software-supported measurement series in the scope of long-term measurements of temperature developments during mechanical or climatic processes.



Technical data	TP6 pyrometer	TP9 pyrometer
Article no.	3.510.003.010	3.510.003.040
Optical resolution (D:S)	30:1	50:1
Temperature range	-50 °C to +1,000 °C	-50 °C to +1,600 °C
Resolution	0.1 °C	≤ 1,000 °C: 0.1 °C; > 1,000 °C: 1 °C
Target display	Laser class 2 (II), 630 ~ 670 nm, < 1 mW	Laser class 2 (II), 630 ~ 670 nm, < 1 mW
Accuracy (surrounding temperature from 23 to 25 °C)	± 2.5 °C at -50 °C to 20 °C; ± 1 % of measured value at 21 °C to 300 °C; ± 1.5 % of measured value at 301 °C to 1,000 °C	± 2.5 °C at -50 °C to 20 °C; ± 1 % ± 1 °C at 21 °C to 400 °C; ± 1.5 % ± 2 °C at 401 °C to 800 °C; ± 2.5 % at 800 °C to 1,600 °C
Reproducibility	± 1.3 °C at -50 °C to 20 °C; ± 0.8 % or ± 0.5 °C at 21 °C to 1,000 °C	± 1.3 °C at -50 °C to 20 °C; ± 0.8 % ± 0.5 °C at 21 °C to 1,200 °C; ± 1.2 % ± 1.0 °C at 1,201 °C to 1,600 °C
Smallest measurement spot ø	25.4 mm @ 762 mm	25.4 mm @ 1,270 mm
Reaction time	< 150 ms	150 ms
Degree of emission	Adjustable from 0.10 to 1.0	Adjustable from 0.10 to 1.0
Spectral sensitivity	8 ~ 14 µm	8 ~ 14 µm
Operating conditions	0 °C to 50 °C, 10 % to 90 % r.h.	0 °C to 50 °C, 10 % to 90 % r.h.
Storage conditions	-10 °C to 60 °C, < 80 % r.h.	-10 °C to 60 °C, < 80 % r.h.
Power supply	9V block battery	9V block battery
Dimensions	104 x 43 x 146 mm	220 x 120 x 56 mm
Weight	163 g	290 g
Scope of supply	TP6 pyrometer, storage bag, 9 V battery, user manual	TP9 pyrometer, hard case, contact sensor type K, USB connection cable, 9 V battery, user manual

Technical data	Contact sensor type K
Temperature range	-50 °C to +300 °C
Resolution	0.1 °C
Accuracy	± 1.5 % ± 3°C
Reproducibility	± 1.5 %
Operating conditions	0 °C to 50 °C, 10 % to 90 % r.h.
Storage conditions	-10 °C to 60 °C, < 80 % r.h.

You require a pyrometer with a plant inspection certificate or calibration certificate for specific measuring spots?

Then feel free to take advantage of the Trotec calibration service!

Are you interested?
To find out more contact us on +49 2452 962-400.