

METRATHERM | 1

Infrared Thermometer with Laser Sight for the Contactless Measurement of Surface Temperatures

3-349-390-03
2/4.10

- Infrared temperature measuring range: -50 to 1000 °C (-58 to 1832 °F)
- Exact positioning with laser sighting (can be activated if desired)
- High distance-to-spot (D:S) ratio: 50:1
- Emissivity adjustable from 0.1 to 1.00 in steps of 0.01
- Additional measuring option with type K thermocouple
- Illuminated LCD panel
- Selectable unit of measure: °C and °F
- Single and continuous measurements
- Storage of current measured temperature, lowest and highest temperature or maximum temperature difference ΔT
- 10 memory locations for individual measurements
- Alarm function: Acoustic signal in the event of violation of adjustable limit values
- USB interface for data transmission to a PC
- PC software for displaying and recording measured values (data logger function) on included CD ROM



CE

USB
UNIVERSAL SERIAL BUS

Applications

- Temperature measurement at large distances, and thus at a safe distance from potential danger zones
- Electrical troubleshooting
- Automotive repair and maintenance
- Air conditioning
- Scientific experiments
- Manufacturing processes in the field of semiconductor technology
- Contacts in electrical switch boxes
- Food monitoring and processing

Applicable Regulations and Standards

IEC 61000-4-2	Electrostatic discharge immunity test
IEC 61000-4-3	Radiated radio-frequency electromagnetic field immunity test
IEC 61000-4-8	Power frequency magnetic field immunity test
DIN EN 61326:2002	Electrical equipment for measurement, control and laboratory use – EMC requirements

Characteristic Values

Quantity	Characteristic Value
Infrared thermometer sensor	
Temperature range	-50 to 1000 °C (-58 to 1832 °F)
Accuracy	± 3.0 °C (± 5 °F) from -50 to -20 °C (-58 to -4 °F), ± 2.0 °C (± 3 °F) from -20 to 100 °C (-4 to 212 °F), $\pm 2\%$ from 100 to 1000 °C (212 to 1832 °F)
Wavelength	8 to 14 μ m
Repetition accuracy	± 1 °C or ± 2 °F
Resolution, main and auxiliary displays	0.1 °C
Response time	500 ms
Emissivity	adjustable from 0.1 to 1.0
Relationship of the distance between the measuring instrument and the object to be measured, and diameter of the spot (distance-to-spot-ratio D:S)	50:1
Type K thermocouple sensor	
Temperature range / accuracy	-200 to $+200$ °C / $\pm 0.2\%$ rdg. + 1.5 °C $+200$ to $+1370$ °C / $\pm 0.5\%$ rdg. + 1 °C
Temperature range / resolution	-200 to -100 °C / 1 °C -99.9 to $+1370$ °C / 0.1 °C
Supply power / battery service life	9 V block battery (6LR61) / 10 hours
Operating temperature	0 to 50 °C (32 to 122 °F), 10 to 90% atmospheric humidity
Selectable unit of measure: °C or °F	✓
Automatic shutdown	Approx. 30 seconds after last key activation
Switchable laser beam	✓
Min. /max. and average values	✓
10 memory locations	✓
Acoustic warning signal	✓
USB data port	✓
Dimensions	200×127×47 mm
Weight	Approx. 350 grams with battery

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PC Display and Recording Program (data logger)

The included PC software makes the following functions possible:

- Display currently measured infrared temperature values with date and time.
- Adjust the sampling interval for recording measured values.
- Record measured values to a text file which can be exported to MICROSOFT® Excel™ for onward analysis.



PC System Requirements

The following prerequisites apply to the PC to which the software will be installed:

- Windows PC with at least Pentium II processor, 350 MHz or faster
- Windows 2000 SP4 or Windows XP
- 128 MB RAM
- 5 MB available hard disk space (without data)
- SVGA monitor with at least 800 x 600 pixels
- Windows supported printer
- Microsoft compatible mouse
- CD ROM drive
- USB port

Standard Equipment

- 1 METRATHERM | 1 measuring instrument
- 1 9 V battery
- 1 Screw-on carrying strap
- 1 Typ K thermocouple probe
- 1 USB adapter cable for data transmission to a PC
- 1 CD ROM with installation software for PC display and recording program (data logger)
- 1 Set of operating instructions in German and English

Order Information

Designation	Type	Article Number
Contactless infrared thermometer, for accessories see Standard Equipment	METRATHERM 1	M680A