

# TM-6

## Ultra-precision temperature meter



Fig.1. Photo of TM-6 temperature meters

### BASIC INFORMATION:

TM6 is an ultra-precision, ultra-stable temperature meter optimized to be used as a tool for recalibration of low/medium temperature blackbodies manufactured by Inframet (TCB, DAB, MTB, BLIQ, MAB). The meter is equipped with an ultra-precision but small size temperature probe optimized for holes in emitter plates of these blackbodies. Next TM6 is designed using electronic components of ultra-low temporal fluctuation of their parameters. Further on, advanced auto calibration circuitry was used. Finally the meter is characterized by very good temperature resolution and measurement uncertainty significantly better than parameter of typical temperature meters offered on international market. All these features enabled to extend recalibration interval of the TM6 meter to six years in case of blackbodies used for testing imagers for surveillance applications or three years in case of imagers or meters used in measuring applications. In this way TM6 temperature meter becomes an ideal tool for recalibration of low/medium temperature blackbodies manufactured by Inframet (option: by other manufacturers).

The TM6 meter is delivered by Inframet with a six/three year warranty and six/three year valid certificate. After this period small TM-6 meter should be send to our facilities (or other temperature calibration laboratory) where it can be calibrated and validity of the certificate is extended.

The calibration scheme of TM6 temperature meters is traceable to EU main national laboratories (typically Main Office of Measures of Poland or optionally Physikalisch-Technische Bundesanstalt). This traceability can be extended to blackbodies recalibrated using TM6 meter. In this way TM6 meter becomes a valuable tool for accredited laboratories that use test systems based on low/medium temperature blackbodies.

### FEATURES

- Autocalibrating instrument which maintains stable and reliable parameters in time.
- Ultra long recalibration period (six years in case of blackbodies used for testing imagers for surveillance applications or three years in case of imagers or meters used in measuring applications)
- The thermometer supports one or two probes
- High quality Pt-100 probe optimized for holes in emitter plates in Inframet blackbodies (option: can be optimized for blackbodies from other manufacturers)
- Rugged mechanical design
- Large LCD display.

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### SPECIFICATIONS

Model	TM-6L	TM-6M
Modules	TM-6L meter, PTL temperature probe	TM-6M meter, PTM temperature probe
Measured temperature range	-50 ... +180°C	-50 ... +550°C
Number of channels	single and dual channel version available	single and dual channel version available
Probe type	PT-100 , 100Ω DIN platinum RTD	PT-100 , 100Ω DIN platinum RTD
Resolution	0,001°C	0,001°C
Uncertainty	0.006°C for 0°C<T<50°C or 0.0005 (T-25) elsewhere (with calibrated probe provided with the instrument)	0.006°C for 0°C<T<50°C or 0.0005 (T-25) elsewhere (with calibrated probe provided with the instrument)
Display refresh rate	1 ... 5s	5-10s
Power supply	230V AC 45-65Hz, max. 20W	230V AC 45-65Hz, max. 20W
Operating temperature range	+15 to +45°C	+15 to +45°C
Dimensions (approx.)	100 x 210 x 270 mm	100 x 210 x 270 mm
Weight	ca. 2 kg	ca. 2 kg

\*specifications are subject to change without prior notice

### CONTACT:

Tel: +48 604061817

Fax: +48 22 3987244

Email: [info@inframet.com](mailto:info@inframet.com)

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