testo

industrial services

Thermator

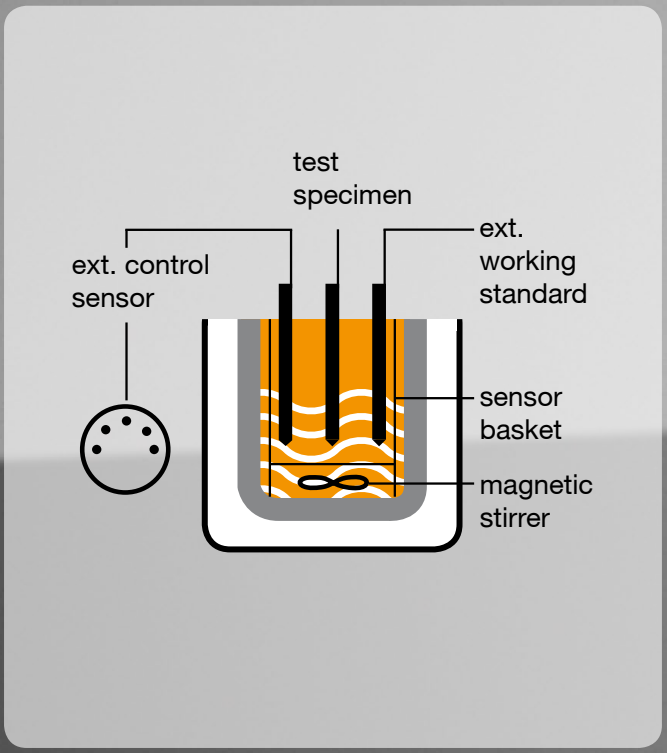
multifunction temperature calibrator

Liquid Bath

[-20...+150 °C]

- calibration of immersion probes
- suitable for any probe diameter
- magnetic stirrer, insert, removal tool and suitable liquid (silicone oil) included
- smooth regulation of rotational speed of magnetic stirrer
- leak-proof lid (with safety valve) for transport

diagram



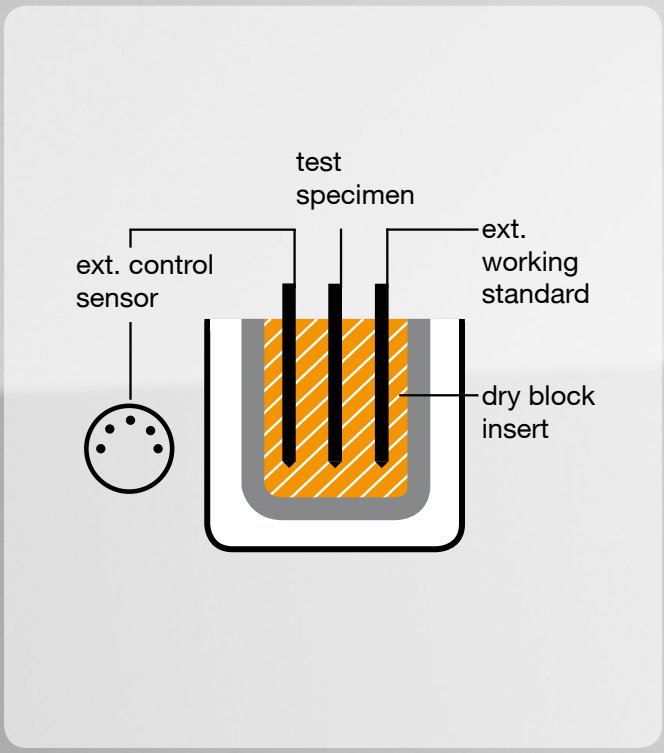
insertion of magnetic stirrer and sensor basket

Dry Block

[-20...+150 °C]

- calibration of air probes
- insert with bore holes for probe diameters from 2-6 mm included (individual bore holes on request)
- up to 5 probes can be calibrated at the same time
- ramp function for temperature switches can be set manually

diagram



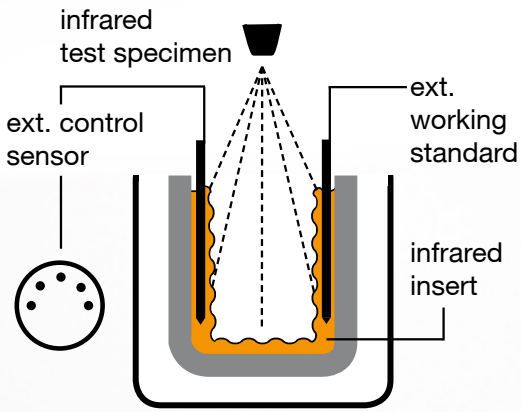
insertion of dry block insert with removal tool

Infrared

[-20...+150 °C]

- calibration of hand-held infrared devices, IR transmitters and thermal imagers
- emissivity of almost 1,0 (~ 0,9994) → ideal black body
- external control sensor and working standard in immediate proximity (in infrared insert)

diagram



insertion of infrared insert with removal tool

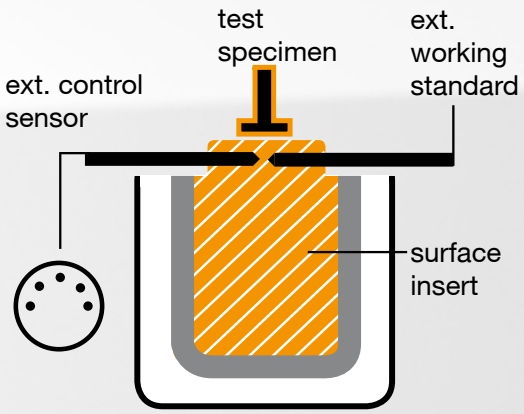
Surface

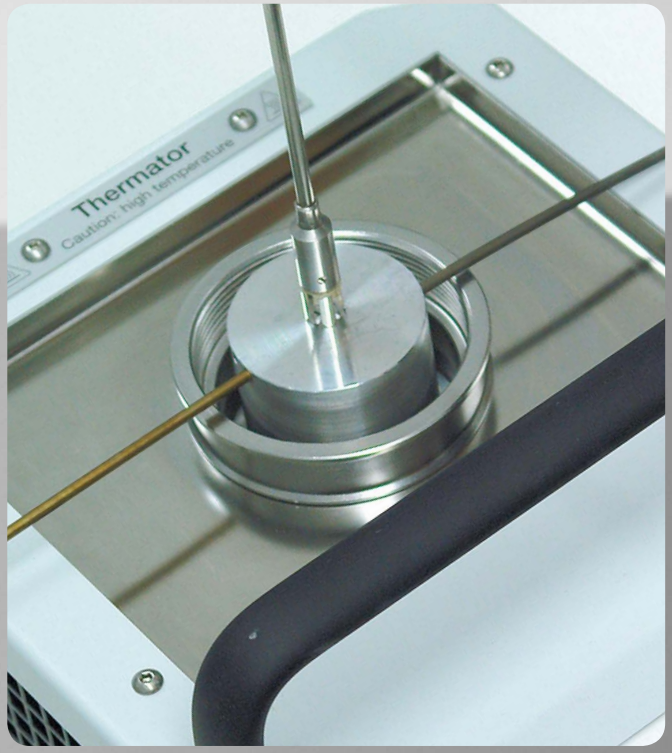
[-20...+150 °C]

- calibration of any kind of surface probe
- high accuracy due to immediate proximity of test specimen, external working standard and control sensor
- fast regulation due to compact insert shape
  material: aluminum

surface insert with external working standard, control sensor and test specimen

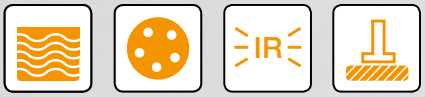
diagram



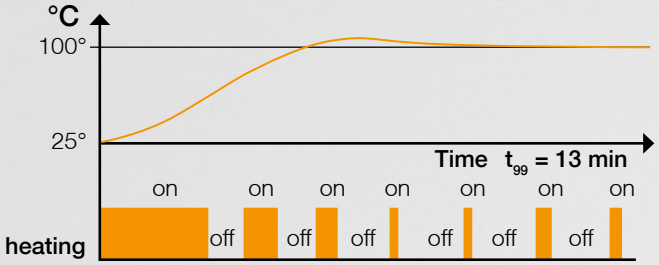


4 Operating Modes

The Thermator is a multifunction temperature calibrator made by Testo industrial services. In order to conduct temperature calibrations, the operator of the Thermator can choose between 4 different operating modes (liquid bath, dry block, infrared and surface). Easy and fast handling is ensured because of specific inserts, which can be easily changed with the help of the removal tool supplied. Thus, a fast change from one operating mode to another is guaranteed. The calibration range (-20 °C to +150 °C) applies to all 4 operating modes.



Liquid Bath [-20...+150 °C]
Dry Block [-20...+150 °C]
Infrared [-20...+150 °C]
Surface [-20...+150 °C]



Order Information

Thermator*		**0519.0901**
accessories	transport case	0519.0902
accessories (as replacement)	silicone oil for Thermator	0519.0903
	external control sensor	0519.0904
	sensor basket for liquid bath	0519.0905
	infrared insert	0519.0906
	surface insert	0519.0907
	dry block insert	0519.0908
	insert for liquid bath	on request
	magnetic stirrer	0519.0909
	magnetic lifter	0519.0910
*scope of delivery:	3 inserts, 1 sensor basket, removal tool, draining pump, magnetic lifter, magnetic stirrer, external control sensor, silicone oil	

scope of delivery (extract):

Flexible, Accurate, Mobile

- **Flexibility due to inserts**
- **Infrared calibrations in negative temperature range**
- **Surface calibrations in negative temperature range**
- **Surface: high accuracy due to immediate proximity of test specimen, external working standard and control sensor**
- **Our recommendation for high accuracy: calibration of external working standard and use of Thermator as temperature source**
- **Use of external control sensor allows for accurate setpoint control**
- **Programmable ramp function**
- **RS 485 interface, USB interface on request**

Technical Data

Operating Range of Control Sensor Temperature (at 25°C ambient condition)	
with water	between 0 °C and 100 °C
with silicone oil	between -20 °C and 150 °C
with dry block insert	between -20 °C and 150 °C
with infrared insert	between -20 °C and 150 °C
with surface insert	between -20 °C and 150 °C
Accuracy (with external control sensor)	
as liquid bath	+/- 0.1 K
as dry block calibrator	+/- 0.3 K
as infrared black body source	+/- 1 K
as surface temperature calibrator	+/- 1.2K bis 100 °C +/- 1.5K >100 °C
Stability (time) (with external control sensor)	
as liquid bath	+/- 0.05 K
as dry block calibrator	+/- 0.05 K
as infrared black body source	+/- 0.3 K
as surface temperature calibrator	+/- 0.2 K
Resolution	between -19.99…99.99 resolution 0.01 °C otherwise 0.1 °C
Temperature control	with PID controller
Temperature display	4 digit, 7 segment LED, 7mm high red = current temperature green = setpoint temperature

Influence of the operating temperature (0…50°C) to the accuracy	+/- 0.02 K/K
Control sensor break behavior	control is switched off
Display unit	°C or °F (optional)
Power supply	90…240 VAC +/- 10 %, 50/60 Hz
Power consumption	approx. 400 VA
Operating temperature	0...50 °C
Humidity in the operating area	30...95 %rH not condensing
Transport and storage temperature	-10...60 °C
Degree of protection	IP 20
Serial interface	RS 485 optoisolated, 9600 (baud rate), USB on request
Communication protocol	MODBUS RTU (JBUS)
Dimensions	Housing dimensions (without handle): width approx. 210 mm height approx. 425 mm depth approx. 300 mm
Weight	approx. 12 kg (without liquid and inserts)

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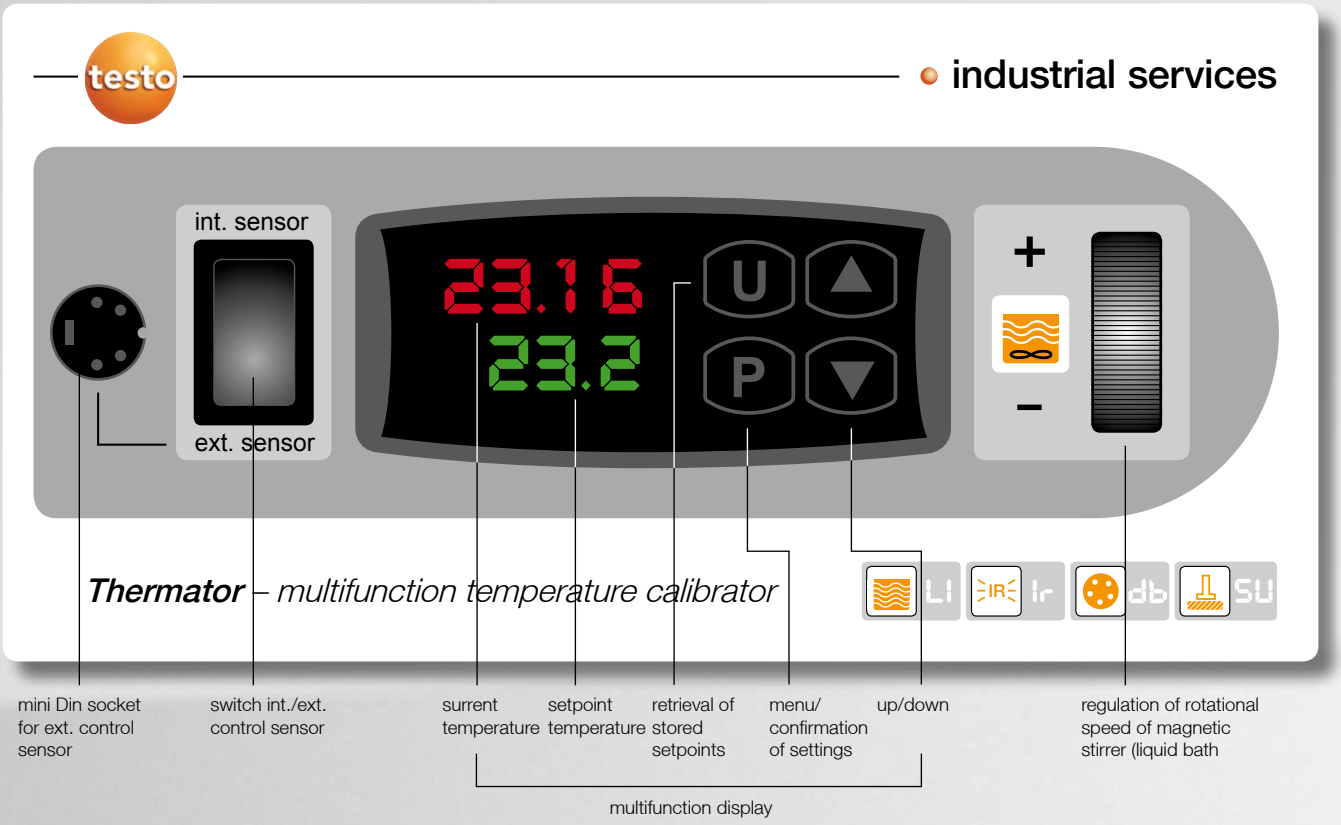
Description of the controls



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