

Hand-Held Thermometer Model CTH6500 Model CTH6510 EEX ib II B T4

WIKA Data Sheet CT 55.10

Applications

- Calibrations of thermometers
- Temperature measurements within the scope of quality assurance
- Measurements in the service and maintenance sector
- Long-term monitoring and online documentation

Special Features

- High accuracy of 0.03 K with Pt100
- One- and two- channel version available
- Connection of various types of probes possible
- Optionally with Ex-approval

Description

The universal hand-held thermometer model CTH6500, which has been designed for demanding mobile temperature measurements, features outstanding precision and flexibility and is extremely easy to use.

Besides Pt100 resistance thermometers it also processes the signals of typical thermocouples. Thus it is possible to measure temperatures ranging from -200 ... +1760 °C.

Due to its high accuracy of 0.03 K in the range of -100 ... +150 °C this thermometer can be used as a reference measuring instrument in the biotechnological, pharmaceutical and food industries and is therefore ideally suited for all maintenance and service tasks.

Low-drift measuring amplifiers ensure that errors of measurement are minimised, and convenient, user-friendly adjustment functions considerably simplify adjustments and calibrations:

- Calibration by code for a fast adaptation of standard probes via characteristic hex numbers



Hand-Held Thermometer CTH6500

- Physical calibration of probe and display at one, two or three test temperatures

This way it is possible to reduce measuring errors to a minimum and to ensure a high display accuracy.

Other fields of application

This instrument has been primarily designed for temperature measurement, however, fitted with corresponding probes, it may also be used for:

- humidity measurement using a combined temperature/humidity probe and for
- flow measurement from 0.1 m/s to 40 m/s using a vane sensor.

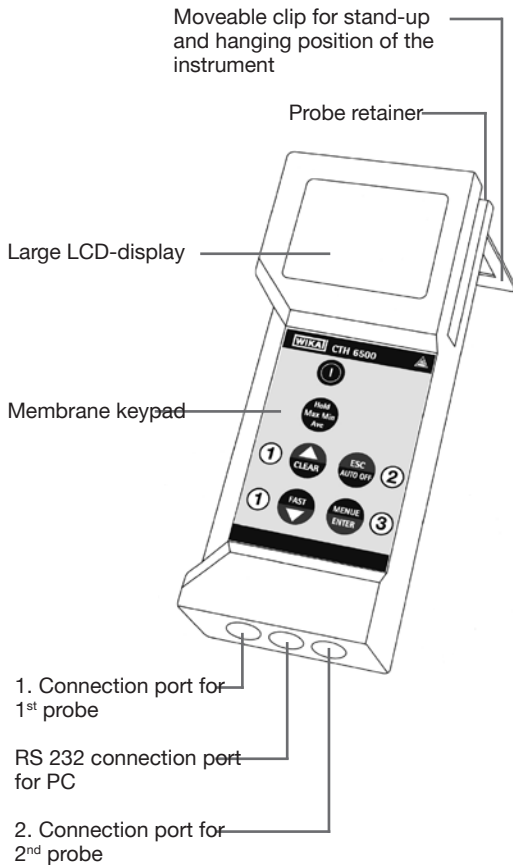
The calibration and adjustment possibilities described above also apply to these measurement parameters. In addition a printer can be directly connected to the instrument.

Characteristic features of the Hand-Held Thermometers

- Easy to use
- Large display with double temperature indication and bar graph
- Min/Max value for the monitoring of the temperature limits
- Mean value function for statistical evaluations
- "Fast mode" enabling faster measurements within 4/s
- Optional channel can be turned off to give a clearer view of the displayed data
- Recording and display of temperature cycles with the help of the SmartGraph software
- Excellent price/performance ratio

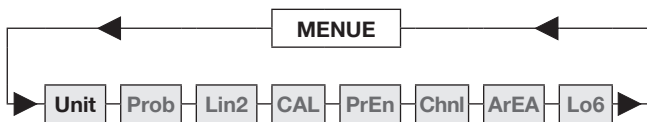
Operating functions

In the setup menu a menu point can be selected and changed using the up and down (1) keys. Enter (3) and ESC (2) can be used for confirmation and termination.



The intuitive menu is divided into two levels:

Main menu for the selection of the basic functions and parameter menu for the setting of the parameters.



Main menu of the CTH6500

Temperature probes



Fig. left: Moisture/temperature probe

Fig. centre: Immersion probe

Fig. right: Vane flow sensor

Unit	Prob	Lin2	CAL	PrEn	Chnl	ArEA	Lo6
°C	P	T1-T2	OFF	OFF	OFF	c	OFF
°F	J		oP1	ON	ON	m	ON
m/s	K		oP2				
%rh	L						
g/m ³	N						
°C td	R						
°F td	S						
Pa	T						
hPa	RH						
m ³ /s	D						
	Pr						
	H						

Parameter menu of the CTH6500

Specifications	CTH6500	CTH6510
Probe types	Pt100, thermocouples Humidity, flow	Pt100
Inputs	1 or 2	1 or 2
Measuring ranges		
Pt100	-200 ... +850 °C	-200 ... +850 °C
Thermocouples	-200 ... +1760 °C	-
Humidity	0 % to 100 %	-
Flow	0 to 40 m/s	-
Measurement uncertainties ¹⁾		
Pt100	0.03 K from -100 ... +150 °C 0.05 K from -200 ... +200 °C 0.1 % of reading above 200 °C	0.03 K from -100 ... +150 °C 0.05 K from -200 ... +200 °C -
TC K, J, L, N and T	0.2 K from 0 ... 200 °C 0.5 K from 200 ... 1000 °C 1 K above 1000 °C	- - -
TC R and S	1 K + 0.1 % of reading	-
Humidity	1.5 % relative humidity	-
Flow	0.5 % FS	-
Resolution	0.01 K up to 200 °C, then 0.1 K	0.01 K up to 200 °C, then 0.1 K
Display	Two-line LCD display	Two-line LCD display
Interface ²⁾	RS-232	RS-232
Power supply	9 V battery or rechargeable battery	9 V battery
Operating time	approx. 20 h with battery	approx. 20 h with battery
Ambient temperature	0 ... 40 °C	0 ... 40 °C
Dimensions	200 mm x 85 mm x 40 mm	200 mm x 85 mm x 40 mm
Weight	300 g	300 g

1) The measurement uncertainty is stated for the whole measuring chain after adjustment and calibration.

2) The Ex instrument also has an RS-232 interface, which, however, must not be used in potentially explosive atmospheres.

Accessories/Options	CTH6500	CTH6510
Immersion probe Pt100, d = 3 mm, l = 150 mm, range -200 ... +450 °C	CTA6H-10	CTA6H-10
Immersion probe Pt100, d = 3 mm, l = 300 mm, range -200 ... +450 °C	CTA6H-20	CTA6H-20
Immersion probe Pt100, d = 3 mm, l = 1000 mm, range -200 ... +450 °C	CTA6H-30	CTA6H-30
Immersion probe Pt100, d = 4 mm, l = 300 mm, range -40 ... +500 °C	CTA6H-40	CTA6H-40
Immersion probe TC K, d = 3 mm, l = 300 mm, range -200 ... +1100 °C	CTA6H-50	-
Immersion probe TC K, d = 3 mm, l = 500 mm, range -200 ... +1100 °C	CTA6H-60	-
Surface cross-type TC probe, range -40 ... +540 °C	CTA6H-SU	-
Moisture/temperature probe, range 0 ... 100 % rH / -30 ... +80 °C	CTA6H-FT	-
TC adapter from DIN to min TC connector	CTA6H-AD	-
Spare DIN connector for probes	CTA6H-CN	CTA6H-CN
Case set with 9V-battery, accu, charger, power supply, RS-232 cable, SG software	CTA6H-CS	CTA6H-CS
Protective plastic sleeve against dirt & moisture	CTA6H-PS	CTA6H-PS
Plastic case with foam inlay	CTA6H-SC	CTA6H-SC
DE-Graph Software for Windows 9x/ME/2000/XP	CTA6H-SG	CTA6H-SG
RS-232 cable	CTA6H-RS	CTA6H-RS
Accu charger for 9V accus	CTA6H-AC	-
Wall power supply for AC 100 ... 260 V, 50/60 Hz	CTA6H-P1	CTA6H-P1
Wall power supply for AC 230 V, 50/60 Hz	CTA6H-P2	CTA6H-P2
9V battery	CTA6H-DB	CTA6H-DB
9V accu	CTA6H-RB	-
DKD calibration certificate, instrument + 1 probe	on request	on request
5 temperatures, u = 0.05 K up to 200 °C, then 0.1 % of reading		
DKD calibration certificate, instrument + 2 probes	on request	on request
5 temperatures, u = 0.05 K up to 200 °C, then 0.1 % of reading		
DKD calibration certificate acc. to customer wishes	on request	on request

Options and Accessories

- Immersion probes
- Penetration probes
- Surface probes
- Customer-specified probes on request
- ATEX approval EEX iB II B T4 (optional)

- Power supply unit
- 9 V rechargeable battery and battery charger
- 9 V battery
- Rugged transport case

- SmartGraph software
- PC adapter cable



Hand-Held Thermometer CTH6510



Case set

Products and Services within our Testing and Calibration Technology Program

- DKD calibration services for pressure
- Repair of calibration units of all makes
- Portable pressure measuring devices for testing and calibration tasks
- Precision pressure measuring units and pressure controllers
- Primary standards for pressure
- Testing technology system solutions

- DKD calibration services for temperature
- Temperature dry well calibrators
- Calibration baths and furnaces
- Temperature measuring instruments for testing and calibration tasks
- Precision thermometers
- Primary standards for temperature
- Consulting and training

Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing. Modifications may take place and materials specified may be replaced by others without prior notice.



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