

Hand-held thermometer Model CTH6500

WIKA data sheet CT 55.10

Applications

- Calibration of thermometers
- Temperature measurement for the purposes of quality assurance
- Measurements in service and maintenance applications
- Long-term monitoring and online documentation

Special features

- High accuracy of 0.03 K with Pt100
- One- and two-channel versions
- Connection possibilities for various probe types



Hand-held thermometer model CTH6500

Description

The all-purpose model CTH6500 hand-held thermometer, for superior mobile temperature measurement, is notable for its precision, flexibility and ease of handling.

In addition to Pt100 resistance thermometers, it can also process signals from typical thermocouples. Thus temperatures from -200 ... +1,500 °C can be measured.

Through its high accuracy of 0.03 K in ranges from -100 ... +150 °C, this instrument can also be used as a reference instrument in biotechnology, pharmaceutical and food industries. The CTH6500 is thus also ideal for all service and maintenance tasks.

Low-drift measuring amplifiers ensure small measurement errors, while easy-to-use adjustment features considerably simplify adjustments and calibrations:

- Calibration by code for fast setting of standard probes via identification numbers

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

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

Additional fields of application

The instrument has been primarily designed for temperature measurement, though it can, with the appropriate probes, also be used for:

- Humidity measurement with a combined temperature-humidity probe
- Flow measurement from 0.1 ... 40 m/s with a vane sensor

The calibration and adjustment possibilities above are also applicable to these measurement parameters.

Specifications

Model CTH6500

Hand-held thermometer (complete measuring chain)

Probe types	Pt100, thermocouples, humidity, flow
Measuring inputs	1 or 2
Measuring ranges	
Pt100	-200 ... +600 °C / -392 ... +1,112 °F
Thermocouples	-200 ... +1,500 °C / -392 ... + 2,732 °F
Humidity	0 ... 100 % r. H.
Flow	0 ... 40 m/s
Measurement uncertainties ¹⁾	
Resistance thermometer type Pt100	0.03 K for -50 ... +199.99 °C 0.05 K for -200 ... -50.01 °C otherwise 0.05 % of reading
Thermocouple types K, J, L, N and T	0.3 K for 0 ... 200 °C 1 K for 200 ... 1,000 °C 1.5 K above 1,000 °C
Thermocouple types R and S	1 K + 0.1 % of reading
Humidity	1.5 % r. H.
Flow	0.5 % of full-scale value

1) The measurement uncertainty applies for the respective indicator-probe combination following adjustment and calibration.

Digital indicator

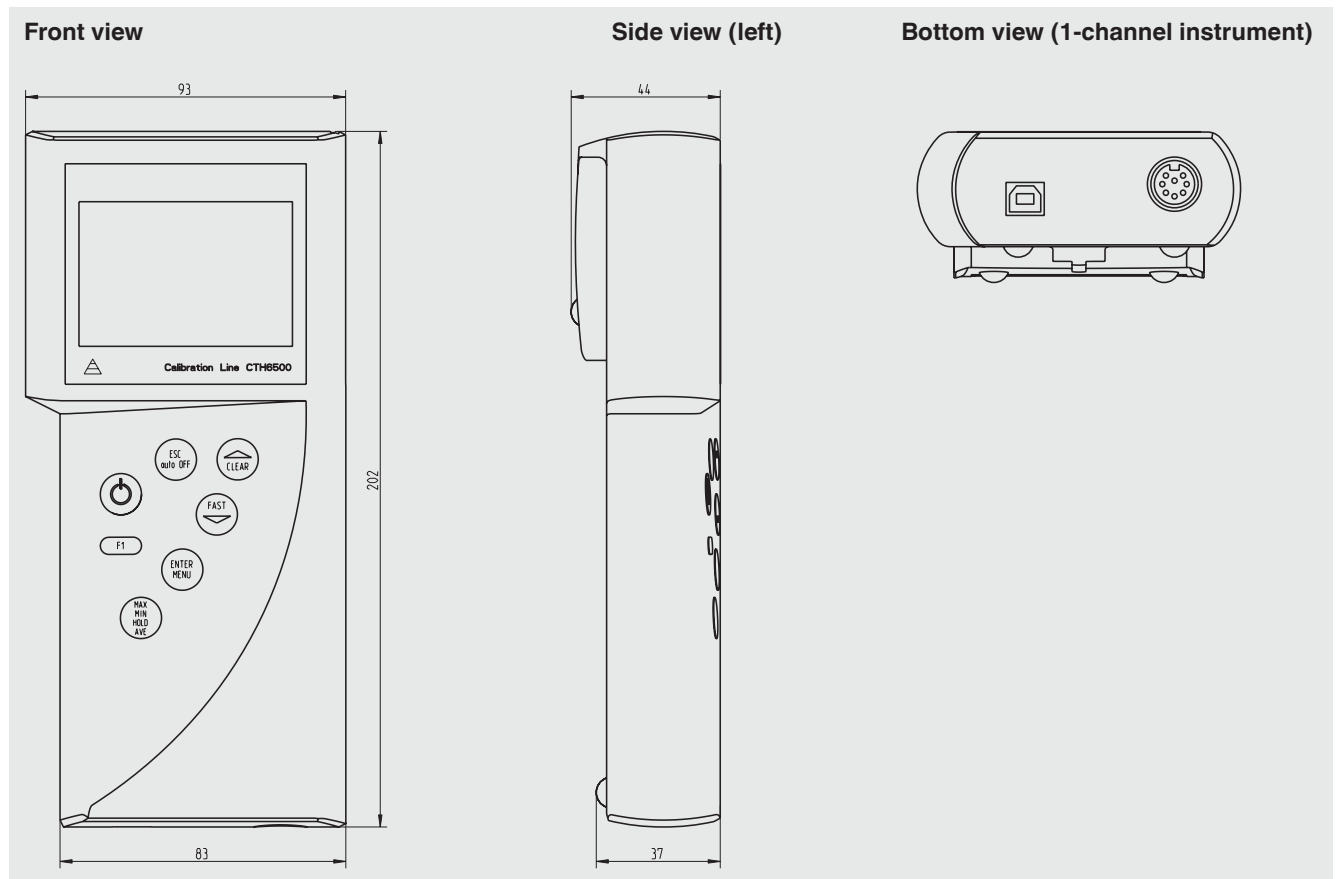
Display	
Screen	Large 4 1/2-digit two-line LCD screen with backlighting
Resolution	0.01 K up to 200 °C, then 0.1 K
Functions	
Measuring rate	4/s ("fast"); 1/s ("slow")
Memory	Min/Max
Functions via key press	Min/Max memory, Hold, Tare, Zero-point adjustment
Real-time clock	integrated clock with date and year
Voltage supply	
Power supply	DC 9 V battery or rechargeable battery
Battery life	approx. 20 hours of operation with battery
Permissible ambient conditions	
Operating temperature	0 ... 40 °C
Storage temperature	-10 ... +50 °C
Communication	
Interface	USB via special interface cable
Case	
Material	impact-resistant ABS plastic, transparent screen
Dimensions	200 x 93 x 44 mm (L x W x H)
Weight	350 g

CE conformity, certificates

CE conformity	
EMC directive	2004/108/EC, EN 61326 emission (group 1, class B) and interference immunity (portable test and measuring equipment)
Certificates	
Calibration	Standard: 3.1 calibration certificate per DIN EN 10204 Option: DKD/DakKS calibration certificate
Recommended calibration interval	1 year (dependent on the use)

Approvals and certificates, see website

Dimensions in mm



Temperature probes

Standard probe (immersion probe)	Temperature range	
	°C	°F
Pt100, d = 3 mm, l = 150 mm	-200 ... +450	-392 ... +842
Pt100, d = 3 mm, l = 300 mm	-200 ... +450	-392 ... +842
Pt100, d = 6 mm, l = 300 mm	-200 ... +450	-392 ... +842
TC K, d = 3 mm, l = 300 mm	-200 ... +1,100	-392 ... +2,012
TC K, d = 3 mm, l = 500 mm	-200 ... +1,100	-392 ... +2,012



Fig. left: combined temperature-humidity probe
 Fig. centre: immersion probe
 Fig. right: vane flow sensor

Features of the hand-held thermometer

- Simple handling
- Large display with dual temperature display and bargraph
- Min/Max value for monitoring of temperature limits
- Mean value function for statistical evaluation
- "Fast mode" for faster measurements up to 4/s
- Selectable channel can be switched off to improve the clarity of the display data
- Recording and visualisation of temperature cycles with the help of the SmartGraph software
- Data logger (optional)

Operation

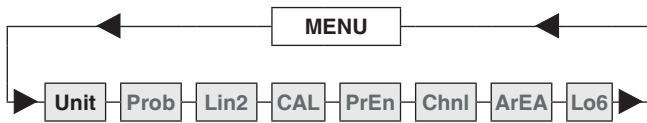
In the **SETUP** menu, a menu point can be selected and altered using the **UP** and **DOWN** keys. **ENTER** and **ESC** are used for confirmation and exit.

The operator menu is intuitively understandable and is subdivided into only two levels:

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



1. Probe holder
2. Connection port 1 for temperature probe
3. Connection port 2 for temperature probe
4. USB connection port for PC
5. Keyboard
6. Large LCD display



Main menu for CTH6500

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 for CTH6500

Scope of delivery

- Model CTH6300 hand-held thermometer incl. 9 V battery
- 3.1 calibration certificate per DIN EN 10204
- Choice of temperature probes

Option

- DKD/DAkkS calibration certificate

Accessories

Temperature probes

- Immersion probe
- Penetration probe
- Surface probe
- Moisture/temperature probe
- Customer-specific probes are available on request
- Adapter for thermocouples, DIN on TC miniature connector
- Spare DIN connector for the probe

Voltage supply

- AC adapter
- 9 V rechargeable battery and charger
- 9 V battery

Test case

- Transport case, robust
- Case set with rechargeable battery, charger, power supply unit, interface cable and software
- Case set with power supply unit AC 100 ... 260 V, interface cable and software

Software

- SmartGraph software
- PC adapter cable USB



Service case

Ordering information

Model / Version / Data logger / Probe at input 1 / Probe at input 2 / Service case / Calibration / Additional ordering information

© 2004 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.
The specifications given in this document represent the state of engineering at the time of publishing.
We reserve the right to make modifications to the specifications and materials.

WIKA data sheet CT 55.10 · 09/2013

Page 5 of 5



WIKAL
WIKAL Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
Fax +49 9372 132-406
info@wika.de
www.wika.de