Hand-held thermometer
Basic version
Model CTH6200

WIKA data sheet CT 51.01

for further approvals see page 5

Applications

- Calibration service companies and service industry
- Measurement and control laboratories
- Industry (laboratory, workshop and production)
- Quality assurance

Special features

- Pt100 probes for -50 ... +250 °C [-58 ... +482 °F]
- Accuracy: < 0.2 K (complete measuring chain)
- Integrated data logger
- GSoft data logger evaluation software available
- Incl. calibration certificate

Hand-held thermometer model CTH6200

Description

Extensive application possibilities
The model CTH6200 hand-held thermometer is suitable for all precise temperature measurement tasks and impresses with its simple operation. Its design makes it especially suitable for the commissioning, maintenance and service/calibration of temperature instruments and equipment.

Functionality
The digital indicator is the central unit of the hand-held temperature measuring instrument and provides the option to connect CTP62x0 series Pt100 temperature probe. Both immersion and penetration probes are available from stock, along with an extensive range of accessories. Customer-specific probes are available on request. An integrated data logger and various other functions (such as Min., Max., zero point correction, hold or alarm) ensure that the hand-held thermometer can be used for many different applications.

Its simple operation, very handy design and low weight round off the convenience of this hand-held temperature measuring instrument.

Complete test and service cases
For the secure transportation and storage of the instrument and accessories, a rugged service case is available as a sensible addition. The service case can carry up to two model CTH6200 digital indicators and several temperature probes or can be used as a suitcase combination with the hand-held pressure measuring instrument model CPH6200.

Certified accuracy
For each temperature probe, the accuracy for the complete measuring chain is certified by a factory calibration certificate which accompanies the instrument. On request, we can provide a DAkkS calibration certificate for this instrument.

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Specifications

Indicator model CTH6200	
Electrical connection for temperature probe	
Measuring input	1 input
Sensor compatibility	Compatible with temperature probe model CTP6210 and CTP6290
Connection at CTH6200	4-pin, shielded mini DIN female connector
Digital display	
Measuring range	Depending on the connected temperature probe ■ -199.99 ... +199.99 °C [-199.99 ... +199.99 °F] or ■ -199.9 ... +850.0 °C [-328.0 ... +1562.0 °F]
Indication range	Depending on the set resolution of the instrument ■ -199.99 ... 199.99 °C [-199.99 ... 199.99 °F] or ■ -199.9 ... 999.9 °C [-199.9 ... 999.9 °F]
Display resolution	0.01 °C [0.01 °F] 0.1 °C [0.1 °F]
Indication accuracy	≤ 0.03 °C [0.06 °F] for resolution 0.01° ≤ 0.1 °C [0.2 °F] for resolution 0.1°
Type of indication	LC display, for display of values and additional information
Number of lines, digits	2x 4½-digit
Character size	12.4 mm or 7 mm [0.49 in or 0.28 in]
Units	Adjustable between °C or °F
Rated temperature	25 °C [77 °F]
Temperature drift	≤ 0.002 °C/K
Measurement	
Measurement type	4-wire-measurement with thermoelectric voltage compensation
Measuring current	0.3 mA
Functions	
Measuring rate	2 measurements/s
Mean value filter	1 ... 30 seconds; can be set via menu
Real-time clock	For data logger; can be set via menu
Hold	Holding the last measured value; can be accessed via function button
Tare	Button only active within the menu
Alarm	Min./Max. alarm (audible/visual); can be set via menu
Min./Max. memory	Minimum or maximum measured value; can be accessed via function button

Sensor characteristic curve	Standardised: E.751	Characteristic curve per EN 60751
	Application-specific sensor characteristic curve	■ Up to 50 programmable points ■ Adjustable via separate software
Data logger	Individual value logger	Up to 99 recordings incl. time can be accessed via function button
	Cyclic logger	■ Automatic recording of up to 16,384 values incl. time ■ Cycle time freely adjustable in the range from 1 ... 3,600 seconds
Power-off function	Automatic switch-off; can be set via menu	
	Activated	1 ... 120 minutes
	Deactivated	No automatic switch-off of the instrument

Voltage supply	
Supply voltage	■ 9 V battery ■ 9 V rechargeable battery ■ Mains power supply
Battery life	Approx. 20 hours of operation
Current consumption	Approx. 1 mA, approx. 300 h

Indicator model CTH6200

Permissible ambient conditions

Operating temperature	-25 ... +50 °C [-13 ... +122 °F]
Storage temperature	-25 ... +70 °C [-13 ... +158 °F]
Relative humidity	0 ... 95 % r. h. (non-condensing)

Output signals/interfaces

Connection	Stereo jack connector, 3.5 mm Optional serial interface or analogue output
Serial interface	■ RS-232 ■ USB Instrument-specific interface cable required
Analogue output	■ DC 0 ... 1 V; configurable ■ Selectable via menu alternative to serial interface Instrument-specific connection cable required

Case

Ingress protection	At the front IP65
Material	Impact-resistant ABS plastic, membrane keyboard, transparent screen
Dimensions	See technical drawings
Weight	Approx. 155 g [0.34 lbs] (incl. battery)

Temperature probe model CTP62x0

Measuring ranges	-50 ... +250 °C [-58 ... +482 °F]	
Probe characteristics		
Probe type	Model CTP6210	Immersion probe
	Model CTP6290	Penetration probe
Type of measuring element	Pt100	
Connection method	4-wire connection	
Sensor cable		
Cable length	Approx. 1.0 m [3.28 ft]	
Cable material	PVC	
Connection to the CTH6200	4-pin mini DIN connector	
Sensor input		
Current supply	Slow measuring cycle	< 1.6 mA
	Fast measuring cycle	< 7.0 mA
	Low-power logger funct.	< 0.3 mA
Rated temperature	25 °C [77 °F]	
Temperature drift	≤ 0.002 °C/K	
Material		
Wetted parts	Sheath material of probe tube: V4A	
Handle	Plastic with bend protection gland	
Dimensions	See technical drawings	

Operating conditions temperature probe model CTP62x0	
Medium temperature range	-50 ... +250 °C [-58 ... +482 °F]
Ambient temperature range	Max. 80 °C (handle)
Storage temperature range	-25 ... +70 °C [-13 ... +158 °F]
Relative humidity	0 ... 95 % r. h. (non-condensing)
Permissible media	Depending on the material compatibility of the sheath material with the media
Immersion depth	Observe the maximum temperature of the handle

Accuracy specifications of the measuring chain [1]	
Measuring range	-50 ... +250 °C [-58 ... +482 °F]; dependent on temperature probe
Indication accuracy	≤ 0.03 °C [0.06 °F] for resolution 0.01°
	≤ 0.1 °C [0.2 °F] for resolution 0.1°
Measurement accuracy [2]	0.2 K
	0.05 K (through targeted adjustment)
Resolution	0.01 K to 200 °C [392 °F]; then 0.1 K
Reference conditions	
Ambient temperature	23 ±2 °C [73 ±2 °F]
Air humidity	40 % r. h. ±25 % r. h.
Characteristic curve determination	IEC 751 / EN 60751

1) The accuracy applies for the respective indicator-probe combination following adjustment and calibration, that is the deviation between reference and CTH6200.
2) It is defined by the total measurement uncertainty, which is expressed with the coverage factor (k = 2) and includes the following factors: the intrinsic performance of the instrument, the measurement uncertainty of the reference instrument, long-term stability, influence of ambient conditions, drift and temperature effects over the compensated range during a periodic zero point correction.

Approvals

Approvals included in delivery

Logo	Description	Country
CE	**EU declaration of conformity**	European Union
	EMC directive	
	RoHS directive	

Optional approvals

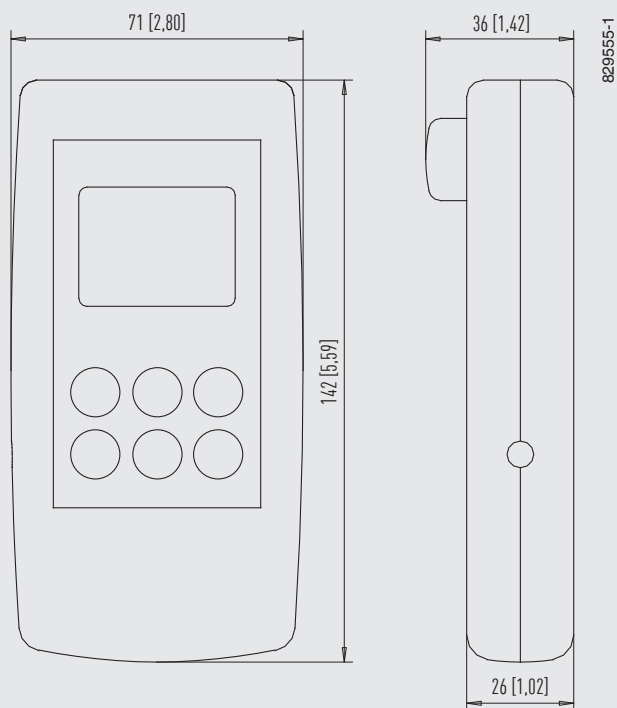| Logo	Description	Country
EAC	**EAC** EMC directive	Eurasian Economic Community
(GOST logo)	**GOST** Metrology, measurement technology	Russia
(KazInMetr logo)	**KazInMetr** Metrology, measurement technology	Kazakhstan
-	**MTSCHS** Permission for commissioning	Kazakhstan
(UkrSEPRO logo)	**UkrSEPRO** Metrology, measurement technology	Ukraine

Certificates

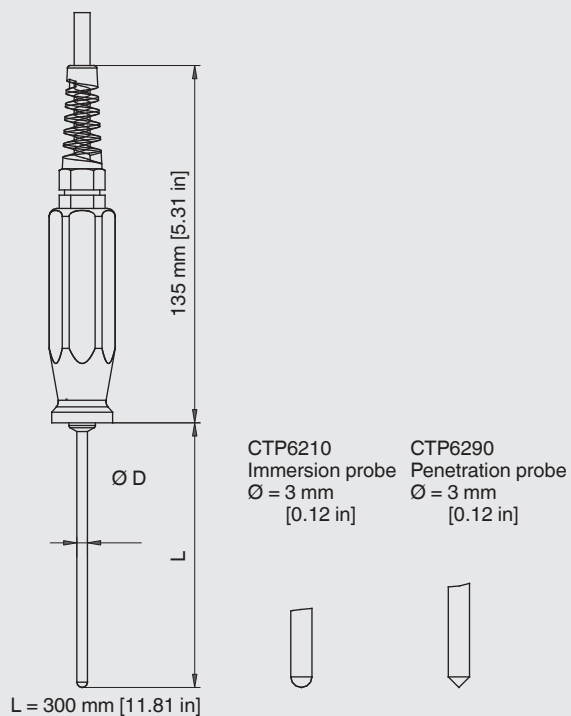| Certificates	
Certificates	3.1 inspection certificate per EN 10204 for a probe
Calibration	■ DAkkS calibration certificate for a probe at 0 °C, 50 °C and 100 °C ■ DAkkS calibration certificate for a probe with 3 to 6 test points according to specification ■ DAkkS calibration certificate for a probe according to customer specifications
Recommended recalibration interval	1 year (dependent on conditions of use)

→ Approvals and certificates, see website

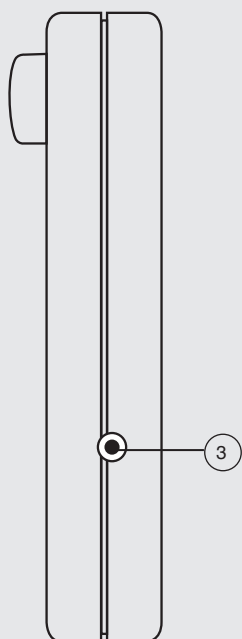# Dimensions in mm [in]

Digital indicator model CTH6200

71 [2,80] 36 [1,42] 829555-1

142 [5,59]

26 [1,02]

Temperature probe model CTP62x0

135 mm [5.31 in]

Ø D

L

L = 300 mm [11.81 in]

CTP6210
Immersion probe
Ø = 3 mm
[0.12 in]

CTP6290
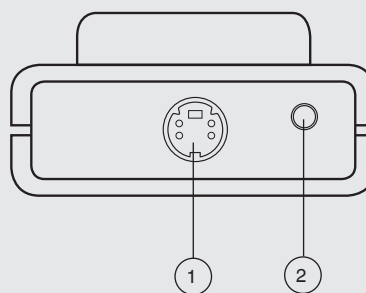Penetration probe
Ø = 3 mm
[0.12 in]

Electrical connections

Side view (left)

3

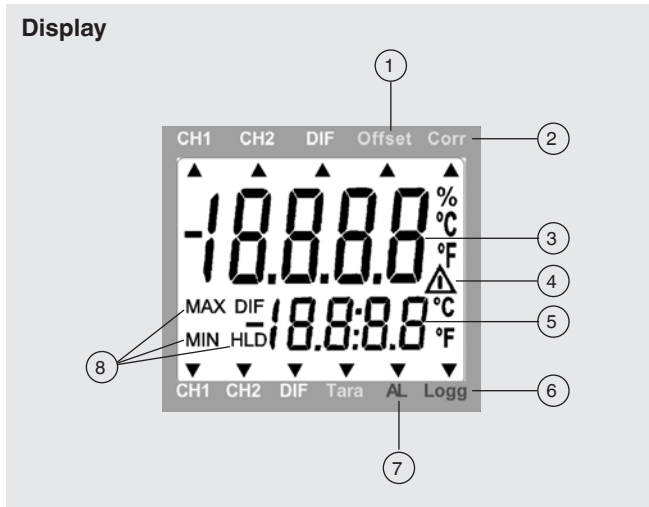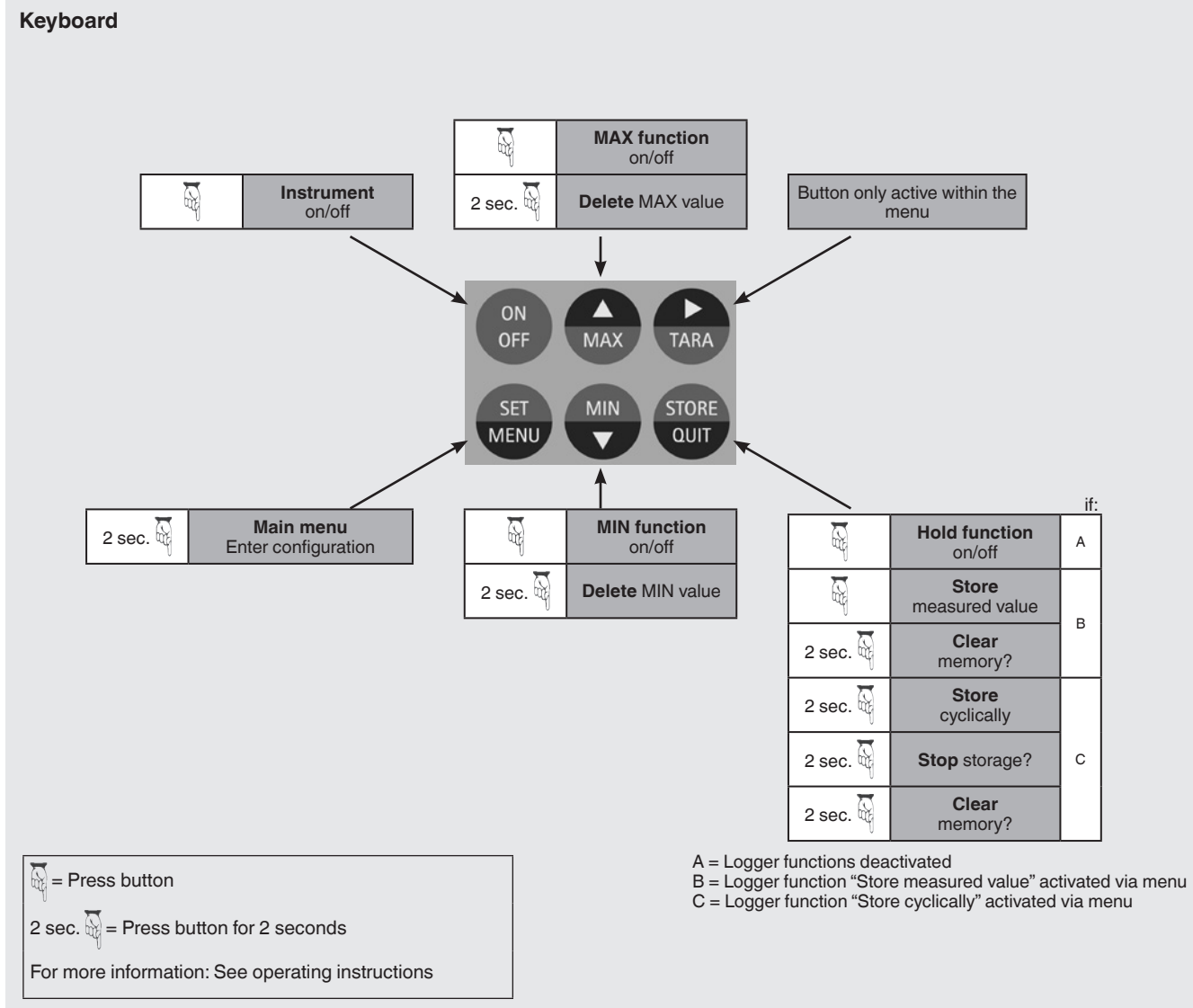## Top view

1   2

① Connection for temperature probe

② Interface connector or optional analogue output

③ Connection of power supply unit for voltage supply

Operating functions model CTH6200

Display

① **Offset**
Zero point correction is activated

② **Corr**
Slope correction is activated

③ **Main display**
Current temperature display

④ **Symbol**
Indicates a low battery and other warnings

⑤ **Secondary display**
Display of Min., Max. or hold value

⑥ **Logg**
Arrow appears, logger function was selected via menu
Arrow blinking: Automatic recording (Logg CYCL) active

⑦ **AL**
Arrow appears when there is an alarm
Arrow blinking: Alarm is active

⑧ **MIN / MAX / HLD**
Indicates whether Min., Max. or hold value is shown in secondary display

Keyboard

👆	**MAX function** on/off	
2 sec. 👆	**Delete** MAX value	Button only active within the menu

👆	**Instrument** on/off

2 sec. 👆	**Main menu** Enter configuration

👆	**MIN function** on/off
2 sec. 👆	**Delete** MIN value

if:

👆	**Hold function** on/off	A
👆	**Store** measured value	B
2 sec. 👆	**Clear** memory?	
2 sec. 👆	**Store** cyclically	C
2 sec. 👆	**Stop** storage?	
2 sec. 👆	**Clear** memory?	

A = Logger functions deactivated
B = Logger function "Store measured value" activated via menu
C = Logger function "Store cyclically" activated via menu

👆 = Press button

2 sec. 👆 = Press button for 2 seconds
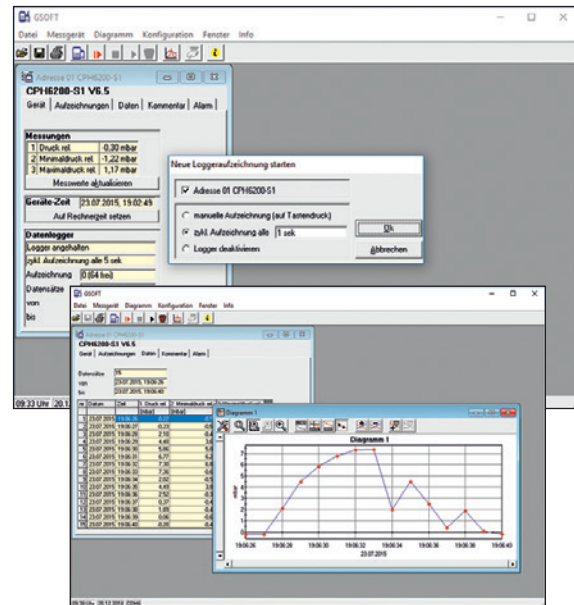
For more information: See operating instructions

GSoft data logger evaluation software

The GSoft data logger evaluation software is used to display the logger data from the model CTH6200 hand-held thermometer on a PC in tabular form and as a chart.
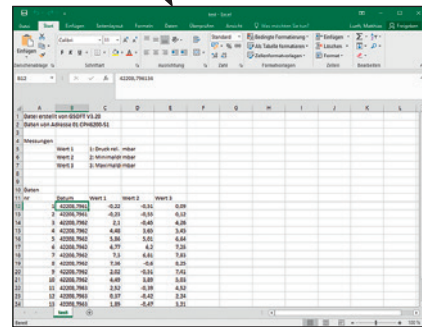
- Easy operation with self-explanatory toolbars
- Data from the pressure and temperature hand-helds can be displayed in a single chart (two separate y-axes)
- Chart offers a zoom function
- Operation of the logger function via PC (remote control)
- Data can be exported (Excel®, etc.)
- Languages: German, English, French, Spanish and Czech

System requirements, GSoft version 3.2
- IBM compatible PC (Pentium®)
- At least 20 MB free hard disc space
- CD-ROM drive
- At least 32 MB RAM
- Windows® operating system 95, 98, NT 4.0 (with Service Pack 3.0 or higher), 2000, XP, Vista 7, 8, 8.1 or 10
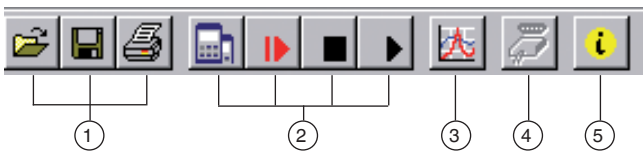- Mouse
- USB port (via interface cable)

Data export e.g. in an Excel® file

Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.
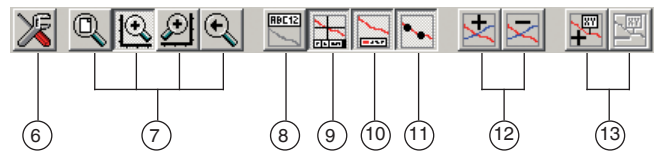
Easy operation with self-explanatory icon buttons

Main toolbar

Charts toolbar

(1) File functions: Open, save, print

(2) Logger functions: Start communication, start logger, stop, read data

(3) Data display: Create chart

(4) Interface configuration

(5) Program information

(6) Settings: Grid and colour settings, manual zooms

(7) Zoom: All, left or right y-axis (via mouse), back

(8) Rename chart

(9) Cursor on/off (info footer)

(10) Legend on/off

(11) (Measuring point) Symbols on/off

(12) Measurement series (add/delete)

(13) Comments on measuring points (add/delete)

Accessories

Description	Order code
	CTX-A-H1-
9 V battery	-AB-
9 V rechargeable battery	-AA-
Charger for 9 V rechargeable battery and 2 rechargeable AAA batteries Euro standard	-01-
Charger for 9 V rechargeable battery and 2 rechargeable AAA batteries UK standard	-02-
Charger for 9 V rechargeable battery and 2 rechargeable AAA batteries US standard	-03-
Power supply unit Euro standard	-04-
Power supply unit UK standard	-05-
Power supply unit US standard	-06-
GSoft data logger evaluation software	-07-
RS-232 interface cable	-08-
USB interface cable	-09-
Transport case from aluminium For 2 x hand-held pressure and/or temperature, max. 5 x pressure sensors, max. 2 x temperature probes and accessories Dimensions: 450 x 345 x 145 mm [17.72 x 13.58 x 5.71 in]	-10-
Immersion probe model CTP6210 Temperature range -50 ... +250 °C [-58 ... +482 °F] d = 3 mm [0.12 in] l = 300 mm [11.81 in]	-11-
Penetration probe model CTP6290 Temperature range -50 ... +250 °C [-58 ... +482 °F] d = 3 mm [0.12 in] l = 300 mm [11.81 in]	-99-
Ordering information for your enquiry:	
1. **Order code: CTX-A-H1**	⇓
2. **Option:**	[ ]

Scope of delivery

- Hand-held thermometer model CTH6200
- 9 V battery
- 3.1 calibration certificate per DIN EN 10204
- Choice of temperature probes

Options

- Other probes on request
- DAkkS calibration certificate

Example of a service case (temperature and pressure)

Ordering information

Model / Reference temperature probe with handle / Accuracy / Power supply unit / Rechargeable battery and battery / Software / Interface cable / Transport case / Calibration (with factory calibration certificate for 1 probe) / Test points for calibration certificate / Number of test points / Further approvals / Additional ordering information

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