

# Hand-Held Thermometer

Accuracy < 0,2K

with two 4 1/2 digit LCD-display



## Discription

The **Hand-Held Thermometer** is a digital indicator for precise temperature measurement from -50 up to +250°C. Due to its portable design this instrument is especially useful for commissioning, maintenance and service / calibration.

The digital instrument is the heart of the **Hand-Held Thermometer**. It allows the connection of temperature Pt 100 probes model E3909X.

Standard **Hand-Held Thermometer** probes are immersion or penetration probes. Other probes or useful accessories are available on request.

An integrated data logger or functions like MIN, MAX, Hold or Alarm ensure that the instrument can be used for many different applications.

The excellence of the easy-to-use and lightweight instrument is complemented by an extremely ergonomic design.

For safe transport and storage of the instrument and its accessories a rugged service case is also available.

The service case offers space for 2 digital instruments: Hand-Held pressure instrument model E3909X, E3905X and Hand-Held low pressure instrument model E3922X as well as several probes and pressure sensors and respectively case-combinations in different variations are possible.

For each temperature probe the measuring chain is certified in a factory calibration certificate.

On request a DKD calibration certificate can be supplied instead.

## Features

- Pt 100 probes for -50 up to +250 °C
- Accuracy < 0.2 K (of complete measuring chain)
- Integrated data logger
- Data logger evaluation software GSoft available
- Factory calibration certificate included

## Measuring range

-50 up to +250° C

can be obtained as immersion or penetration probe  
Ø3mm (300 mm length)

## Applications

Service industry

Measurement and control laboratories

Industry (laboratory, workshop and production)

Quality assurance

**Model: E3909X**

## Technical Data digital instrument

Model	E3909X
Display	7-segment-LCD-display to display 2 x 4 <sup>1</sup> / <sub>2</sub> -digits for actual value and additional information
Range on display	-99.99 ... +99.99 °C or -199.9 ... +650.0 °C respectively (depending on probe)
Accuracy (measuring chain)	< 0.2K (optional: higher accuracy by pointed adjustment and calibration)
Resolution	0.01 K to 199.99 °C; from 200°C 0.1 K
Functions	
Data logger	- individual temperature logger: up to 99 recordings incl. time via keypress - cyclic logger: automatic recording up to 16.200 values incl. time, with cyclic time selectable from 1sec to 1 hour (3600 sec)
Current value memory	Hold-function, saves the actual value
Temperature peak memory	Function show, the MIN or MAX value
Power off function	Power-Off (1...120 min)
Sensor connection	Optional connector with interlock
Interface	Serial interface connected to RS 232 via suitable electrically insulated interface adapter (USB-adapter on request)
Power supply	9V-zinc-carbon battery (incl. in scope of delivery), {alternative: 9V rechargeable battery or mains supply}
Temperature range Indicator	
Operating	-10 °C to +50 °C ( 0 .. 95% relative humidity without moisture condensation)
Storage	-25 °C to +70 °C
Temperature influence	≤ 0,002 °C / K
case	impact-resistant ABS, membrane keyboard, transparent panel
weight	ca. 160g

## Accessories

Article-No.	Discription
	Robust case in different variations: Case for 2 digital indicators , 5 sensors, spare part battery , spare voltage, accu, accu charger, connection cable and till 2 temperature probes (dimension: 450 x 320 x 165 mm - BxHxT)
EZE50X001005	Accu charger for accumulator 9V ( European standards )
EZE50X012002	Accumulator 9V
EZE53X001006	Evaluation-Software incl. interface converter RS232

### Example:

Accessories: robust case

### Combination:

Pressure and Temperature

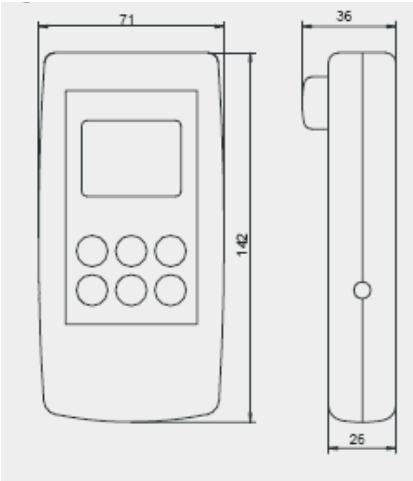


## Technical Data external sensor

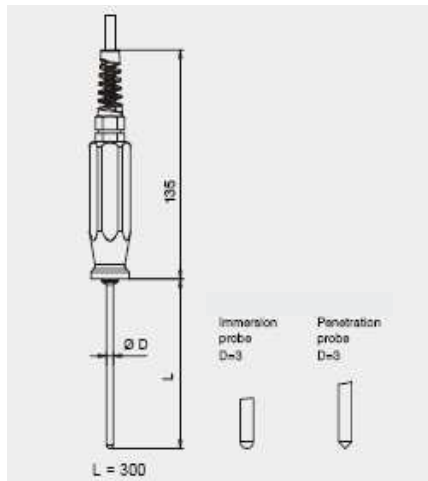
Model		Option
Probes available	Immersion and Penetration probe	
Electrical connection	4-pole Mini-DIN plug with PVC cable (approx. 1.0 m)	
Temperature range		
- Immersion probe	-50 ... +250°C	
- Penetration probe	-50 ... +250°C	
Material wetted parts	Immersion and Penetration probe: stainless steel	
Dimensions	see page 3	

# Dimensions (mm)

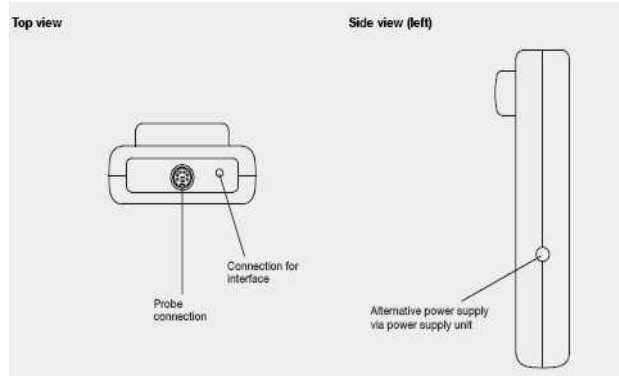
## Digital instrument



## Temperature sensor

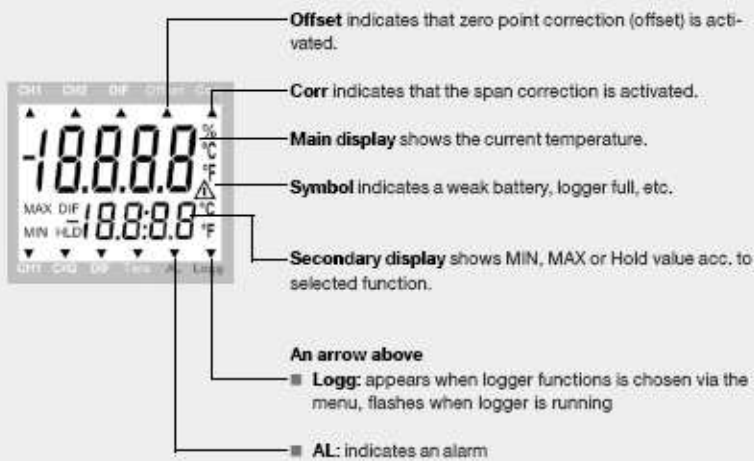


## Electrical connections digital instrument

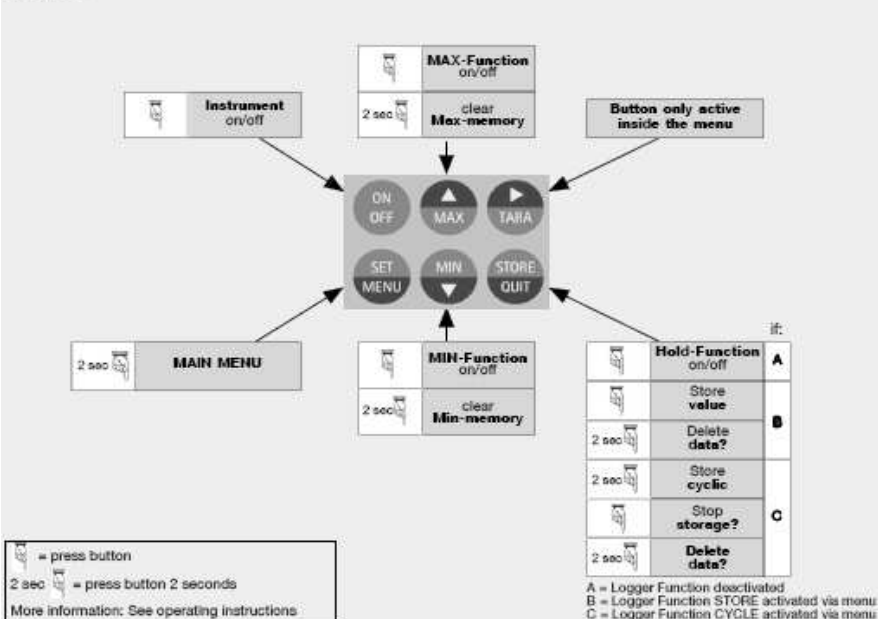


# Operating instructions

## Display



## Keypad



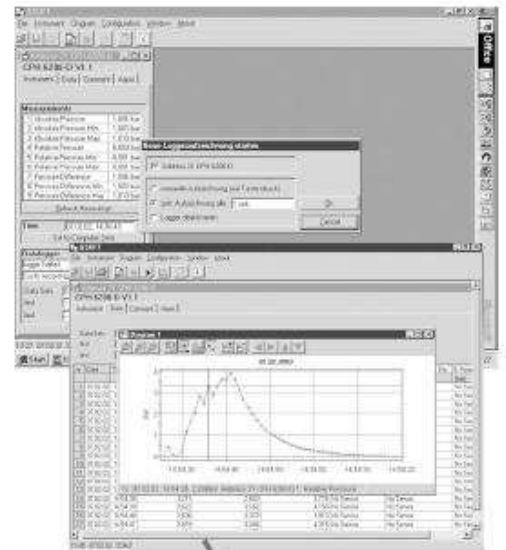
## Data logger software GSoft

The Data logger evaluation software GSoft displays stored data of the internal Data logger (of a Hand-Held Thermometer model E3909X or of a Hand-Held Pressure Measuring Instrument "Manoport" model E3905X or E3922X) as a table or chart on PC.

- Easy operation due to self-explanatory icon buttons
- Data of a Pressure and Temperature Hand-Helds in one diagram possible (2 separate y-Axes)
- Zoom function available
- Remote operation via PC possible
- Data can be exported to Excel®, etc.
- Language: English / German

### System requirements

- IBM compatible PC (Pentium™)
- At least 20 MB hard disc capacity available
- CD-ROM drive
- At least 32 MB main memory
- Windows™ 95, 98, 2000, XP or NT 4.0 (with Service Pack 3.0) or better
- Mouse
- One unassigned serial interface or one USB-Port (via interface cable)

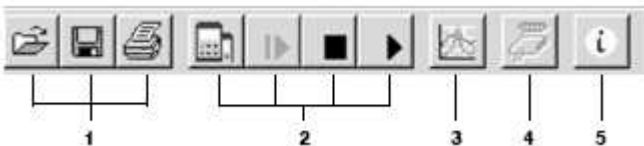


Export of data for example to Excel®



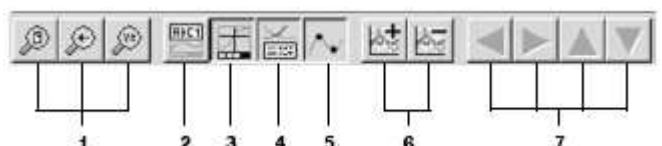
## Easy operation due to self-explaining icon buttons

### Main Toolbar



1. File functions: open, save, print
2. Logger functions: start communication, start Logger, stop, read Logger data
3. Data representation: create diagram
4. Interface configuration
5. Programm information

### Diagram Toolbar



1. Settings: grind and colour settings, manual zoom
2. Diagramm rename
3. Rename chart
4. Cursor on/out (Info-footer)
5. Legend on/off
6. (Measuring points) on/off
7. Add / erase measuring series
8. Comment-labels to a measuring point: add, delete

## Order details

1. Model digital instrument: E3905X, E3909X
2. Model external temperature probe: Immersion or penetration probe
3. Options: Certificate 3.1 acc. EN 10204: accuracy, inspection values listed

Subject to technical changes