

## High precision handheld thermometer ZTM-100 with Rs232 interface

### Parameter

### ZTM-100

#### Propertis

- Measuring sensor : NTC fixed
- Measuring margin : 20°C ( see table )
- Resolution : 0,01°C
- Measuring rate : 1 sec
- Functions : max, min, hold
- Display : 4 digits LCD
- Digit height : 11 mm
- Operating range of the devices : 0°C bis 70 °C
- Battery operating time : approx. 1000 h
- Power supply : 9V Accu block type 6 F 22
- Dimensions : (w x h x d) 60 x120 x26 mm
- Weight : approx. 130 g
- Total measuring tolerance : + / - 0,03 °C

#### Optional Equipment

- RS 232 Interface
- Transmissions cable, Datatransferprogramm to PC
- Medically sealed polyurethane sensors of 1,5 m up to 3 m length with 0,5 m grading
- Fixad pads for body temperature measurement in different sizes
- Dip sensor 2 x100 mm, cable lenght 1,5 m
- Customised sensors on request
- Padsensor 30 or 40 mm for medicalapplication  
**Remark** : Sensor and devices are calibrated together according to the defined Measuring on range

#### Measuring range of the temperature sensor

-30°C bis - 10 °C	+30 °C bis + 50°C
-15°C bis + 5°C	+45° C bis + 65°C
0°C bis + 20°C	+60° C bis + 80°C
+15 °C bis + 35 °C	+75°C bis + 95°C
	+90°C bis +110 °C



### Application

- Process control from -30°C to +110°C
- Measurement of body temperature from +30°C to +50°C
- Climate and heating technology
- Automotiv technology - and laboratory use
- Measurement and testing technology

# Technical Data

## General description

The **ZTM -100** is a highly accurate digital hand - held thermometer with a resolution of 0,01°C ( which corresponds to a total measurement tolerance of 0,03°C )

The device is offering a very good price / performance ratio, has low weight and is very easy to use.

The **ZTM -100** is suitable for precise measurement in very restricted temperature ranges in steps of 20°C each time within a total range of -30°C to +110°C.

Particularly for the measurement of the body temperature in a range of +30°C to + 50 °C a specific NTC body temperature sensor was developed. The sensor is sealed with medically approved polyurethane and comes in different lengths of 1,5 m up to 3 m (in 0,5 grading ) together with eudermic fixation pads.

The sensor corresponds to the specific temperature range, is fixed to the device and calibrated with it. The optional interface RS 232 is placed next the measurement entry. Data transmission software and interface are available on request. The measurement data is transmitted online to a PC and can be evaluated by Excell program

## User instruction for the digital hand -held thermometer

The device is activated with the **ON /OFF** switch. The system check of the device will appear on the display .

If the measured value exceeds the defined measuring range the display indicates **HI** . If the value falls below the defined measuring range the display indicated **LO**.

With the max / min key the maximum and the minimum value of measurement series are saved can be retrieved .

With the hold key the last measured value can be indicated . By pressing down the key for longer than 3 seconds the previous value will be deleted. The result is confirmed by displaying 00,0. If no key is pressed for 5sec the program returns to normal measurement mode.

## Battery exchange

If the battery symbol appears on the display the battery needs to be exchanged immediately. Otherwise accurate measurements can not be guaranteed.

## Remarks for accurate measurement

The measuring sensor is very robust and provides by high measurement rate. The device should be switched on at least 10 min before commencing measurements . For taking measurements in liquid the deep sensor must be dipped in 10 times as deep as the diameter.

We recommend operational checks and servicing of the device every two years.

## Symptoms of functional failure:

fluctuations of the measured value : Battery exchange

**HI** also in the specified range: Sensor defect

Reading to high, strong fluctuation : moisture in the sensor or device.

## Identification for placing an order :

ZTM - 100 ma +30°C - +50°C x,x m dipsensor x,x m bodysensor

Pad diameter 40 or 30 mm ( expendable material )

Data transmission cable, Data transfer program ZTM 100 for PC (disk )

Delivery also without interface.

## Remark :

For specific measurement tasks the shape of the sensor as the measurement range can be configured.

We reserve the right for technical modifications