Temperature meter
EMT-300

User's manual

Version 18.01

1. Safety rules

- read this manual before use

- ensure working conditions (power supply, humidity, temperature) in accordance with the specifications

-The device complies with the requirements of PN-IEC 1010-1 for safety of electrical equipment for measurement, control and laboratory use, as well as the requirements of the EMC directive for electromagnetic compatibility

2. Characteristics of the device

EMT-300 is a single-range digital instrument designed for absolute temperature measurements, adapted to cooperate with **K**-type thermoelectric sensors according to PN-EN 60584-1. The measurement result is a linear function of temperature. The meter has electronic temperature compensation of the cold ends of the thermocouple.

3. Technical data

Product	type of sensor	indication range (°C)	indication range (°F)
EMT-300	**K**	**-73 ... 1370**	**-100 ... 2498**

Digital readout .... LCD backlit

Accuracy (for ambient temperature of 23±5°C) .... ±0.1% of reading ±1°C (±2°F)

Resolution of readings:

- for range -73.0°C ... 1370,0°C .... 0,1°C

- for the range -100.0°F ... 1999,9°F .... 0,1°F

- for a range of 2000°F ... 2498°F .... 1°F

Sensor input .... Miniature socket PN-EN 50212

Sampling frequency .... 4.5 times per second

Internal memory .... 150 measurement results

Case .... 150 x 72 x 35 mm (235g) lp30 Power   supply .... 6 1.5V AAA batteries

- Battery life .... 200 hrs with alkaline battery

Operating temperature .... 0°C...+50°C

Relative humidity .... 0- 80% RH without condensation

Signaling (messages on the display)

- measurement range exceeded .... **OL**

- sensor not connected or defective ....   **‒ ‒ ‒ ‒**

4. Meter functions

- Celsius or Fahrenheit temperature scale
- automatic turn off after 30 min.
- internal memory with a capacity of 150 results
- temperature display retention
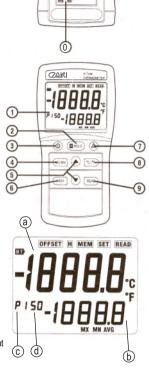- display of maximum, minimum and average values

Description of the meter's buttons

① LCD display

ⓐ main display - measured temperature

ⓑ bottom display - values **MAX**, **MIN**, **AVG**

ⓒ automatic power-off indicator

ⓓ memory - field of stored measurements

② HOLD button - pressing HOLD stops or releases the value of the measured temperature

③ power on/off button ①

④ MX/MN button - selection of what value is to be displayed on the lower display (Minimum, maximum, average). Pressing MX/MN for 2 sec - exit the mode

⑤ Buttons ▲ ▼ for browsing in READ

⑥ MEM button - each time it is pressed it memorizes the measured value

⑦ Δ button - entering the OFFSET mode. The readout value is set to zero and the displayed temperature is relative. The reference temperature is shown on the lower display.

  Pressing Δ again - exit the mode.

⑧ °C/°F button - selection of Celsius or Fahrenheit temperature scale.

⑨ READ button - overview of stored values. Pressing again - leaving the mode

⓪ socket for connecting temperature sensor

5. temperature measurement and handling of the meter

- connect the temperature sensor and turn it on on with the button ①

- select the temperature scale using the button **°C/°F**

- place the measuring end of the temperature sensor in the measured object and read the measured value from the display

Measurement of maximum, minimum or average temperature

Press **MX/MN** button to select the value to be displayed on the lower display: maximum **MX**, minimum **MN**, average **AVG**. The average value is calculated for 4 hours (after this time the calculation will start again).

Exit the mode by pressing the **MX/MN** button for 2 seconds.

Recording measurements and displaying registrations

Press the **MEM** button to enter the displayed value into memory. The display shows **MEM** and the memory position (from **1** to **150**). Pressing the **READ** button enters the **READ** mode for reviewing the stored values. The display will show the word **READ** and the current memory position. Use the buttons ▲ ▼ to view stored temperature values. Exit the mode by pressing the **READ** button .

Deleting the memory

Turn off the power of the meter by pressing ① . While holding down the **MEM** button , turn on the meter with the button ① . The display will show **ALL Clr**. By using the buttons ▲ ▼ select **YES** or **ПO** and then press the **MEM** button . If you selected **YES** the memory will be erased.

Automatic shutdown of the meter

The meter will automatically turn off if no button is pressed for 30 minutes.Note: automatic meter shutdown does not work in **MX/MN** mode.

Blocking the automatic shutdown of the meter

Turn off the power of the meter with the button ① . While holding down the **HOLD** button , turn the meter on with the button ① . The display will briefly show **P** and **OFF** . The automatic shutdown of the meter has been blocked, the automatic power-off indicator **P** disappears on the display.

Battery replacement

Discharged batteries are indicated by the word BT on the display. Batteries are placed in a container on the back of the meter. The container is closed with a single screw. Do not use the meter with discharged batteries.

Checking the meter

Short the terminals of the sensor input, the meter should show the ambient temperature.

6. Equipment.

- meter, 6 1.5V AAA batteries, instruction manual with warranty card

Additional accessories

To work with the EMT-300 temperature meter, we offer examples of temperature sensor types equipped with MT-K plug (sensor catalog is available at www.czaki.pl):

TP-101 ... TP-104
general-purpose

TP-105
universal with replaceable measuring elements

TP-111 ... TP-113
liquid temperature measurement

TP-121 ... TP-123
surface temperature measurement

TP-125 ... TP-127
surface temperature measurement

TP-131 ... TP-132
temperature measurement of soft pastes

TP-141 ... TP-142
gas temperature measurement

TP-201 ... TP-206
sheathed thermocouples