



# Penta III

## PORTABLE DIGITAL THERMOMETER WITH FIVE SENSORS

Ver.01



PENTA3V1-04T-10635

### 1. DESCRIPTION

Totally microcontrolled, **Penta III** monitors and indicates the temperature of 5 distinct points. It is a tool of great versatility, it is excellent to measure the temperature in central, automotive or window air-conditioning, freezers, check of overheating or overfreezing in cold rooms, mean temperature inside environments, equipment in general and liquids. It is also can be used at medical-hospital equipment.

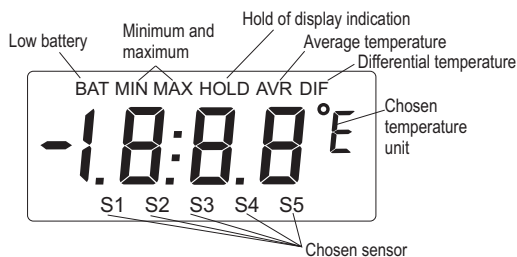
### Exclusive resources

- Automatic or manual selection of 5 sensors;
- Maximum and minimum temperature controls;
- HOLD Function (locking of instantaneous, maximum and minimum indications);
- Offset in the indications;
- Low battery indicator;
- Indication of damaged sensor or temperature out of range;
- Indication of differential temperature;
- Indication of average temperature;
- Selection of temperature unit (°C ou °F);
- Auto power off (Programmable time).

### 2. TECHNICAL SPECIFICATIONS

- **Power supply:** One 9V battery (The battery does not come with the product)
- **Temperature range:** -50.0 to 105.0°C  
-58.0 to 221°F
- **Operating temperature:** 0 to 50°C / 32 to 122°F
- **Resolution:** 0.1°C between 50.0 to 105.0°C  
0.1°F between 58.0 to 199.9°F  
1°F between 200 to 221°F
- **Accuracy:** ±0.3% f.s.
- **Number of sensors:** 5
- **Sensors cable:** 1 x 26 AWG microphone type
- **Length:** 1.5 m (or longer, on order)

### 3. DISPLAY INDICATIONS

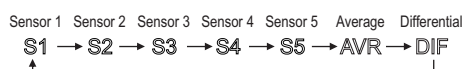


### 4. USE INSTRUCTIONS

- Press the key **ON** for 2 seconds to turn on the instrument.
- The temperature measured in sensor No. 1 will be displayed and the respective indication will be blinking on the display.
- To turn off the instrument hold pressing the key **OFF** for 2 seconds.

#### 4.1 - Sensor selection

- The selection of sensors is done pressing the key **SEL**.
- To activate the automatic sensors selection just keep the key **SEL** pressed for 3 seconds until the indication **Auto On** appears.
- In the automatic selection mode the temperature of each sensor is shown for 3 seconds and the corresponding indication blinks faster (2 times per second).
- To shut down the automatic selection, press the key **SEL** again for 3 seconds until the indication **Auto Off** is displayed.
- The selection of the sensors occurs in the following order:



The symbols of each sensor used in the calculation of average temperature will be displayed together with the average temperature value, as configured in the **5RE** function.

The **S1** and **S2** symbols will be displayed together with the differential temperature value.

#### 4.2 - Hold function

- Press the key **HOLD**, the instantaneous temperature's indications are hold.
- In **HOLD** mode, the **HOLD** indication stays on on the display.
- Even while on **HOLD** mode, the current instantaneous temperatures are registered.
- To exit this mode, press the key **HOLD** again.

#### 4.3 - Minimum / maximum function

- To view the minimum temperatures (Lo) and maximum (Hi) temperatures recorded in the selected sensor, just press the **MAX MIN**. The temperature together with the minimum and maximum will be displayed (**MIN MAX**).

**Obs 1:** When the device is on **HOLD** mode, the minimum and maximum temperature indications in relation to the instant in which **HOLD** is pressed are also saved.

- To reset the minimum and maximum registers of the current sensor you should hold pressing the key **MAX MIN** until the message **r 5 t** appears.
- During the automatic selection it is not possible to visualize minimum and maximum temperatures, although the temperatures continue to be registered.

### 5 - Functions menu

- To access the functions press simultaneously the keys **HOLD** and **MAX MIN** for 3 second until appears the message **F u n** on the display, releasing them after that.
- The keys **HOLD** and **MAX MIN** will take the functions of **▼** (decrease) and **▲** (increase), respectively and use them to choose the offset function for the sensor in question:

- 0 F 1** - Offset for Sensor 1
- 0 F 2** - Offset for Sensor 2
- 0 F 3** - Offset for Sensor 3
- 0 F 4** - Offset for Sensor 4
- 0 F 5** - Offset for Sensor 5
- 5 R E** - Average Temperature Sensor Settings
- t 0 F** - Time for automatic turn off
- U n i** - Temperature unit

Press **SEL** to enter into the function and then set the offset with the keys **HOLD** and **MAX MIN**. Press **SEL** to confirm. To leave the functions menu, press **SEL** for two seconds.

**Note:** If none of the keys are pressed for 10 seconds, the instrument will automatically leave the set mode, ignoring the alterations done.

#### 5.1 - Sensor Offset

- This is used to add an offset in the displayed value (needed when the sensor is replaced or the cable length is changed).

#### 5.2 - Average Temperature Sensor Settings

You can enable the sensors to be used in the calculation of the average temperature.

- 2** - Sensors 1 and 2
- 3** - Sensors 1, 2 and 3
- 4** - Sensors 1, 2, 3 and 4
- 5** - Sensors 1, 2, 3, 4 and 5

#### 5.3 - Auto power off timeout

Sets the amount of time the device waits before turning itself OFF when no key is pressed. If you want to disable this function, decrease the value until **0 F F** is displayed.

#### 5.4 - Selection of the temperature units

- It configures the unit of temperature between **°C** (Celsius) and **°F** (Fahrenheit). When confirming this function the message **F R C** will be shown in the display.

**Obs2:** When changing the temperature unit the offsets configured by the user will be lost.

### 6 - Important notes

- If the temperature on the sensor is out of the specified range (-50.0 to 105.0°C / -58.0 to 221°F) or the sensor is damaged (shorted out or open) the **E r r** indication will appear on the display.
- When the low battery indication appears (**BAT**), change the battery.
- Do not keep the instrument for long periods of time with the battery inside.

**Obs3:** When the instrument is turned off the minimum and maximum temperature registers are lost and reset, as well as the indications hold in the **HOLD** function.