

# Pt100 Thermometer TR 110 – TR 112

CE



## KEY POINTS

- Adjustable alarms
- Adjustable backlight
- Hold-min-max function
- Selection of units

## TECHNICAL FEATURES

<b>Measuring element</b>	Pt100 class A
<b>Number of channels</b>	TR110 : 1 channel TR112 : 2 channels
<b>Display</b>	4 lines, LCD technology. Sizes 50 x 36 mm. 2 lines of 5 digits with 7 segments (value) 2 lines of 5 digits with 16 segments (unit)
<b>Housing</b>	ABS, protection IP54
<b>Keypad</b>	5 keys
<b>Connector</b>	Compensated miniature female connectors
<b>Conformity</b>	Directives EMC 2004/108/CE and EN 61010-1
<b>Power supply</b>	4 batteries AAA LR03 1.5 V
<b>Battery life</b>	180 hours
<b>Ambience</b>	Neutral gas
<b>Operating temperature</b>	From 0 to +50 °C
<b>Storage temperature</b>	From -20 to +80 °C
<b>Auto shut-off</b>	Adjustable from 0 to 120 min
<b>Weight</b>	210 g



## SPECIFICATIONS

Measuring units	Measuring range	Accuracy <sup>1</sup>	Resolution
<b>Pt100 probes (see related data sheet)</b>			
°C, °F	From -100 to +400 °C	±0.4% of reading ±0.3°C	0.1 °C

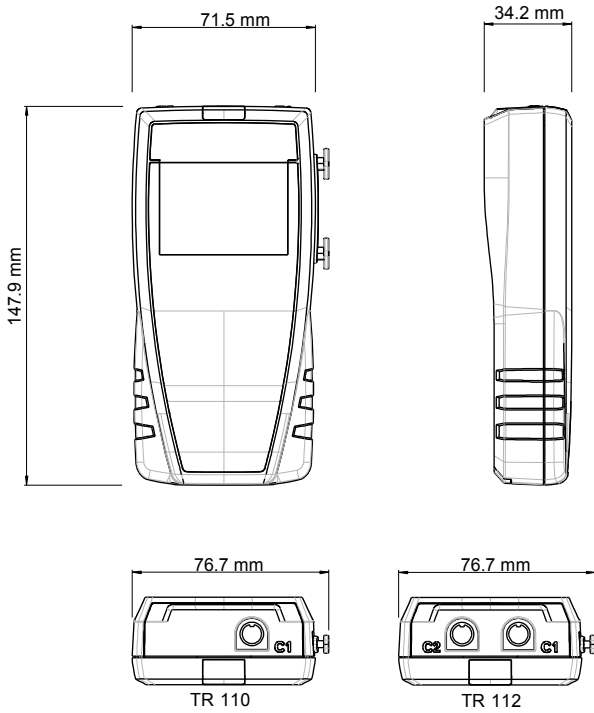
<sup>1</sup>All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurements carried out in the same conditions, or carried out with required compensation.

## FUNCTIONS

- Selection of temperature units
- Adjustable alarms
- Hold function
- Display of minimum and maximum values
- Configurable auto shut-off
- Backlight
- Delta temperature (TR112)

\*Except TR112 S

## DIMENSIONS



## OPERATING PRINCIPLES

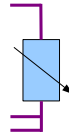
### Thermometer : Pt100 probe

Pt100 is a resistance with a positive temperature coefficient which varies according to the temperature. The higher the temperature is, the more the value of the resistance increases.

ie : for 0°C ≈ 100 Ω

For 100°C ≈ 138,5 Ω.

Platinum resistance



## GUARANTEE

Instruments have 1-year guarantee for any manufacturing defect (return to our After-Sales Service required for appraisal).

## SUPPLIED WITH

- Instruments are supplied with :
- Calibration certificate\*
  - Transport case (ref : ST 110)



\*Except TR112 S

## ACCESSORIES

**CQ 15** : Magnetic protective housing



**RTE** : Telescopic extension, length 1m, with index at 90°

Pt100 temperature probe

Black ball Ø 150 mm with stuffing box for temperature probe Ø 4.5 mm. Other on request.

**MT 51** : ABS transport case



## MAINTENANCE

We carry out calibration, adjustment and maintenance of your instruments to guarantee a constant level of quality of your measurements. As part of Quality Assurance Standards, we recommend you to carry out a yearly checking.

# PT100 thermometer TR 110 – TR 112

## DESCRIPTION OF THE DEVICE



## PERFORM A MEASUREMENT

- Turn on the device by pressing on « **On/Off/Esc** ».  
*The device displays its name « TR110 » or « TR112 ».*
  - Put the probe to the required location.  
*The device displays the temperature measurement with below the type of thermocouple.*
- If the used thermometer is the TR112 with two connected probes, the device will display the two measurements.*
- Press on « **OK** » to display the delta between the two temperatures.

## FREEZE THE MEASUREMENT

- During the measurement :*
- Press once on « **Hold/min/max** ».  
*« Hold » appears on screen and the measurement is frozen.*
  - Press on « **On/Off/Esc** » to exit the hold function.  
*The device returns to the measurements display.*

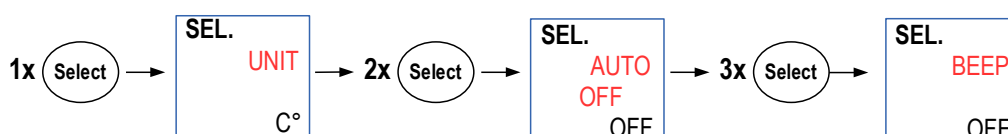
## DISPLAY THE MINIMUM AND THE MAXIMUM

Once the measurement is frozen :

- Press once on « **Hold/min/max** ».
  - If the device is a « **TR110** » or a « **TR112** » with one connected probe, the device displays the maximum value measured since the last questioning at the top of the screen and the minimum value measured since the last questioning at the bottom of the screen.
  - If the device is a « **TR112** » with two connected probes, the device displays the maximum value of the probe C1 measured since the last questioning at the top of the screen and the minimum value of the probe C1 since the last questioning at the bottom of the screen.
- Press again on « **Hold/min/max** » if the device is a « **TR112** » with two connected probes.  
The device displays the maximum value of the probe C2 measured since the last questioning at the top of the screen and the minimum value of the probe C2 since the last questioning at the bottom of the screen.
- Press on « **On/Off/Esc** » to return to the measurement display.

## ADJUST THE DEVICE

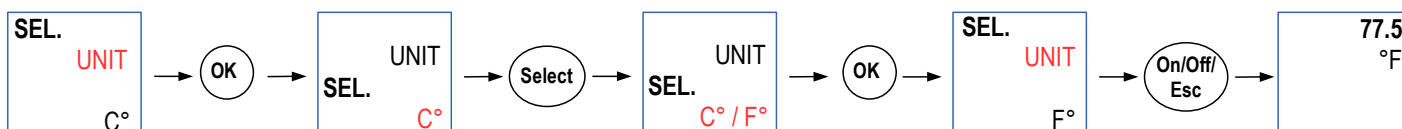
### • Device drop-down menu



### Select the temperature unit :

The device is on and displays the measurement.

- Press on « **Select** » until « **UNIT** » blinks on screen.
- Press on « **OK** ».  
The unit currently used blinks on screen.
- Press on « **Select** » until the required unit appears : °C or °F.
- Press on « **OK** » to validate the unit selection.  
« **UNIT** » blinks on screen.
- Press on « **On/Off/Esc** » to return to the measurement display.



### Adjust the auto shut-off :

The device is on and displays the measurement.

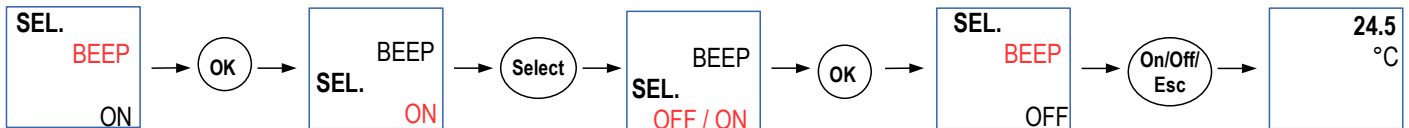
- Press on « **Select** » until « **AUTO OFF** » blinks on screen.
- Press on « **OK** ».  
The time before device auto shut-off blinks at the bottom of the screen.
- Press on « **Select** » until the required time before auto shut-off appears : 15, 30, 45, 60, 75, 90, 105, 120 minutes or OFF.
- Press on « **OK** » to validate.  
« **AUTO OFF** » blinks on screen.
- Press on « **On/Off/Esc** » to return to the measurement display.



### Activate or deactivate the keys beep :

The device is on and displays the measurement.

- > Press on « **Select** » until « **BEEP** » blinks on screen.
- > Press on « **OK** ».  
« **OFF** » or « **ON** » blinks on screen.
- > Press on « **Select** » to activate the keys beep « **ON** » or deactivate it « **OFF** » .
- > Press on « **OK** » to validate.  
« **BEEP** » blinks on screen.
- > Press on « **On/Off/Esc** » to return to the measurement display.



### Adjust the alarm :

This function allows to activate a temperature alarm on the channel 1 when the device reaches and exceeds a previously defined threshold.

This threshold will be between -100 and +400°C.

The device is on and displays the measurement.

- > Press on « **Select** » until « **AL 1** » blinks on screen.
- > Press on « **OK** ».  
The first digit blinks. This first digit also allows to deactivate the alarm.
- > Press on « **Select** » to select its value : -, 0 or off.
  - If OFF is selected, the alarm is deactivated. Press on « **OK** » to validate, « **AL 1** » blinks.
  - If 0 or – is selected, press on « **OK** ». The following digit blinks, press on « **Select** » to select its value (between 0 and 4) then press on « **OK** ». Perform the same procedure to select the value (0 and 9) of the following digits (press on « **On/Off/Hold** » to return to the previous digit). Press on « **OK** » when the first digit is adjusted : « **AL 1** » blinks.
- > Press on « **On/Off/Esc** » to return to the measurement display.

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## ACTIVATE THE BACKLIGHT

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The device is on.

- > Press on « **Backlight** » :  to activate the device backlight.
- > Press again on this key to deactivate the backlight.

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## CHANGE THE BATTERIES

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- > Remove the front part at the back of the device.
- > Change the old batteries by AAA LR03 1.5V batteries.
- > Replace the front.