



# NTC Thermometers

## TN 100, 101, 102 & TN 150, 151

New

CE



### Functions

- Temperature
- Selection of units
- HOLD function
- Minimum and maximum values
- Adjustable automatic shut-off
- Adjustable backlight
- Delta T (TN 102)
- Adjustable alarms (TN 150 & TN 151)
- Auto-Hold function (TN 150 & TN 151)

### Technical features

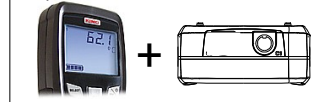
|                            |   |
|----------------------------|---|
| Measuring element.....     | NTC : resistance at 25°C, $R_{25} = 10K\Omega$ Nominal<br>Beta B25/85 value = $3,695K \pm 1\%$  |
| Display.....               | 2 lines, LCD technology. Size 50 x 34.9 mm.<br>1 line of 5 digits with 7 segments (value)<br>1 line of 5 digits with 16 segments (unit) |
| Housing.....               | Shock-proof made of ABS, IP54 protection<br>or IP65 with food industry protective cover   |
| Keypad.....                | Metal-coated with 5 keys  |
| Cable.....                 | retractable, length 450 mm,<br>up to 2.4 m when released (TN101)<br>straight, white, lg. 2 m (TN151)                                    |
| Conformity.....            | electromagnetical compatibility (NF EN 61326-1 guideline)   |
| Power supply.....          | 1 alkaline battery 9V 6LR61   |
| Operating temperature..... | from 0 to 50°C  |
| Storage temperature.....   | from -20 to +80°C   |
| Auto shut-off.....         | adjustable from 0 to 120 min  |
| Weight.....                | 190g  |
| Languages.....             | French, English   |



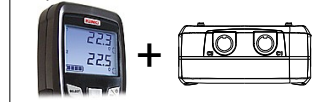
TN 101 - Fixed probe



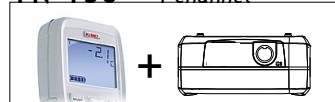
TN 100 - 1 channel



TN 102 - 2 channels



TN 150 - 1 channel



TN 151 - Fixed probe



\*except class 100S and 150S

## Specifications

|                                     | Measuring units | Measuring ranges  | Accuracy*                               | Resolutions |
|-------------------------------------|-----------------|-------------------|---|-------------|
| <b>TEMPERATURE</b>                  |                 |                   |   |             |
| <b>TN 101</b><br><i>fixed probe</i> | °C, °F          | from -40 to 120°C | ±0.3°C (-40°C<T<+70°C)<br>±0.5°C beyond | 0.1 °C      |
| <b>TN 100</b><br><i>1 channel</i>   | °C, °F          | from -40 to 120°C | ±0.3°C (-40°C<T<+70°C)<br>±0.5°C beyond | 0.1 °C      |
| <b>TN 102</b><br><i>2 channels</i>  | °C, °F          | from -40 to 120°C | ±0.3°C (-40°C<T<+70°C)<br>±0.5°C beyond | 0.1 °C      |
| <b>TN 151</b><br><i>fixed probe</i> | °C, °F          | from -40 to 120°C | ±0.3°C (-40°C<T<+70°C)<br>±0.5°C beyond | 0.1 °C      |
| <b>TN 150</b><br><i>1 channel</i>   | °C, °F          | from -40 to 120°C | ±0.3°C (-40°C<T<+70°C)<br>±0.5°C beyond | 0.1 °C      |

\*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.

## Working principle

### Thermometer : NTC probe

Negative temperature coefficient probe are thermistance with a resistance that decreases with temperature according to the equation below :

$$R_{(T)} = R_{(T_0)} e^{\left( \frac{\alpha}{100} \times (T_0 + 273.15)^2 \times \left( \frac{1}{T + 273.5} - \frac{1}{T_0 + 273.5} \right) \right)}$$

RT= resistance sensor value at temperature T

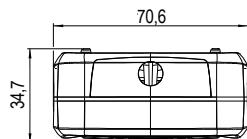
R(T<sub>0</sub>)= resistance sensor value at reference temperature T<sub>0</sub>

T and T<sub>0</sub> in °C

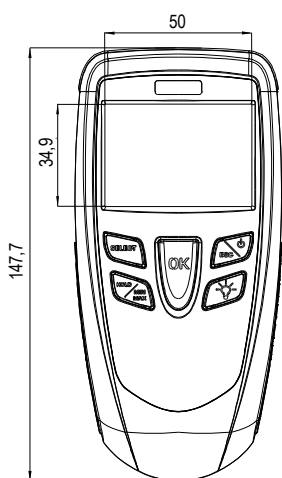
α and T<sub>0</sub> sensor specific constants

## Dimensions

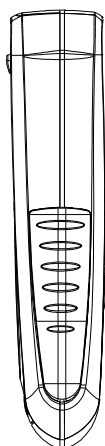
### • Top view



### • Front view



### • Side view



## Supplied with ...

● Included ○ Optional

| DESCRIPTION                      | TN 100 | TN 101 | TN 102 | TN 150 | TN 151 |
|----------------------------------|--------|--------|--------|--------|--------|
| NTC temperature probe            | ○      | ○      | ○      | ○      | ○      |
| Penetration NTC probe            |        | ●      |        |        |        |
| Food industry penetration probe: |        |        |        |        | ●      |
| Protective cover IP65            | ●      | ●      | ●      | ●      | ●      |
| Calibration certificate*         | ●      | ●      | ●      | ●      | ●      |
| Transport case                   | ●      | ●      | ●      | ●      | ●      |



### Large choice of temperature probes (See related datasheet) :

- ambient
- penetration
- food industry penetration
- general use



\*except class 100S and 150S

## Accessories (See related datasheet)

| CE 100  | BN (See related datasheet)  |
|---|---|
| Protective cover with magnet and holding system.                  | Black ball Ø 150mm with junction for temperature probe Ø 4,5mm. Further dimensions available. |
| RTS<br>Telescopic extension (for probe), 1m long and bent at 90°. | GST<br>Silicone heat-conductive grease for temperature probes                                 |

## Warranty period

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

FTang – TN 100-TN150 - 05/08 B – We reserve the right to modify the characteristics of our products without notice.