



Thermometers
special food industry

TK 150 / TN 150 - TN 151 / TR 150 - TR 151

New
CE



Functions

- Selection of units
- HOLD function
- Simplified mode function
- Minimum and maximum value
- Adjustable automatic shut-off
- Adjustable back-light
- Delta T
- Adjustable alarms
- Auto-Hold function

Technical features

- Display**.....2 lines, LCD technology. Size 50 x 34,9 mm.
1 line of 5 digits of 7 segments (value)
1 line of 5 digits of 16 segments (unit)
- Housing**.....Shock-proof made of ABS, IP67 protection with CEP 150 food industry protective cover
- Keypad**.....Metal coated with 5 keys
- Cable**.....Straight, lg. 1 meter
- Connectics**.....Mini-DIN connectors (TN150-TN151) compensated miniature female connectors (TK150)
- Conformity**.....Electromagnetical compatibility (NF EN 61326-1 guideline)
- Power supply**.....1 alkaline battery 9V 6LR61
- Environment**.....Neutral gas
- Operating temperature**.....from 0 to 50°C
- Storage temperature**.....from -20 to +80°C
- Auto-extinction**.....adjustable from 0 to 120 min
- Weight**.....190g
- Languages**.....French, English

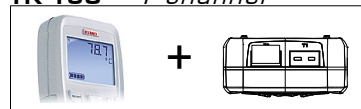
Measuring element

- TK 150.....Thermocouple K, J, T or S class 1
- TN 150 - TN 151.....CTN : resistance à 25°C, R₂₅ = 10KΩ Nominal
Beta value B25/85 = 3,695K ±1%
- TR 150 - TR151.....Pt 1000 class A

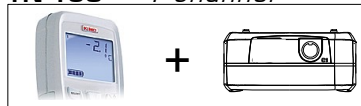


"Supplied with CEP 150 protective cover"

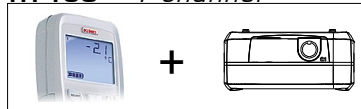
TK 150 - 1 channel



TN 150 - 1 channel



TR 150 - 1 channel



TN 151 - Fixed probe



TR 151 - Fixed probe



*except class 150S

Specifications

TK 150

| | Measuring units | Measuring ranges | Accuracy* | Resolutions |
|---|-----------------|----------------------|------------------------------|-------------|
| THERMOCOUPLE PROBES (see related data sheet) | | | | |
| Thermocouple K | °C, °F | from -200 to +1300°C | ±1.1°C or ±0.4% of reading** | 0.1 °C |
| Thermocouple J | °C, °F | from -100 to +750°C | ±0.8°C or ±0.4% of reading** | 0.1 °C |
| Thermocouple T | °C, °F | from -200 to +400°C | ±0.5°C or ±0.4% of reading** | 0.1 °C |
| Thermocouple S | °C, °F | from 0 to 1760 °C | ±1°C or ±0.4% of reading** | 0.5 °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.
**the accuracy is expressed either by a deviation in °C, or by a percentage of the value concerned. Only the bigger value is considered.

TN 150-TN151

| | Measuring units | Measuring ranges | Accuracy* | Resolutions |
|-----------------------|-----------------|--------------------|---|-------------|
| TEMPERATURE | | | | |
| TN 151 Fixed probe | °C, °F | from -40 to +120°C | ±0.3°C (-40°C<T<+70°C) ±0.5°C beyond | 0.1 °C |
| TN 150 1 channel | °C, °F | from -40 to +120°C | ±0.3°C (-40°C<T<+70°C) ±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.

TR 150

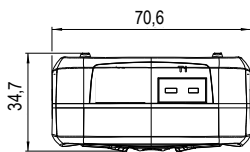
| | Measuring units | Measuring ranges | Accuracy* | Resolutions |
|-----------------------------|-----------------|---------------------|--------------|-------------|
| TEMPERATURE | | | | |
| TR 151 Fixed probe | °C, °F | from -50 to +250°C | ±0.4% ±0.3°C | 0.1 °C |
| TR 150 Pt 1000 1 channel | °C, °F | from -100 to +400°C | ±0.4% ±0.3°C | 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.

Dimensions

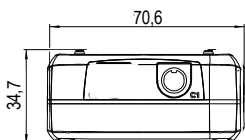
TK 150

• Top view



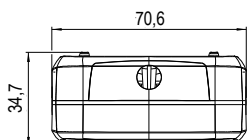
TN 150 / TR 150

• Top view



TN 151 / TR 151

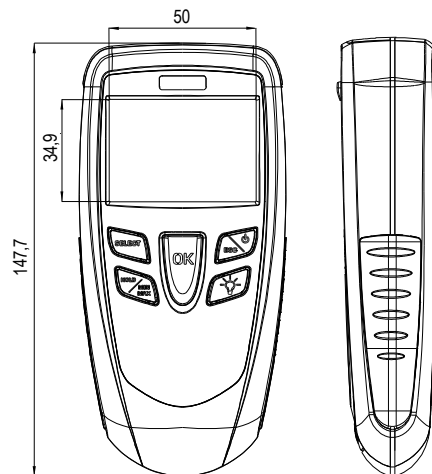
• Top view



TK 150 / TN 150-TN 151 / TR 150-TR151

• Front view

• Side view

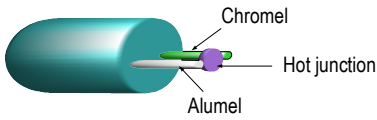


Working principle

TK 150

According to the Seebeck effect, when two wires composed of different metals are joined at both ends, an electric circuit is formed. The voltage increases with temperature.

I.E : Thermocouple K



TN 150 – TN 151

Thermometer : NTC probe

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

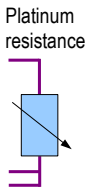
$$R_{(T)} = R_{(T_0)} e^{\left(\frac{\alpha}{100} \times (T_0 + 273.15)^2 \times \left(\frac{1}{T + 273.5} - \frac{1}{T_0 + 273.5} \right) \right)}$$

RT= resistance sensor value at temperature T
 R(T₀)= resistance sensor value at reference temperature T₀. T and T₀ in °C
 α et T₀ are sensor specific constants

TR 150 – TR151

Thermometer : Pt1000 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 ≈ 1000 Ω
 For 100°C ≈ 1385 Ω.



Supplied with ...

● Supplied with ○ Optional

| DESCRIPTION | TK 150 | TN 150 | TN 151 | TR 150 | TR 151 |
|--|--------|--------|--------|--------|--------|
| Thermocouple probe | ○ | | | | |
| NTC temperature probe | | ○ | | | |
| Pt1000 food industry penetration probe | | | ● | | |
| Food industry penetration probe | | | | | ● |
| Choice of Pt 1000 temperature probe | | | | ○ | |
| Food industry protective cover IP67 | ● | ● | ● | ● | ● |
| Calibration certificate* | ● | ● | ● | ● | ● |
| Transport case | ● | ● | ● | ● | ● |

*except class 150S



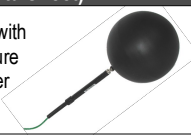


Large choice of temperature probes (See related data sheet) :

- ambient
- contact
- penetration
- food industry penetration
- general use
- Etc...



Accessories (See related data sheet)

| CE 100 | GST |
|---|--|
| Protective cover with magnet and holding system  | Silicone heat-conductive grease for temperature probes  |
| BN (See related data sheet) | |
| Black ball Ø 150mm with junction for temperature probe Ø 4,5mm. Other on request.  | |



Warranty period

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

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