



Calibration
certificate

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

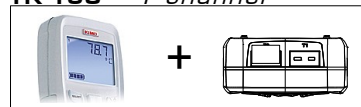
Measuring element

TK 150.....	Thermocouple K, J, T or S class 1
TN 150 - TN 151.....	CTN : resistance à 25°C, $R_{25} = 10K\Omega$ Nominal Beta value B25/85 = 3,695K $\pm 1\%$
TR 150 - TR151.....	Pt 1000 class A

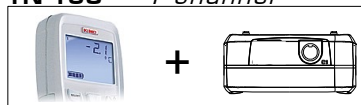


"Supplied with CEP 150 protective cover"

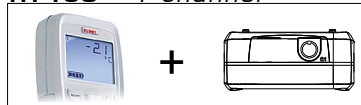
TK 150 - 1 channel



TN 150 - 1 channel



TR 150 - 1 channel



TN 151 - Fixed probe



TR 151 - Fixed probe



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

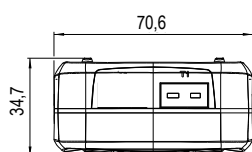
	Measuring units	Measuring ranges	Accuracy*	Resolutions
TEMPERATURE				
TR 151 Fixed probe	°C, °F	from -50 to +250°C	±0.4% ±0.3°C	0.1 °C
TR 150 Pt 1000 1 channel	°C, °F	from -100 to +400°C	±0.4% ±0.3°C	0.1 °C

*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

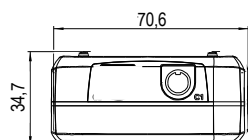
TK 150

• Top view



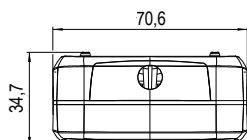
TN 150 / TR 150

• Top view



TN 151 / TR 151

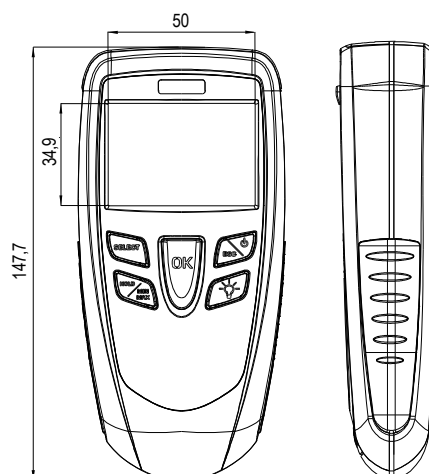
• Top view



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

• Front view

• Side view

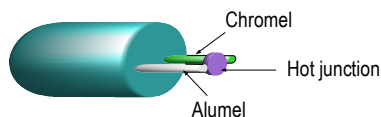


Working principle

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 thermistors with a resistance that decreases with temperature according to the equation below :

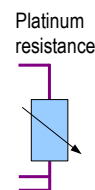
$$R_{(T)} = R_{(T_0)} e^{\left(\frac{\alpha}{100} \times (T_0 + 273.15)^2 \times \left(\frac{1}{T + 273.5} - \frac{1}{T_0 + 273.5} \right) \right)}$$

RT = resistance sensor value at temperature T
 $R(T_0)$ = resistance sensor value at reference temperature T0. T and T0 in °C
 α et T_0 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...

CEP 150



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).

