HD2328.0
TWO INPUTS THERMOCOUPLE THERMOMETER

HD2328.0 with **two inputs** is a portable instrument with a large LCD display. It measures temperature by means of immersion, penetration, contact or aria probes. Its sensor can be a K, J, T or E thermocouple type.
Functions Max, Min and Avg calculate maximum, minimum and average values. Further functions are: REL relative measure, HOLD and automatic switching-off system**. The instrument has IP67 protection degree.**

TECHNICAL SPECIFICATIONS OF THE INSTRUMENTS

Instrument

Dimensions (Length x Width x Height)	140x88x38mm
Weight	160g (complete with batteries)
Materials	ABS
Display	2x4½ digits plus symbols Visible area: 52x42mm

Operating conditions

Operating temperature	-5 … 50°C
Storage temperature	-25 … 65°C
Working relative humidity	0 … 90% RH, no condensation
Protection degree	**IP67**

Power supply

Batteries	3 Batteries 1.5V type AA
Autonomy	200 hours with 1800mAh alkaline batteries
Current consumption with instrument off	< 20µA

Unit of measurement — *°C - °F*

Connections

Probes input	2 per 2-pole female polarized standard miniature connector

Temperature measure of the instrument

TC measuring range: K	-200…+1370°C
TC measuring range: J	-100…+750°C
TC measuring range: T	-200…+400°C
TC measuring range: E	-200…+750°C
Resolution	**0.1°C**
Instrument accuracy	
Thermocouple K	±0.1°C up to 600°C ±0.2°C over 600°C
Thermocouple J	±0.1°C up to 400°C ±0.2°C over 400°C
Thermocouple T	±0.1°C
Thermocouple E	±0.1°C up to 300°C ±0.2°C over 300°C

Accuracy is referred to the instrument only; error due to the thermocouple or to the cold junction reference sensor is not included.

Temperature drift @20°C	0.02%/°C
Drift after 1 year	0.1°C/year

Thermocouple probes accuracy:
Tolerance of a type of thermocouple corresponds to the maximum acceptable shift from the e.m.f. of any thermocouple of that type, with reference junction at 0°C. The tolerance is expressed in degrees Celsius, preceded by the sign. The percentage tolerance is given by the ratio between the tolerance expressed in degrees Celsius and the measurement junction temperature, multiplied by one hundred.
The tolerances refer to the operating temperature expected for the thermocouple, in agreement with the thermo-elements' diameter.
Those thermocouples that comply with the limits for temperatures over 0°C, do not necessarily comply with the limits for ranges below 0°C.

Tolerance classes for thermocouples (reference junction at 0°C)

Type of thermocouple	Tolerance Class 1	Tolerance Class 2	Tolerance Class 3 [1]
Type T Temperature interval Tolerance Temperature interval Tolerance	from -40 to +125°C ± 0.5°C from 125 to 350°C ± 0.004 · |t|	from -40 to +133°C ± 1°C from 133 to 350°C ± 0.0075 · |t|	from -67 to+40°C ± 1°C from -200 to -67°C ± 0.015 · |t|
Type E Temperature interval Tolerance Temperature interval Tolerance	from -40 to +375°C ± 1.5°C from 375 to 800°C ± 0.004 · |t|	from -40 to +333°C ± 2.5°C from 333 to 900°C ± 0.0075 · |t|	from -167 to +40°C ± 2.5°C from -200 to -167°C ± 0.015 · |t|
Type J Temperature interval Tolerance Temperature interval Tolerance	from -40 to +375°C ± 1.5°C from 375 to 750°C ± 0.004 · |t|	from -40 to +333°C ± 2.5°C from 333 to 750°C ± 0.0075 · |t|	- - - -
Type K, type N Temperature interval Tolerance Temperature interval Tolerance	from -40 to +375°C ± 1.5°C from 375 to 1000°C ± 0.004 · |t|	from 40 to +333°C ± 2.5°C from 333 to 1200°C ± 0.0075 · |t|	from -167 to+40°C ± 2.5°C from -200 to -167°C ± 0.015 · |t|

[1] Materials for thermocouples are generally supplied so to comply with the factory tolerances specified in the table for temperatures over -40°C. However these materials can sometimes not comply with the factory tolerances for the low temperatures reported under Class 3, for thermocouples of T, E, K and N type, when thermocouples have to comply at the same time the limits of Class 3 and Class 1 and/or Class 2.

PURCHASING CODES

HD2328.0: The kit consists of **two inputs** instrument HD2328.0, 3 per 1.5V alkaline Batteries, instruction manual, case. **Probes have to be ordered separately.**

Thermocouple probes
Any thermocouple probe with standard miniature connector available on the price list can be connected to these instruments.
Please see pages from 17 to 21.