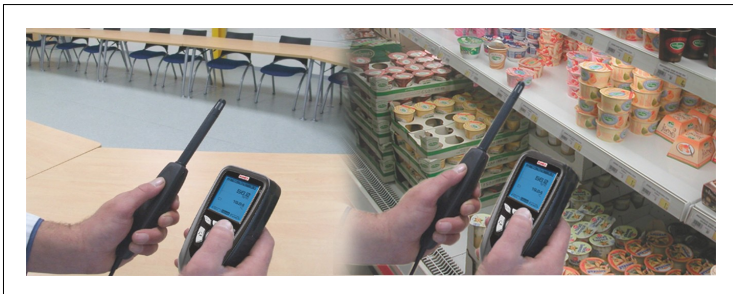
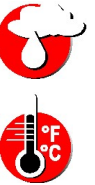




*New*

# HD 200 Thermo-hygrometer



## Advantages

- Interchangeable measurement modules
- User-friendly (Joystick navigation)
- Large graphic display
- Blue backlight
- Up to 8,000 measurement points
- Up to 6 measurements simultaneously
- Instrument/PC wireless communication
- Wireless probes

## Connection



- Interchangeable measurement modules**  
1 instrument = more than 1 range and 1 parameter available.
- Wireless connection**  
Instrument / PC  
Instrument / probe
- Smart-plus system**  
Wireless or wired probes automatically recognized when connected to the instrument.

## The thermo-hygrometers

HD 200 STD - Current/voltage module - Standard Smart-plus probe  
HD 200 HT - Current/voltage module - High temperature Smart-plus probe



Thermocouple temperature module - 4 channels



Wireless hygrometry probe - Large choice



Wired temperature probe - Large choice



Wireless temperature probe - Large choice



## Functions



### Thermo-hygrometer

#### HYGROMETER

- Selection of units
- Minimum / maximum values and hold function
- Storage

#### PSYCHROMETER

- Dew point, wet temperature, enthalpy, absolute temperature
- Minimum / maximum values and hold function
- Storage

#### SURFACE DEW POINT

With contact temperature probe

- Minimum / maximum values and hold function
- Storage

#### WBGT index

For hygrometry probe with black ball.

- Calculation of comfort index inside / outside
- Storage



### Thermometer

#### THERMOCOUPLE MODULE

- Dynamic delta T
- Selection of units
- Minimum / maximum values and hold function
- 4-channel storage of thermocouple K, J and T
- Calculation of U-value

#### TEMPERATURE PROBES

- Dynamic delta T
- Selection of units
- Minimum / maximum values and hold function
- Storage

#### Current / voltage module

- Adjustable ranges
- Minimum / maximum values and hold function
- Storage

#### Datalogger-10

- Multi-parameters recording
- Manual and automatic storage
- Memory : up to 8,000 measurement points or 50 datasets
- User-friendly with printing of customized report
- Management of instruments pool, follow-up of calibration periods
- Intervention planning
- Wired or wireless interface



## Technical features

### Sensing elements

Hygrometry : capacitive sensor

Temperature : Pt100 1/3 DIN

### HD200 connection

**On the top :**

2 secured mini-DIN connectors for SMART-Plus probes

**Left side :**

1 USB port for KIMO cable only

1 power supply plug

### Interchangeable measurement modules

**Thermocouple module :**

**Connection :** 4 inputs for compensated miniature male plug of thermocouple type K, J or T Class 1 (as per IEC 584-3 norm)

**Current / voltage module :**

**Connection :** 2 stereo jacks

### Display

Graphic display 128x128 pixels

Dim. 50 x 54 mm

Blue backlight

Display of 6 measurements (including 4 simultaneously)

### Housing

ABS shock-proof

IP54

### Keypad

Metal-coated,

5 keys

1 joystick

### Conformity

Electromagnetical compatibility

(NF EN 61326-1 norm)

### Power supply

4 alkaline batteries 1,5V LR6

### Operating environment

Neutral gas

### Operating temperature

from 0 to +50°C

### Storage temperature

from -20 to +80°C

### Auto shut-off

adjustable from 0 to 120 min

### Weight

340g

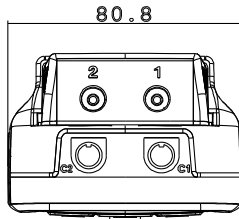
### Languages

French, English, Dutch, German, Italian, Spanish, Portuguese, Swedish, Norwegian, Finn, Danish

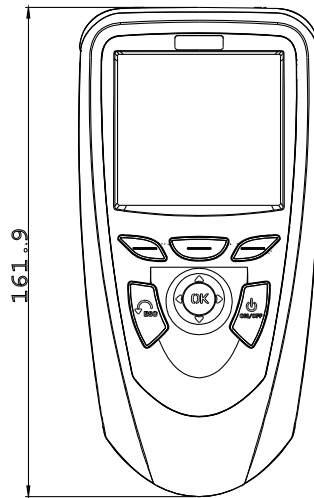


## Dimensions

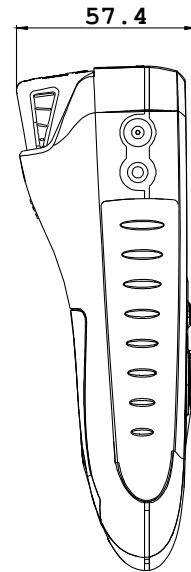
• On the top








• Front view



• Side view



## Specifications

	Measuring units	Measuring range	Accuracy*	Resolutions	
<b>CURRENT / VOLTAGE</b>					
	V, mA	from 0 to 2,5 V from 0 to 10 V from 0 to 4/20 mA	±2mV ±10mV ±0.01mA	0.001 V 0.01 V 0.01 mA	
<b>THERMOCOUPLE (See related datasheet)</b>					
	°C, °F	K: from -200 to 1,300°C J: from -100 to 750°C T: from -200 to 400°C	±1,1°C or ±0,4% of reading*** ±0,8°C or ±0,4% of reading*** ±0,5°C or ±0,4% of reading***	0.1 °C 0.1 °C 0.1 °C	
<b>HYGROMETRY PROBES</b>					
<b>STD</b> 	Relative humidity	%RH	From 3 to 98 %RH	<b>Accuracy** (Repeatability, linearity, hysteresis):</b> ±1,5%RH (from 15°C to 25°C) <b>Factory calibration uncertainty:</b> ±0,88 %RH <b>Temperature dependence:</b> ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	
	Absolute humidity	g/Kg	From 0 to 600 g/Kg		
	Dew point	°C <sub>td</sub> , °F <sub>td</sub>	From -50 to +80°C <sub>td</sub>		±0.6% of reading ±0.5°C
	Ambient temperature	°C, °F	From -20 to +80°C		±0.3% of reading ±0.25°C
<b>H.T</b> 	Relative humidity	%RH	From 3 to 98 %RH	<b>Accuracy** (Repeatability, linearity, hysteresis):</b> ±1,5%RH (from 15°C to 25°C) <b>Factory calibration uncertainty:</b> ±0,88 %RH <b>Temperature dependence:</b> ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	
	Absolute humidity	g/Kg	From 0 to 600 g/Kg		
	Dew point	°C <sub>td</sub> , °F <sub>td</sub>	From -50 to +80°C <sub>td</sub>		±0.6% of reading ±0.5°C
	Ambient temperature	°C, °F	From -40 to +180°C		±0.3% of reading ±0.25°C
<b>WIRED OR WIRELESS Pt100 PROBES (See related datasheet)</b>					
	°C, °F	From -50 to 250°C (According to model)	±0,3% of reading ±0.25°C (According to model)	0.01 °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.

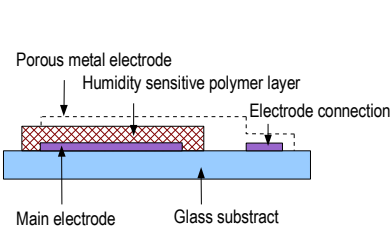
\*\* As per NFX 15-113 and the Charter 2000/2001 HYGROMETERS, GAL (Guaranteed Accuracy Limit) which has been calculated with a coverage factor value of 2 is ±2.88%RH between 18 and 28°C on the measuring range from 5 to 95%RH. Sensor drift is less than 1%RH/year.

\*\*\*The accuracy is expressed either by a deviation in °C, or by a percentage of the value concerned. Only the bigger value is considered.

## Working principle

### Capacitive sensing element for relative humidity measurement

Inside the probes, a capacitive polymer layer reacts with the humidity present between two metal layers which cover a glass substract. Water absorption is a function of relative humidity of the surrounding environment, and modifies the dielectric constant. The measured signal is directly proportionnal to the relative humidity and is dependent on the atmospheric pressure.



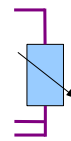
$$C(RH) = \frac{\epsilon_{RH} * \epsilon_0 * A}{d}$$

C Capacity of relative humidity sensor  
 $\epsilon_{RH}$  Relative dielectric permittivity, humidity dependent  
 $\epsilon_0$  Void permittivity  
 A Electrodes area  
 d Electrodes spacing  
 RH Relative humidity

### 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



### WBGT index (Wet bulbe globe temperature)

For hygrometry probe with black ball.

The wet bulbe globe temperature (ISO 7243 norm) is a composite temperature used to estimate the effect of temperature, humidity and solar radiation on humans.

## Supplied with...

● Supplied with ○ Option



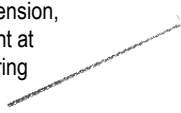








DESCRIPTION	HD 200 STD	HD 200 HT	HD 200
Current / voltage module	●	●	●
Thermocouple temperature module	○	○	○
Standard hygrometry probe	●	○	○
Wireless standard hygrometry probe	○	○	○
High temperature hygrometry probe	○	●	○
Wireless high temperature hygrometry probe	○	○	○
Thermocouple K, J and T probe	○	○	○
SMART-Plus Pt100 probe	○	○	○
Wireless Pt100 probe	○	○	○
8 rechargeable batteries with charger	○	○	○
Input current /voltage cable	●	●	●
Calibration certificate	●	●	●
Transport case	●	●	●

Large choice of temperature probes (See related datasheet) :

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



## Accessories (See related datasheet)

Datalogger-10	KPIJ 20 - 50 - 100 - 200 - 600	RTS	CTC-P
Datalogger-10 PC software for data recording and processing. Wired (LPCF) or wireless (LPCR) interface. 	Ammeter clamp with PVC cable lg. 2m and jack connector. 	Telescopic extension, length 1 m, bent at 90° for measuring probe. 	Input current/voltage cable 
CE 200 	GST Silicone heat conductive grease for temperature probes 	ADS Adaptor for power supply 230 Vac 	BNF Aerosol cleaning hot wire 
BN Black ball Ø 150mm with junction for temperature probe Ø 4,5mm. Further dimensions available. 	JAC Set of 4 LR6 batteries 	CHA 4 batteries charger 	

## Warranty period

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

[www.kimo.fr](http://www.kimo.fr)

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