Technical Data Sheet

Pressure • Temperature • Humidity • Air Velocity • Airflow • Sound level

Supplied with Calibration certificate

New

HD 200

Thermo-hygrometer

CE

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

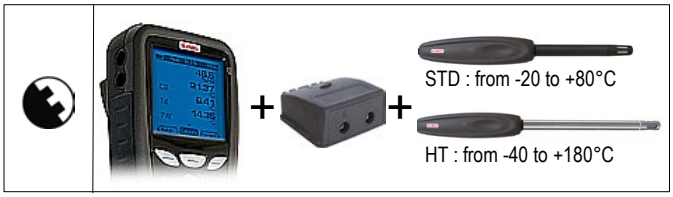
Interchangeable measurement modules
1 instrument = more than 1 range and 1 parameter available.

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*

Option

Wireless hygrometry probe – *Large choice*

Option

Wired temperature probe – *Large choice*

Option

Wireless temperature probe – *Large choice*

Option

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 alcaline 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

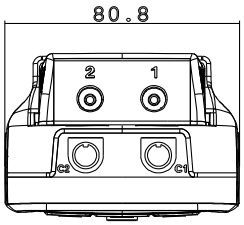
340g

Languages

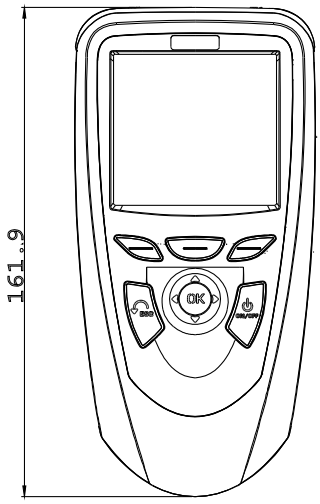
French, English, Dutch, German, Italian, Spanish, Portuguese, Swedish, Norwegian, Finn, Danish

Dimensions

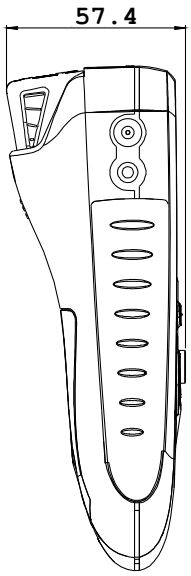
• On the top



• Front view



• Side view



Specifications

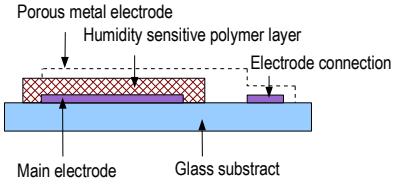
	Measuring units	Measuring range	Accuracy*	Resolutions
CURRENT / VOLTAGE				
	V, mA	from 0 to 2,5 V from 0 to 10 V from 0 to 4/20 mA	±2mV ±10mV ±0.01mA	0.001 V 0.01 V 0.01 mA
THERMOCOUPLE (See related datasheet)				
	°C, °F	K : from -200 to 1,300°C J : from -100 to 750°C T : from -200 to 400°C	±1,1°C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

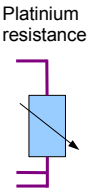


$$C(RH) = \frac{\varepsilon_{RH} * \varepsilon_O * A}{d}$$

C	Capacity of relative humidity sensor
ε_{RH}	Relative dielectric permittivity, humidity dependent
ε_O	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.



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

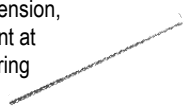
Datalogger-10 PC software for data recording and processing. Wired (LPCF) or wireless (LPCR) interface.

KPIJ 20 – 50 – 100 – 200 - 600

Ammeter clamp with PVC cable lg. 2m and jack connector.

RTS

Telescopic extension, length 1 m, bent at 90° for measuring probe.



CTC-P

Input current/voltage cable

CE 200

Hands-free protective cover

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).

FTang – HD 200 –04/09 d – We reserve the rigth to modify the characteristics of our products without notice.