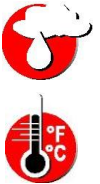




New

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



Wireless hygrometry probe – Large choice



Wired temperature probe – Large choice



Wireless temperature probe – Large choice



Thermocouple temperature module – 4 channels



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

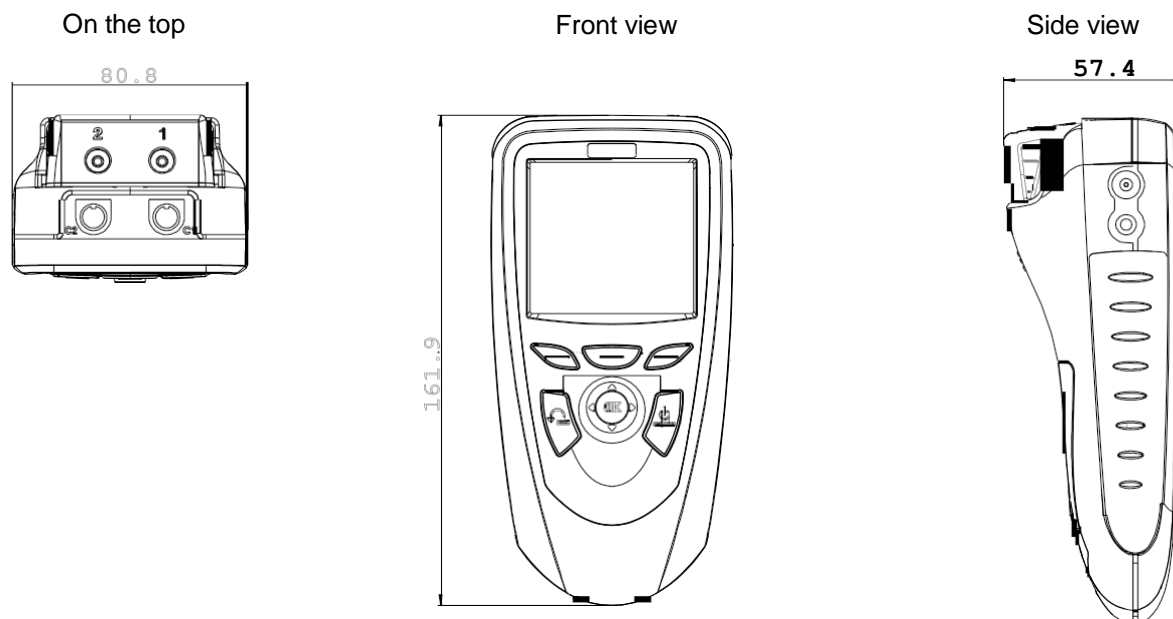
340g

Languages






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



Dimensions



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 Absolute humidity	%RH g/Kg	From 3 to 98 %RH From 0 to 600 g/Kg	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)
	Dew point Ambient temperature	°C _{td} , °F _{td} °C, °F	From -50 to +80°C _{td} From -20 to +80°C	±0.6% of reading ±0.5°C ±0.3% of reading ±0.25°C
H.T 	Relative humidity Absolute humidity	%RH g/Kg	From 3 to 98 %RH From 0 to 600 g/Kg	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)
	Dew point Ambient temperature	°C _{td} , °F _{td} °C, °F	From -50 to +80°C _{td} From -40 to +180°C	±0.6% of reading ±0.5°C ±0.3% of reading ±0.25°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.

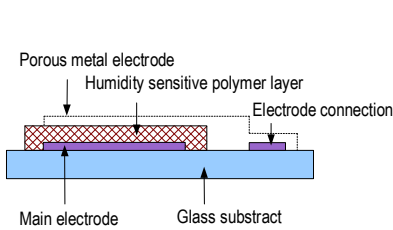
** As per NFX 15-113 and the Charter 2000/2001 HYGROMETERS, GAL (Guaranteed Accuracy Limit) which has been calculated with a coverage factor value of 2 is ±2.88%RH between 18 and 28°C on the measuring range from 5 to 95%RH. Sensor drift is less than 1%RH/year.

***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 substrate. Water absorption is a function of relative humidity of the surrounding environment, and modifies the dielectric constant. The measured signal is directly proportional to the relative humidity and is dependent on the atmospheric pressure.

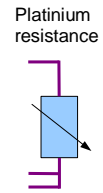


$$C(RH) = \frac{\epsilon_{RH} * \epsilon_0 * A}{d}$$

C Capacity of relative humidity sensor
 ϵ_{RH} Relative dielectric permittivity, humidity dependent
 ϵ_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 - for 100°C 138,5 .



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 	ADS 	BNF 
BN 	JAC 	CHA 	

Warranty period

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

Distributed by :



Power Tech International Group
 sales@powertech-group.com
 www.powertech-group.com