



*Certification*  
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# Thermo-hygrometers

## HD 100 - HD 150

**New**



### Functions

- Relative humidity, dew point and ambient temperature
- Selection of units (temperature and dew point)
- HOLD function
- Minimum and maximum values
- Adjustable automatic shut-off
- Adjustable backlight

### Technical features

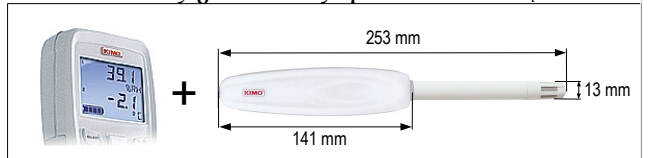
Measuring element.....	Hygrometry and temperature : CMOS sensor
Display.....	2 lines, LCD technology. Sizes 50 x 34.9 mm. 1 line of 5 digits with 7 segments (value) 1 line of 5 digits with 16 segments (unit)
Housing.....	Shock-proof made of ABS, IP54 protection or IP65 with food industry protective cover
Keypad.....	Metal-coated with 5 keys
Cable.....	retractable, length 450 mm, up to 2.4 m when released
Conformity.....	electromagnetical compatibility (NF EN 61326-1 guideline)
Power supply.....	1 alkaline battery 9V 6LR61
Operating temperature (instrument).....	from 0 to 50°C
Operating temperature (probe).....	from -20 to +70°C
Storage temperature.....	from -20 to +80°C
Auto shut-off.....	adjustable from 0 to 120 min
Weight.....	190g
Languages.....	French, english



HD 100 – Hygrometry probe – Fixed probe



HD 150 – Hygrometry probe – Fixed probe



\*except class 100S and 150S

## Specifications

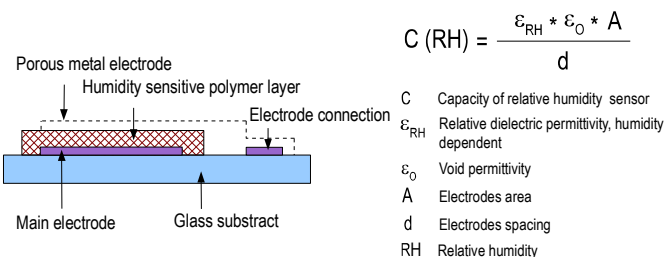
Measuring units	Measuring range	Accuracy*	Resolutions
<b>HUMIDITE RELATIVE</b>			
%RH	from 5 to 95 %RH	Accuracy* (Repeatability, linearity, hysteresis) : ±1.8%RH (from 15°C to 25°C) Factory calibration uncertainty : ±0.88 %RH Temperature dependence : ±0.04 x (T-20) %RH (if T<15°C or T>25°C)	0.1 %RH
<b>DEW POINT</b>			
°C <sub>td</sub> , °F <sub>td</sub>	from -40 to +70°C <sub>td</sub>	±0.8% of reading ±0.6°C <sub>td</sub>	0.1°C <sub>td</sub>
<b>AMBIENT TEMPERATURE</b>			
°C, °F	from -20 to +70°C	±0.4% of reading ±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. 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.

## 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.

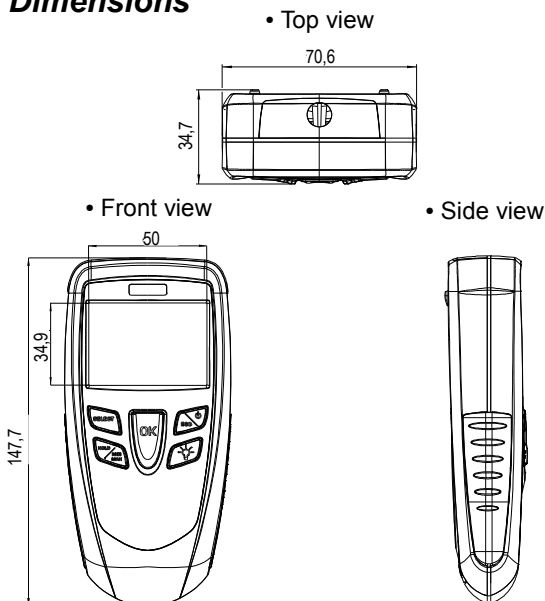


### Semiconductor temperature sensor

The direct tension of a silicon diode is :

$$V_{BE} = V_{G0} (1 - T/T_0) + V_{BE0} (T/T_0) + (nKT/q) \ln(T_0/T) + (KT/q) \ln(IC/IC_0)$$

## Dimensions



## Supplied with ...

- Included
- Optionnal



DESCRIPTION	HD 100	HD 150
Hygrometry probe Ø 13 mm, lg. 110 mm	●	●
Protective cover for food industry IP65		○
Calibration certificate*	●	●
Transport case	●	●

\*except class 100S and 150S

## Accessories (See related datasheet)

CE 100	RTS
Protective cover with magnet and holding system	Telescopic extension (for probe), 1m long and bent at 90°.

## Warranty period

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

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