

Thermo-Hygrometers

HD 100 - HD 150

CE



Functions

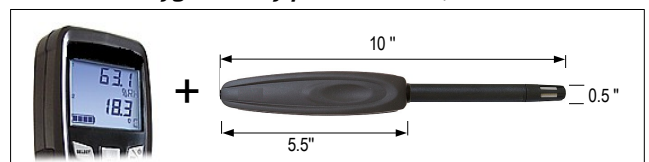
- Relative Humidity, Dew Point and Ambient Temperature
- Selection of units (temperature and dew point)
- HOLD function
- Minimum and maximum values
- Adjustable automatic shut-off
- Large **ICE BLUE**, Adjustable backlight

Technical features

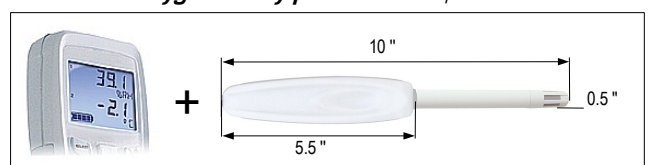
Measuring element	Hygrometry and temperature : CMOS sensor
Display	2 lines, LCD technology. Size: 50 x 34.9 mm. 1 line of 5 digits with 7 segments (value) 1 line of 5 digits with 16 segments (unit)
Housing	Shock-proof made of ABS, IP54 protection or IP65 with food industry protective cover
Keypad	Metal-coated with 5 keys
Cable	retractable, length 18 inches (450 mm), up to 8 ft (2.4 m) when released
Conformity	electromagnetical compatibility (NF EN 61326-1 guideline)
Power supply	1 alkaline battery 9V 6LR61 Included
Operating temperature (instrument)	from 0 to 122°F
Operating temperature (probe)	from -4 to +158°F
Storage temperature	from -4 to +176°F
Auto shut-off	adjustable from 0 to 120 min
Weight	6.7 oz
Languages	English, French



HD 100 - Hygrometry probe - Fixed probe - Black



HD 150 - Hygrometry probe - Fixed probe - White



Specifications

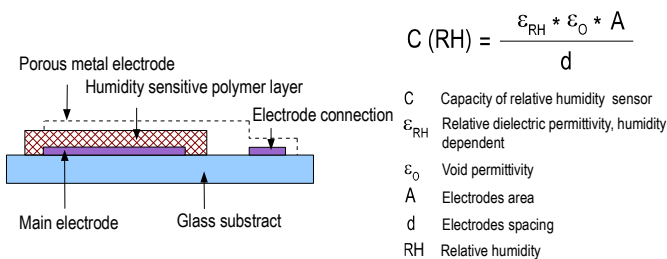
Measuring Units	Measuring Range	Accuracy*	Resolutions
RELATIVE HUMIDITY			
% RH	from 5 to 95% RH	Accuracy* (Repeatability, linearity, hysteresis) : $\pm 1.8\% \text{RH}$ (from 15°C to 25°C) Factory calibration uncertainty : $\pm 0.88\% \text{RH}$ Temperature dependence : $\pm 0.04 \times (T-20)\% \text{RH}$ (if $T < 15^\circ \text{C}$ or $T > 25^\circ \text{C}$)	0.1 % RH
DEW POINT			
$^{\circ}\text{C}_{\text{td}}, ^{\circ}\text{F}_{\text{td}}$	from -40 to +158°F _{td}	$\pm 0.8\%$ of reading $\pm 0.6^{\circ}\text{F}_{\text{td}}$	0.1°F _{td}
AMBIENT TEMPERATURE			
$^{\circ}\text{C}, ^{\circ}\text{F}$	from -40 to +158°F	$\pm 0.4\%$ of reading $\pm 0.3^{\circ}\text{F}$	0.1°F

*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 $\pm 2.88\% \text{RH}$ 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.

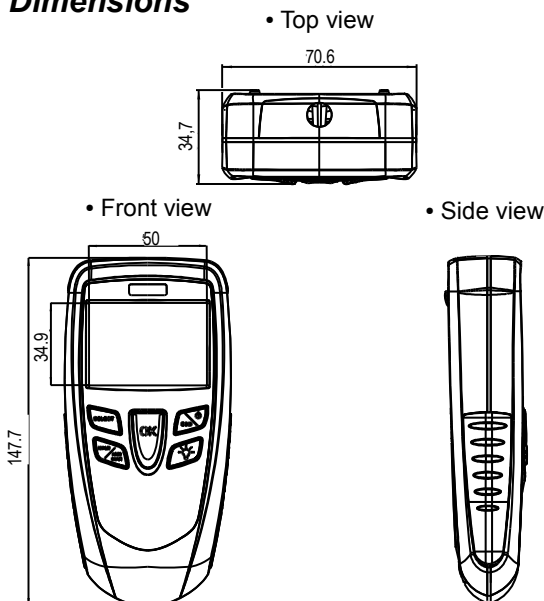


Semiconductor temperature sensor

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
- Optional



DESCRIPTION	HD 100	HD 150
Hygrometry probe Ø 13 mm	●	●
Protective White cover for food industry IP65	●	●
Soft Vinyl Transport case	●	●
Optional Hard ABS Case Available	●	●

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 Service Department).

F Tang – HD 100 – HD150 – 01/08 A – We reserve the right to modify the characteristics of our products without notice.