

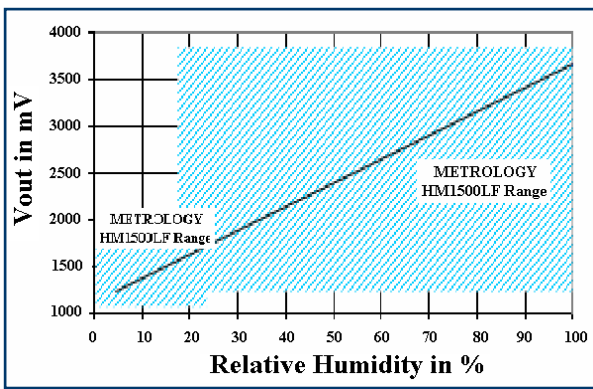
HUMIDITY SENSOR

- **Measurement conditions**

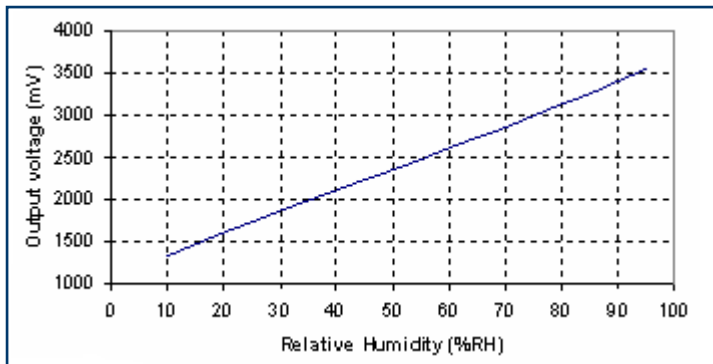
HM1500LF is specified for accurate measurements within 10 to 95% RH.

Excursion out of this range (<10% or >95% RH, including condensation) does not affect the reliability of HM1500LF characteristics.

Dedicated HM15XX products are available for extreme RH conditions (as HM1520 for low dewpoints). Consult MEAS-FRANCE for further information.



- **Modeled Signal Output**



RH (%)	Vout (mV)	RH (%)	Vout (mV)
10	1325	55	2480
15	1465	60	2605
20	1600	65	2730
25	1735	70	2860
30	1860	75	2990
35	1990	80	3125
40	2110	85	3260
45	2235	90	3405
50	2360	95	3555

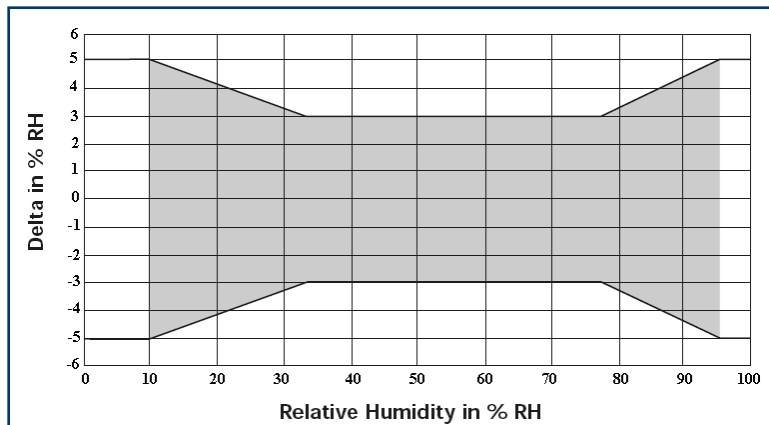
LINEAR EQUATIONS:

- $V_{out} = 25.68RH + 1079$
 - $RH = 0.03892 V_{out} - 42.017$
- (With V_{out} in mV and RH in %)

POLYNOMIAL EQUATIONS:

- $V_{out} = 9E^{-4} RH^3 - 1.3E^{-1} RH^2 + 30.815 RH + 1030$
 - $RH = -1,91E^{-9} V_{out}^3 + 1,33E^{-5} V_{out}^2 + 9,56E^{-3} V_{out} - 2,16E+1$
- (With V_{out} in mV and RH in %)

- Error Budget at 23°C



TEMPERATURE COMPENSATION:

$$RH_{compensated} = RH_{actualatT} + (T - 23) \times 0.05$$

(With T : Temperature in °C and RH: Relative Humidity in %)