



HM1500LF

Relative Humidity Module

SPECIFICATIONS

- **Small size product**
- **Product free from Lead, Cr(6+), Cd and Hg**
- **Humidity calibrated within +/-2% @55%RH**
- **Typical 1 to 3.6 Volt DC output for 0 to 100% RH at 5Vdc supply**
- **Ratiometric to voltage supply from 4.75Vdc to 5Vdc**
- **Patented solid polymer structure**

Based on the rugged HS1101LF capacitive humidity sensor, HM1500LF is a dedicated humidity transducer designed for OEM applications where a reliable and accurate measurement is needed. Direct interface with a micro-controller is made possible with the module's linear voltage output

FEATURES

- Full interchangeability
- High reliability and long term stability
- Not affected by water immersion
- Very low temperature dependence
- Suitable for 3 to 10 Vdc supply voltage

Humidity Sensor Specific features

Instantaneous de-saturation after long periods in saturation phase

Fast response time

Part could be washed with distilled water

(1) *Soldering temperature profiles available on request / contact us at humidity.application@te.com*

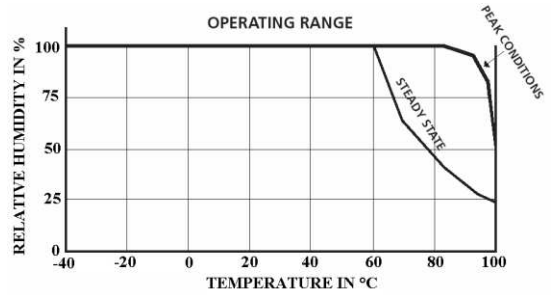
APPLICATIONS

- Industrial
- Process control

PERFORMANCE SPECS

MAXIMUM RATINGS

Ratings	Symbol	Value	Unit
Storage Temperature	Tstg	-30 to 70	°C
Storage Humidity	RHstg	0 to 100	% RH
Supply Voltage (Peak)	Vs	10	Vdc
Humidity Operating Range	RH	0 to 100	% RH
Temperature Operating Range	Ta	-40 to 60	°C



ELECTRICAL CHARACTERISTICS

(Ta=23°C, Vs=5Vdc +/-5%, RL>1MΩ unless otherwise stated)

Humidity Characteristics	Symbol	Min	Typ	Max	Unit
Humidity Measuring Range	RH	0		100	%RH
Relative Humidity Accuracy (10 to 95% RH)	RH		+/-3	+/-5	%RH
Supply Voltage (regulated at 5Vdc*)	Vs		5		Vdc
Nominal Output @55%RH (at 5Vdc)	Vout	2.42	2.48	2.54	V
Current consumption	Ic		1.4	2	mA
Temperature Coefficient (10 to 50°C)	Tcc		- 0.05	-0.1	%RH/°C
Average Sensitivity from 33% to 75%RH	ΔVout/ΔRH		+26		mV/%RH
Sink Current Capability (RL=33kΩ)	Is			150	μA
Humidity Hysteresis				+/-1	%RH
Time Constant (at 63% of signal, static) 33% to 75%RH	τ			10	s
Warm up time (electronic)	tw		150		ms
Humidity resolution			0.4		%RH
Output Impedance	Z		70		Ω

*Maximum power supply ramp up time to Vcc should be less than 4ms.

TYPICAL PERFORMANCE CURVES

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.

