



HTM2500LF

Temperature and Relative Humidity Module

SPECIFICATIONS

- Hermetic Housing
- Humidity calibrated within $\pm 2\%$ @55%RH
- Temperature measurement through NTC 10kOhms $\pm 1\%$ direct output
- Small size product
- Typical 1 to 4 Volt DC output for 0 to 100%RH at 5Vdc

Based on the rugged HTS2035SMD humidity / temperature sensor, HTM2500LF is a dedicated humidity and temperature 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 humidity linear voltage output.

FEATURES

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

Humidity Sensor Specific Features

- Instantaneous de-saturation after long periods in saturation phase
- Fast response time
- High resistance to chemicals
- Patented solid polymer structure

Temperature Sensor Specific Features

- Stable
- High sensitivity

APPLICATIONS

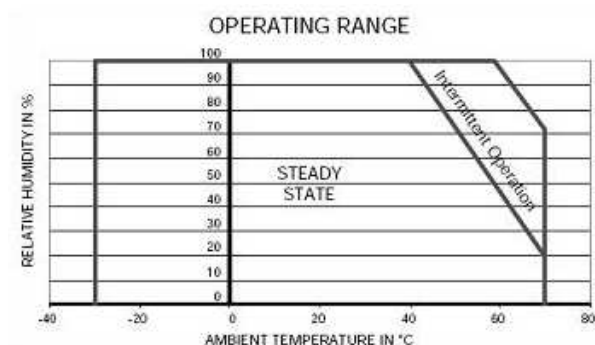
- Industrial
- Process control
- Hygrostat
- Data logger

APPLICATIONSPERFORMANCE SPECS

MAXIMUM RATINGS

Ratings	Symbol	Value	Unit
Storage Temperature	Tstg	-40 to	°C
Storage Humidity	RHstg	0 to 100	%
Supply Voltage (Peak)	Vs	12	Vdc
Humidity Operating Range	RH	0 to 100	%
Temperature Operating	Ta	-40 to	°C

Peak conditions: less than 10% of the operating time



ELECTRICAL CHARACTERISTICS

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

Humidity Characteristics	Symbol	Min	Typ	Max	Unit
Humidity Measuring Range	RH	1		99	%RH
Relative Humidity Accuracy (10 to 95% RH)	RH		+/-3	+/-5	%RH
Supply Voltage	Vs	4.75	5.00	5.25	Vdc
Nominal Output @55%RH (at 5Vdc)	Vout	2.42	2.48	2.54	V
Current consumption	Ic		1.0	1.2	mA
Temperature Coefficient (10 to 50°C)	Tcc		+0.1		%RH/°C
Average Sensitivity from 33% to 75%RH	$\Delta V_{out}/\Delta RH$		+26		mV/%RH
Sink Current Capability (RL=15kΩ)	Is			300	μA
Recovery time after 150 hours of condensation	tr		10		s
Humidity Hysteresis			+/-1.5		%RH
Long term stability	T		+/-0.5		%RH/yr
Time Constant (at 63% of signal, static) 33% to 76%RH ⁽¹⁾	τ		5		s
Output Impedance	Z		70		Ω

(1) At 1m/s air flow

(Ta=25°C)

Temperature Characteristics	Symbol	Min	Typ	Max	Unit
Nominal Resistance @25°C	R		10		kΩ
Beta value: B25/50	β	3347	3380	3413	K
Temperature Measuring Range*	Ta	-40		85	°C
Nominal Resistance Tolerance @25°C	RN			1	%
Beta Value Tolerance	β		1		%
Response Time	τ		10		s

* For temperature upper than 60°C, specific high temperature cable is required: HTM2500LFL products