

Adaptive Design Temperature and Humidity Sensor



Low cost temperature and humidity sensor aimed at sampling at typical room temperatures.

Communication

- Compliant with FCC and ETSI EN 300 220-1 V2.2.1 (2008-04) regarding power, modulation and duty cycle;
- Frequency: 433.92MHz (ISM band License free), Modulation: FSK, Bitrate: 2400 bps, Bandwidth: 67 KHz;
- Max Transmit Power: 6 dBm, Receiver sensitivity: 109 dBm, Transmit duty cycle 1/600;
- Usable radio range: 60m outdoor line of sight, 30m indoor (under ideal conditions)
- 868MHz and 915MHz bands are also supported.

Temperature Characteristics

Parameter	Conditions	Minimum	Typical	Maximum
Resolution		0.04 °C	0.01 °C	0.01 °C
Repeatability			±0.01 °C	
Range		-40 °C		60 °C
Response Time	1/e (63%)	5 seconds		30 seconds

Humidity Characteristics

Parameter	Conditions	Minimum	Typical	Maximum
Resolution		0.5 %RH	0.03 %RH	0.03 %RH
Repeatability			±0.01 %RH	
Interchangeable				Yes
Nonlinearity	Raw Data		± 3 %RH	
Range		0 %RH		100 %RH
Response Time	1/e (63%) at 25 °C	6 seconds	8 seconds	10 seconds
Long Term Stability	Typical		< 0.5 %RH / year	

Operating Environment

- Operating temperature: -40°C to 60°C;
- Storage temperature: -40°C to 60°C;
- Relative Humidity: 0% to 100% non-condensing.

Power

- 2 x AA batteries.

Standard Compliance

Medium	Standard	Notes
Temperature Cycles	JESD22-A104-B -40°C /125°C 1000 cycles	Within specifications
HAST Pressure cooker	JESD22-A110-B 2.3Bar 125°C 85%RH	Reversible shift by +2% RH
High humidity and temperature	JESD22-A101-B 85°C 85%RH 1250 hours	Reversible shift by +2% RH
Salt atmosphere	DIN-5002ss	Within specifications
Condensing air		Within specifications
Various Automotive Chemicals	DIN 72300-5	Within specifications
Freezing cycles fully submerged	-20 / +90°C 100 cycles 30min dwell time	Reversible shift by +2% RH