

As for primary power supply i am using 9v battery found in the market since it is replaceable one.From the datasheet of the RH sensor It only mentioned about 5v operational Dc voltage so to get 5vdc from 9v battery I can use voltage divider,zener diode,LM7805 but for the given RH sensor current value is 2mA(max) is given so I can go either with voltage divider or zener diode but i chose voltage divider since I need to use a reference voltage.I assumed not converting 230V Ac supply to 5v because of EM radiation and assumed no electrical wiring is done in plant growing areas

### 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	$\Delta V_{out}/\Delta RH$		+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	$\tau$			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.

And the offset of voltage because of temperature is low for the Sensor so temperature won't be an issue.We used LM393 comparator which has low offset voltage and current is used than other comparators.LM393 is dual comparator for Vin less than Vref voltage is gives 0.005v as an output voltage for Vin greater than or equal Vref it gives 5v as an output.Since I am using same power supply for all the components noise chance is less.We are using 5v active piezo buzzer for alarm because our circuit is based on voltages.