

TAHMO COMPETITION 2014

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Design of an echo bases electronics Piche evaporimeter Sensor

An ultrasonic is used to monitor the evaporation of a Piche evaporimeter. The Piche evaporimeter is redesigned so that it will be easy for the installation of the ultrasonic water level measurement. A filter paper is used to cover the end of the Piche evaporimeter redesigned. As water on the filter paper got saturated, the reduction in the level of water inside the glass vessel due to evaporation is monitored by the ultrasonic water level sensor. Figure 1 shows the circuit diagram while figure 2 shows the designed electronic piche evaporimeter. The exploded view is shown in figure 3.

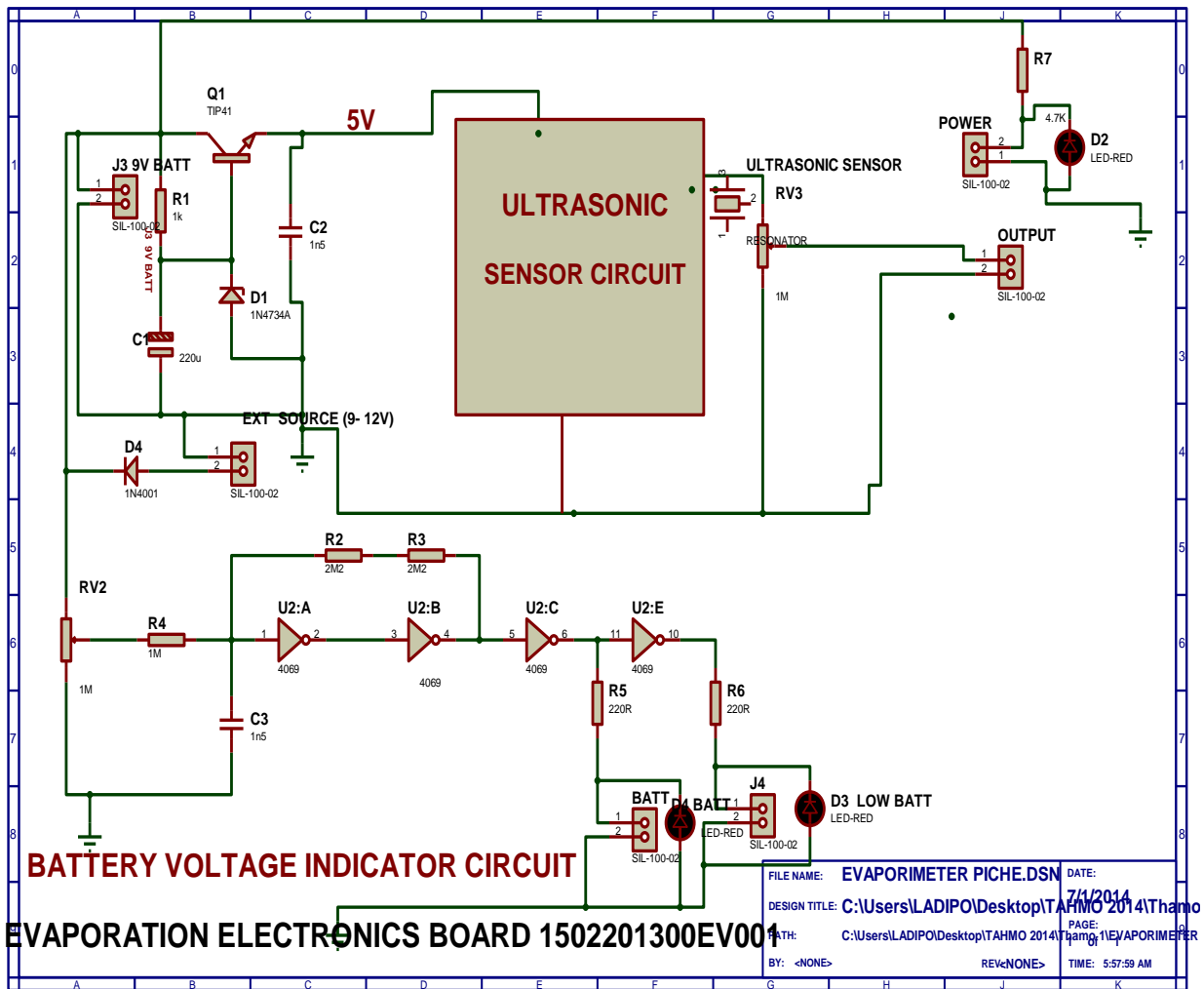
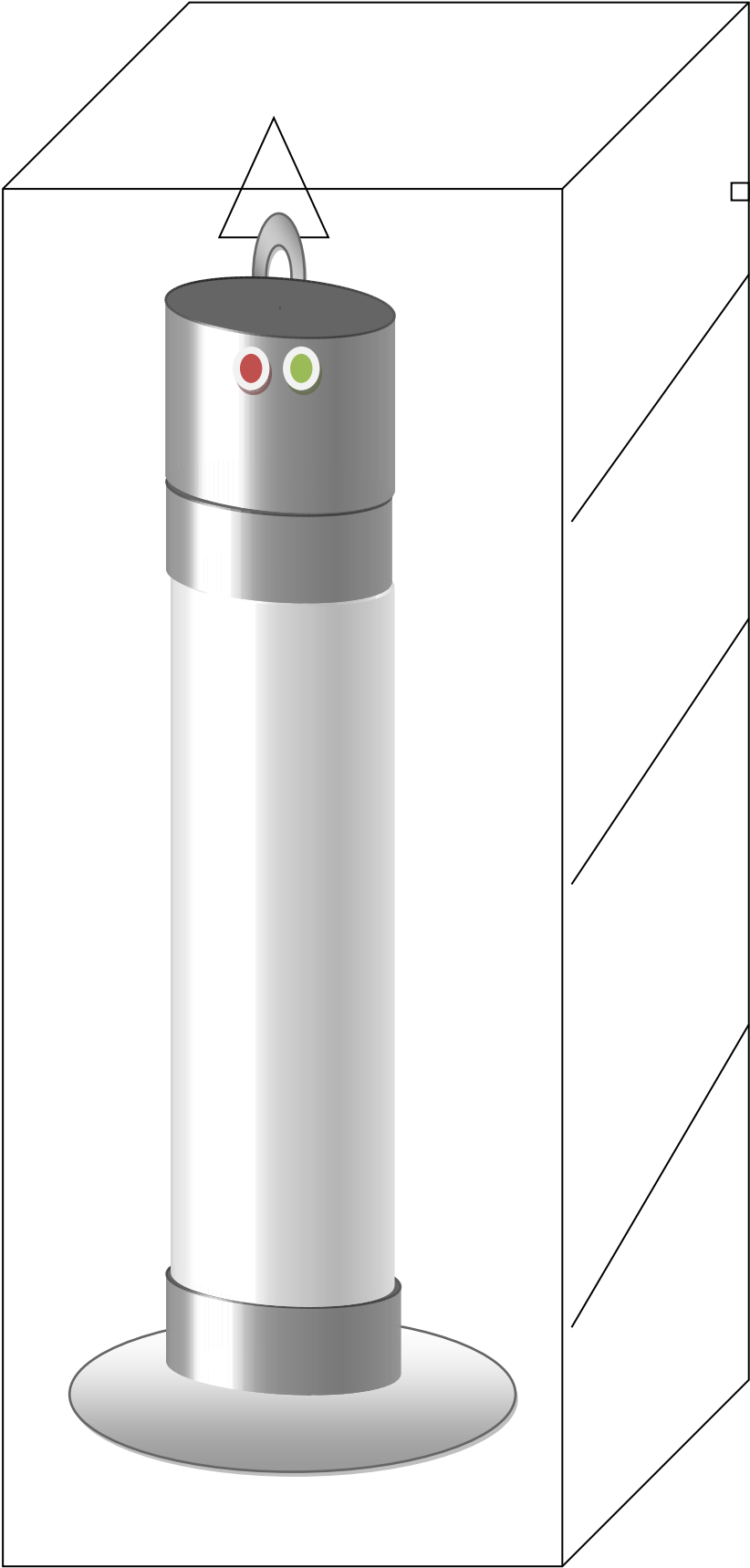


Figure 1: Electronics schematic diagram of the electronics Piche evaporimeter.



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Figure 2: Physical features of electronic Piche anemometer.

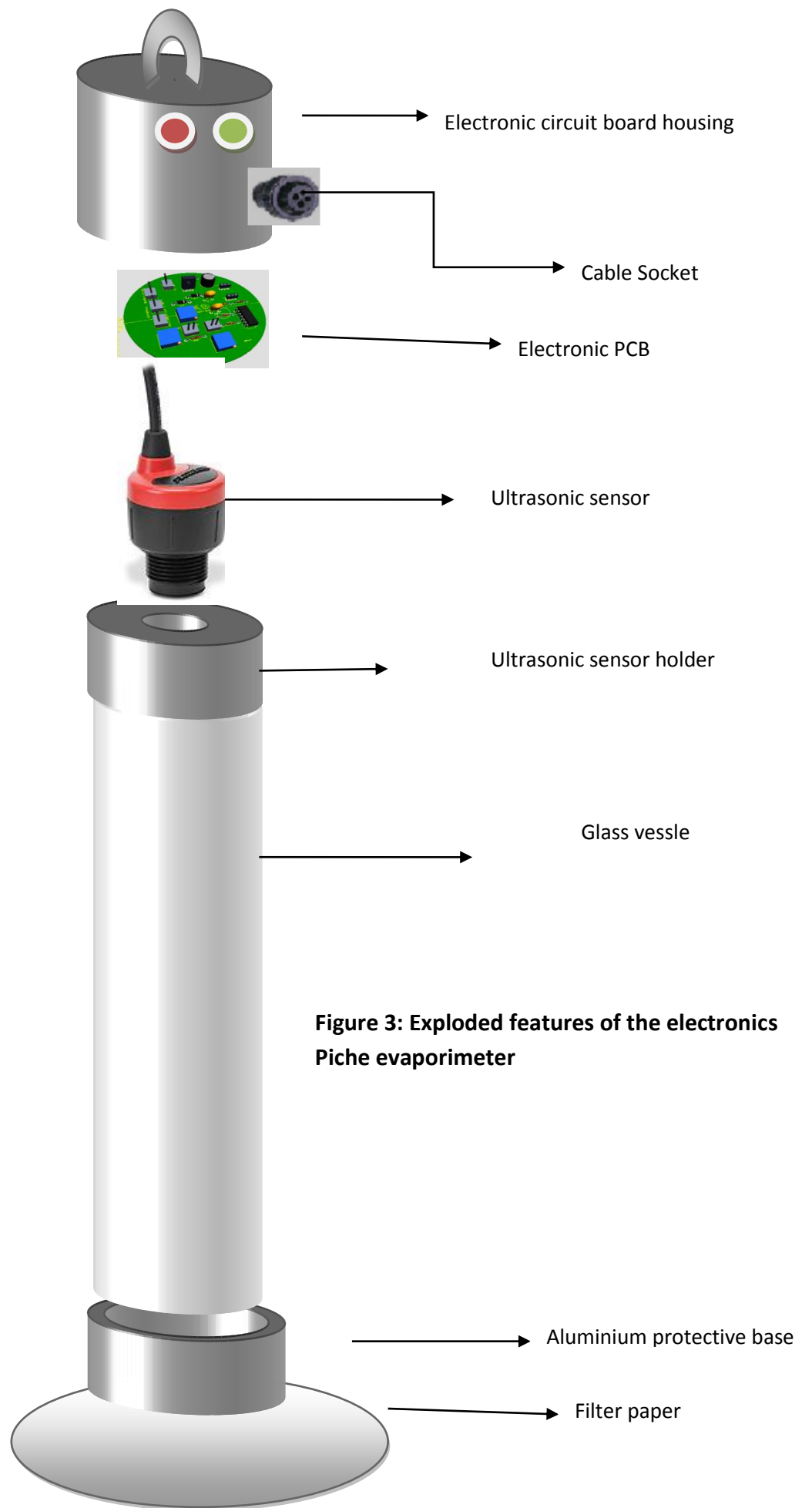


Figure 3: Exploded features of the electronics Piche evaporimeter

Bill Of Materials For EVAPORIMETER PICHE.DSN

Design Title : EVAPORIMETER PICHE.DSN
Author : LADIPO K.O
Revision : <NONE>
Design Created : Tuesday, February 12, 2013
Design Last Modified : Tuesday, July 01, 2014
Total Parts In Design : 26

7 Resistors

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Order Code</u>
1	R1	1k	M1k
2	R2, R3	2M2	M2M2
1	R4	1M	M1M
2	R5, R6	220R	M1k
1	R7	4.7K	M1k

3 Capacitors

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Order Code</u>
1	C1	220u	Maplin VH41U
2	C2, C3	1n5	Maplin WX70M

1 Integrated Circuits

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Order Code</u>
1	U2	4069	

1 Transistors

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Order Code</u>
1	Q1	TIP41	

5 Diodes

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Order Code</u>
1	D1	1N4734A	
3	D2-D4 BATT	LED-RED	
1	D4	1N4001	

9 Miscellaneous

<u>Quantity:</u>	<u>References</u>	<u>Value</u>	<u>Order Code</u>
6	BATT, EXT SOURCE (9- 12V), J3 9V BATT, J4, OUTPUT, POWER	SIL-100-02	
2	RV2, RV3	1M	Digikey 3252P-103LF-ND
** 1	ULTRASONIC SENSOR	RESONATOR	
1	4 way cable mnt skt recptcl.series 2, 7.5A		
1	5m screen cable		

Tuesday, July 01, 2014 5:59:44 AM

**	type	Input voltage	output	Part number
	ML-11	24VDC	RS-232/0-10V	17622

