

DigiTemp

Temperature Sensors for Linux

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This comes from DigiTemp user Robert Graham, instructions on how to measure humidity using the wet bulb method.

I know there is a humidity sensor out there but for those of you who like to build things you can make a wet/dry bulb hygrometer similar in operation to a sling Psychrometers used to calibrate humidity sensors.

Using two DS18S20 one old fan from your junk pile and some white plastic PVC pipe. I made mine out of 5 PVC couplings and a 5-6 reducer seal at one end for the water reservoir.

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For the wick for the wet bulb, I used a new cottonshoelace. You do not have to have the fan but you will get very fast response if you do.

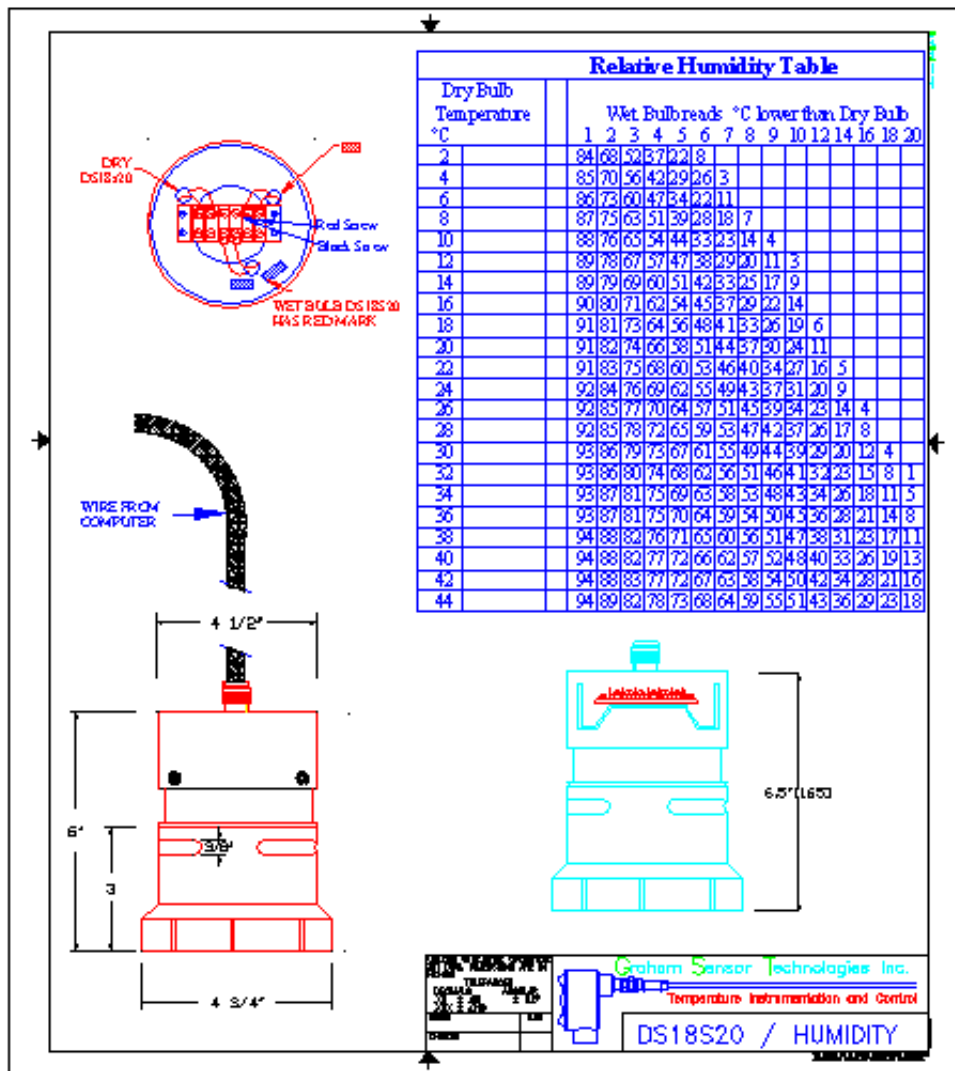
I have a chart showing the relation ship between the temperature of the drybulb and the temperature of the wet bulb.

.....Relative Humidity Table.....

Dry Bulb

TemperatureWet Bulb reads °C lower than Dry Bulb

°C	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
2 >>>>	84	68	52	37	22	8									
4 >>>>	85	70	56	42	29	26	3								
6 >>>>	86	73	60	47	34	22	11								
8 >>>>	87	75	63	51	39	28	18	7							
10 >>>>	88	76	65	54	44	33	23	14	4						
12 >>>>	89	78	67	57	47	38	29	20	11	3					
14 >>>>	89	79	69	60	51	42	33	25	17	9					
16 >>>>	90	80	71	62	54	45	37	29	22	14					
18 >>>>	91	81	73	64	56	48	41	33	26	19	6				
20 >>>>	91	82	74	66	58	51	44	37	30	24	11				
22 >>>>	91	83	75	68	60	53	46	40	34	27	16	5			
24 >>>>	92	84	76	69	62	55	49	43	37	31	20	9			
26 >>>>	92	85	77	70	64	57	51	45	39	34	23	14	4		
28 >>>>	92	85	78	72	65	59	53	47	42	37	26	17	8		
30 >>>>	93	86	79	73	67	61	55	49	44	39	29	20	12	4	
32 >>>>	93	86	80	74	68	62	56	51	46	41	32	23	15	8	1
34 >>>>	93	87	81	75	69	63	58	53	48	43	34	26	18	11	5
36 >>>>	93	87	81	75	70	64	59	54	50	45	36	28	21	14	8
38 >>>>	94	88	82	76	71	65	60	56	51	47	38	31	23	17	11
40 >>>>	94	88	82	77	72	66	62	57	52	48	40	33	26	19	13
42 >>>>	94	88	83	77	72	67	63	58	54	50	42	34	28	21	16
44 >>>>	94	89	82	78	73	68	64	59	55	51	43	36	29	23	18



For example @20° C if there is a 1 degree difference that would = 91% relative humidity @20° C if there is a 10 deg difference that would = 24% relative humidity.

This design was based on one I have seen at some green houses, it is rugged and can get fertilizer on it and keeps working. When both sensor read the same you need to add water.

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