Joule Temp 0 – 10V Analog Board Option - For Heating, Cooling and Humidity Control



There is an exciting new add on board and updated Joule Temp software for Joule Temp that connects the Joule Temp to electrically controlled mechanical devices. The analog board adds linear control to the region between the maximum and minimum to stabilize room temperature/ humidity and is perfect for sensitive stock. The Joule Temp has the resources to run up to three add-on boards at the one time.

From 1-3 analog boards can be fitted and concurrently operated and modes of operation are Cooling, Heating and Humidity The Humidity board acts as either humidify or dehumidify, depending on programming. Software versions 94 and higher support the analog board. Check the software version on the maintenances page. Each individual mode has to be programmed differently so please read the instructions carefully.

Note: the analog board(s) option can only be factory supplied and fitted.

PHAS	SEFA leTem	P P			JouleTemp Control	29/10/20 16: 192.168.160.0
Status			Re	ay Outputs	Maintenance	Optional Modules
Serial Number Software Versi Last Power Last Reset	498 ion 10/01/11 13/01/11	36365390 0.93 980 18:49 980 19:16	Over-ri Buzzer Alarm Light	de lasts for 1 minute Off Auto On Off Auto On	Please enter the Clear Logs password Clear All Logs Load Defaults	Humidity Enabled PID Control Disabled Activation Code
Last Email Sta Send a Test Er	tus mail	Send	Security Control C1/C2	Off Auto On Off Auto On	Export Settings Settings file to import	Submit
Inputs	A/D	Volts	Fan	Off Auto On	Import Settings	
Power S1	490 783	13.28 3.83	Heater	Off Auto On	Time 16 : 09 (24Hr:min) Date 29 / 10 / 2010 (dd / mm / yvyv)	
S2 S3	1023	5.00	LED Display	Chase Auto All On	Set Time/Date	
S4 S5	1023 1023	5.00 5.00	All Outputs	Off Auto On		
S6	362	1.77				
S7	1023	5.00	Analog Outputs			
50	1023	5.00	Cool	100%		
AN10	512	2.50	Heat Humidity	0% 0%		
Refresh Mai	n Page Prog	ramming	Network Mainten	ance Advanced		

Status of Analog outputs: available on the Joule Temp Maintenance page

The easiest way to check Analog Board is operational is to select the maintenance page of the JouleTemp that page will show all analog outputs as 0 - 100% which translates directly to 0 - 10V output from the board. Compare the displayed % to the voltage to check for correct operation. If the output is to low disconnect the load. If the voltage is then correct the load may be short circuit.

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Electical wiring diagram						
	Electically Controlled					
Analog Output board	Output Device					
Output Voltage 1 GND	Input Control Voltage					

Mode of operation: Cooling Control – setup Cooling Control



- 1. The output will be 10V at Setpoint (SP) or higher [cutin]
- 2. The output will be 0V at Setpoint less differential (SP-dI) [cutout]
- 3. The output will vary linearly between 0 and 10V between cutout and cutin.
- 4. Example shown: Sp=5, dI=5, cutin=5 (An=10V), cutout=0, (An=0V)

Mode of operation: Heating Control – setup

Heating Control



- The output will be 10V at Setpoint (SP2) of higher [cutin]
 The output will be 0V at Setpoint plus differential (SP+ dI) [cutout]
- The output will be ov at Setpoint plus differential (SF+ d) [cutodi]
 The output will vary linearly between 0 and 10V between cutout and cutin.
- 4. Example shown: Sp=5, dI=5, cutin=5 (An=10V), cutout=0, (An=0V)

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Humidify Control



- 1. Set the mode of operation to Humidify in Humidity Operating Mode (HOP)
- 2. output will be 10V at Humidity Control Limit Low (H1L) (cut-in)
- 3. The output will be 0V Humidity Control Limit High (H1H) (cut-out)
- 4. The output will vary linearly between 0 and 10V between cutout and cutin.
- Example shown: H1H = 100%, H1L = 0 %, Cut-In =100 %RH (ABO = 10V), Cut-Out = 0%RH (ABO = 0 V)

Mode of operation: Dehumidify Control - setup

Dehumidify Control



- 1. the mode of operation to Dehumidify in Humidity Operating Mode (HOP)
- 2. output will be 10V at Humidity Control Limit High (H1H) (cut-in)
- 3. output will be 0V Humidity Control Limit Low (H1L) (cut-out)
- The output will vary linearly between 0 and 10V between cut-out and cut-in.
- Example shown: H1H = 100%, H1L = 0 %, Cut-In =100 %RH (ABO = 10V), Cut-Out = 0%RH (ABO = 0 V)