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# Temptimer ® Controls

## Operation

The Temptimer Series combines temperature control and electronic batch timer into one microprocessor-based unit. Temperature control can be on/off or proportional, heating or cooling, °F or °C. Features include high and low alarms, fan outputs and open/shorted sensor protection. J or K thermocouple, RTD and thermistor inputs are available. The pilot duty outputs are triacs to drive contactors or pulsed-DC to drive solid-state relays. The electronic timer can be count up or countdown, hours or hours/minutes or minutes/seconds. Status leds indicate mode of operations and output status.



## Catalog and Part Numbers:

**530 - TT - 1      T                      T                      N      -      N**

Series	Output 1 (OP1)	Output 2 (OP2)	Output 3 (OP3)	Options
530-TT-1 = on/off	T = triac	T = triac	T = triac	3 = J thermocouple
530-TT-2 = proportional	S = pulsed DC	S = pulsed DC	S = pulsed DC	4 = K thermocouple
		N = none	N = none	5 = options 3 & 7
				6 = options 4 & 7
				7 = 103 dB beeper
				N = none

Note: RTD and thermistor inputs are standard.  
 Triac outputs should be used with on/off control.

## Specifications

Storage Temp: -40° to 185°F  
 Operating Temp: 32°F to 149°F  
 UL Recognized: File E52105  
 Enclosure: ¼ DIN, plastic, NEMA 1 rating  
 Panel Cutout: 3.622" square  
 Front bezel: 3.780" square  
 Depth: 4.675" total, 4.15" inside panel  
 Terminal Wires: 18-22 AWG copper only

Line Voltage: 120VAC or 240VAC, +/- 10%  
 Frequency: 47 to 63 Hertz, sinewave only  
 Power Consumption: 6VA maximum  
 J or K Thermocouple input: 35 to 880°F  
 385 platinum 100Ω RTD input: -60 to 999°F  
 10K R-T Curve 16, Thermistor input: 32 to 400°F  
 Triac output: 750mA max, up to 240VAC, pilot-duty  
 Pulsed DC output: 12VDC typical, 50mA max.  
 Timer range: 1 second to 240 hours  
 Standard beeper: 72 dB at a distance of 6 inches

Button	User Mode - Actual temperature and timer displayed. Status leds on.	
Down Arrow	Decrease the value.	When actual temperature is displayed, the timer is changed. When setpoint is displayed, the setpoint is changed.
Up Arrow	Increase the value.	
Mode	Toggles the actual or setpoint temperature and steps through the programming menus.	
Start/Reset	Starts & stops a timer cycle. Mutes a alarm . Resets high and low alarms.	

<b>Program Mode</b> In user mode, press & hold <b>Up</b> and <b>Down</b> simultaneously until <i>prog</i> appears. Step through the parameters with <b>Mode</b> . To exit, press & hold <b>Up</b> and <b>Down</b> .		
<b>Parameter</b>	<b>Menu Item</b>	<b>Description</b>
Sd range: 2-100°F	Switching Differential	On/off control only. Centered around setpoint.
Pb range: 2-100°F	Proportional Band	Proportional control only. Centered around setpoint
tP range: 1-100°F	Timer Pause Band	If the input is outside of this band, the timer stops.
AHi (input range)	Absolute High Alarm	The actual temperature at which the high alarm occurs.
ALo (input range)	Absolute Low Alarm	The actual temperature at which the low alarm occurs.
dHi range: 1-250°F	Deviation Hi Alarm	Added to the setpoint to calculate the alarm.
dLo range: 1-250°F	Deviation Lo Alarm	Subtracted from the setpoint to calculate the alarm.
Fan range: 0-255	Fan Delay	Seconds the fan will be on after a timed cycle ends.
Off range: +/-50°F	Sensor Offset	Added to or subtracted from the input temperature.
Soft	Software Version	Non-programmable number for identification only.

<b>Configure Mode</b> In program mode, press & hold <b>Mode</b> and <b>Start/Reset</b> until <i>cnfg</i> appears. Step through with <b>Mode</b> . To exit, press & hold <b>Mode</b> and <b>Start/Reset</b> .		
<b>Parameter</b>	<b>Menu Item</b>	<b>Description</b>
OP1 range: 1-8	Temperature Control Type	1,2,3,4 = on/off      1,3,5,7 = °F      1,2,5,6 = heating 5,6,7,8 = proportional      2,4,6,8 = °C      3,4,7,8 = cooling
OP2 range: 1-8	Alarm and Fan Outputs	1 = none, 3 = high alarm, 4 = low alarm, 5 = high and low alarm 6 = fan on during timer, 7 = fan off during timer, 8 = remote beeper
OP3 range: 1-8	Alarm Type (see above)	1 = none, 2 = AHi, 3 = ALo, 4 = dHi, 5 = dLo, 6 = AHi & ALo 7 = dHi & dLo, 8 = AHi & dLo, 9 = dHi & ALo
Al range: 1-9	Alarm Type (see above)	1 = none, 2 = AHi, 3 = ALo, 4 = dHi, 5 = dLo, 6 = AHi & ALo 7 = dHi & dLo, 8 = AHi & dLo, 9 = dHi & ALo
nPut range: 1-4	Input Type	1 = thermistor, 2 = rtd, 3 = J type T/C, 4 = K type T/C
tt range: 1-8	User Mode	(see table below)
tine range: 1-12	Timer Type and End of Cycle Beeper	1,2,3,4,5,6 = down      1,2,7,8 = MM:SS      1,3,5,7,9,11 = short beep 7,8,9,10,11,12 = up      3,4,9,10 = HH:MM      2,4,6,8,10,12 = beep 5,6,11,12 = HHH      until <b>Start/Reset</b> pushed
beep range: 1-6	Beeper Rate	1 = on, 2 = 1/sec, 3 = 2/sec, 4 = 4/sec, 5 = 8/sec, 6 = off

<b>User Mode - Temperature and Timer Relationships</b>	
1 = temperature control and timer are independent	5 = timer completely disabled
2 = temperature control runs during timer	6 = 1 with the timer pause feature (see above)
3 = timer starts automatically after setpoint is reached.	7 = 2 with the timer pause feature (see above)
<b>Pre Heat</b> will flash until the timer starts	8 = 3 with the timer pause feature (see above)
4 = same as 3 except the timer will not start until the Start/Reset button is pressed. <b>Push Strt</b> will flash	9 = 4 with the timer pause feature (see above)

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<b>Rear Terminal Wiring (see Configure Mode for output setup)</b>	
17 & 18 = RTD or thermistor input	10 = OP1, triac or DC pulse “-“
1 = J or K thermocouple “-“	11 = OP1, triac or DC pulse “+”
2 = J or K thermocouple “+”	15 = OP2, triac or DC pulse “+“
13 & 14 = 120VAC power input	16 = OP2, triac or DC pulse “-”
12 & 14 = 240VAC power input	8 = OP3, triac or DC pulse “-“
	9 = OP3, triac or DC pulse “+”

Note: Triac outputs do not have power connected nor sourced internally.