

# Temperature Controllers



Models TEC-4500 & TEC-9500

## Model TEC-4500 1/4 DIN & Model TEC-9500 1/16 DIN Ramp & Soak Temperature Controls

Agency Approvals:



Configurable for 5 Programmable Outputs



Configurable for 4 Programmable Outputs

### Design Features

- \* Ramp & Soak Programmable Control
- \* Nine recipes (profiles) available using 64 segments maximum per recipe
- \* Event Input – one of 8 functions can be chosen: start run mode, hold mode, abort recipe, manual mode, failure transfer, turn off, segment advance, select 2nd set of PID parameters
- \* Event Output – 3 relays are available. Can be programmed to any segment or end of recipe
- \* Analog Retransmission – optional mA or VDC transfer of PV or SV values
- \* Highly accurate universal input with 18 bit analog to digital converter
- \* Bright 0.40" (10mm) red LED process display
- \* Fast sample rate – 200ms
- \* Fuzzy Logic PID Autotune heat and cool control – 2 sets of values can be used
- \* Optional RS-485 or RS-232 communications interface
- \* Programming port available for PC connection allowing quick set-up
- \* Lockout protection guards against unauthorized setting changes
- \* Bumpless transfer allows continued temperature control if sensor fails
- \* Universal input, field configurable (Type J T/C default, PT100, mA, V) with high accuracy 18-bit D-A
- \* Short panel depth required



**Note:** Detailed information on features common to digital microprocessor-based TEC temperature controls and the complete Table of Input Range and Accuracy can be found on page 13-46.

Hardware Code: TEC-4500-

1	2	3	4	5	6	7	8
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Hardware Code: TEC-9500-

1	2	3	4	5	6	7	8
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	0	<input type="text"/>	<input type="text"/>

A Part Number based on the hardware code and any software pre-programming will be issued at time of order.

#### Power Input BOX 1

- 4 = 90-250 VAC, 50-60 Hz
- 5 = 11-26 VAC / VDC

#### Signal Input – Universal, can be programmed in the field BOX 2

- 1 = Universal input (factory default = TC type J)  
Thermocouple: J, K, T, E, B, R, S, N, L, C, P  
RTD: PT100 DIN, PT100 JIS (0 to 60mV)
- 5 = Voltage: 0-10V, 0-5V, 1-5V, 0-1V
- 6 = DC Current: 0-20 mA (default), 4-20 mA
- 9 = Other

#### Output 1 BOX 3

- 1 = Relay: 2A / 240 VAC
- 2 = Pulse DC for SSR drive: 5 VDC (30 mA max)
- 3 = Isolated 4-20mA / 0-20 mA
- 4 = Isolated 1-5V / 0-5V/0-10VDC
- 6 = Triac-SSR output 1A / 240 VAC
- C = Pulse DC for SSR drive: 14 VDC (40 mA max)
- 9 = Other

#### Output 2 BOX 4

- 0 = None
- 1 = Relay: 2A / 240 VAC
- 2 = Pulse DC for SSR drive – 5 VDC (30 mA max)
- 3 = Isolated 4-20mA / 0-20 mA
- 4 = Isolated 1-5V / 0-5V/0-10V
- 6 = Triac-SSR output 1A / 240 VAC
- 7 = Isolated 20V @ 25 mA DC, Output Power Supply
- 8 = Isolated 12V @ 40 mA DC, Output Power Supply
- A = Isolated 5V @ 80 mA DC, Output Power Supply
- C = Pulsed voltage to drive SSR, 14V/40mA
- 9 = Other

#### Output 3 BOX 5

- 0 = None
- 1 = Relay: 2A / 240 VAC
- 2 = Pulse DC for SSR drive – 5 VDC (30 mA max)
- 6 = Triac-SSR output 1A / 240 VAC
- 7 = Isolated 20V @ 25 mA DC, Output Power Supply
- 8 = Isolated 12V @ 40 mA DC, Output Power Supply
- A = Isolated 5V @ 80 mA DC, Output Power Supply
- C = Pulsed voltage to drive SSR, 14V/40mA
- 9 = Other

#### Output 4 BOX 6 (TEC-4500 only)

- 0 = None
- 1 = Relay: 2A / 240 VAC
- 2 = Pulse DC for SSR drive – 5 VDC (30 mA max)
- 3 = Retransmission 4-20mA (default), 0-20 mA
- 4 = Retransmission 1-5 VDC (default)/ 0-5VDC, 0-10 VDC
- 6 = Triac-SSR output 1A / 240 VAC
- 7 = Isolated 20V @ 25 mA DC, Output Power Supply
- 8 = Isolated 12V @ 40 mA DC, Output Power Supply
- A = Isolated 5V @ 80 mA DC, Output Power Supply
- C = Pulsed voltage to drive SSR, 14V/40mA
- 9 = Other

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