

Temperature Controllers



Model TEC-8300 1/8 DIN

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Configurable for
5 Programmable
Outputs!

Agency Approvals:



File #: E244198 File #: 218237

Design Features

- * 1/8 DIN size – 48 mm × 96 mm
- * Fuzzy Logic PID Autotune heat and cool control
- * Short panel depth – only 2-9/16" (65 mm) required
- * Universal input, field configurable (Type J T/C default, PT100, mA, V) with high accuracy 18-bit D-A
- * Heater Break Alarm using 0-50 Amp current transformer
- * Output 2 can be programmed as cooling output only
- * 2 optional alarms – programmable NO or NC relay
- * Wide variety of alarm mode selections
- * Bumpless transfer to manual mode during sensor failure
- * Universal input power, 90-264 VAC
- * Power limiter output
- * RS-485 and RS-232 data communications interface
- * Bright 0.40" (10 mm) red LED process display, 0.31" (8 mm) green LED setpoint display stabilized with a digital filter if required
- * Fast input sample rate (5 samples/second)
- * Automatic programming
- * Differential control
- * "Soft-Start" ramp and dwell timer
- * Analog input for remote setpoint and current transformer
- * Event input for changing functions and setpoint
- * Hardware lockout plus remote lockout protection
- * Loop break alarm
- * Analog retransmission
- * DC power supply outputs
- * Tempco's most highly featured 1/8 DIN control

Power Input BOX 1

- 4 = 90-264 VAC
- 5 = 11-26 VAC / VDC
- 9 = Other

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

- 1 = Input 1 – Universal input (factory default = tc type J)
Thermocouple: J, K, T, E, B, R, S, N, L
RTD: PT100 DIN, PT100 JIS
Current: 4-20 mA, 0-20 mA
Voltage: VDC, 0-1, 0-5, 1-5, 0-10
- Input 2 – CT: 0 - 50A AC current Transformer (factory default)
Linear Input: 0-1V, 0-5V, 1-5V, 0-10V, 0-20mA, 4-20mA
- Input 3 – Event Input
- 9 = Other

Output 1 BOX 3

- 1 = Relay: 2A / 240 VAC
- 2 = Pulse DC for SSR drive: 5 VDC (30 mA max)
- 3 = Isolated, 4-20 mA (default), 0-20 mA
- 4 = Isolated, VDC, 1-5 (default), 0-5, 0-1
- 5 = Isolated, VDC, 0-10
- 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, 4-20 mA (default), 0-20 mA
- 4 = Isolated VDC, 1-5 (default), 0-5, 0-1
- 5 = Isolated VDC, 0-10
- 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
- 9 = Isolated 5V @ 80 mA DC, Output Power Supply
- C = Pulse DC for SSR drive: 14 VDC (40 mA max)
- A = Other

Hardware Code: TEC-8300-



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

Alarm 1 BOX 5

- 0 = None
- 1 = Relay: 2A/240 VAC, SPDT
- 9 = Other

Alarm 2 BOX 6

- 0 = None
- 1 = Relay: 2A/240 VAC, SPST
- 9 = Other

Communications BOX 7

- 0 = None
- 1 = RS-485 Interface
- 2 = RS-232 Interface
- 3 = Retransmission 4-20 mA (default), 0-20 mA
- 4 = Retransmission 1-5 VDC (default), 0-5 VDC
- 5 = Retransmission 0-10 VDC
- 9 = Other

Transformer for Heater Break Alarm

(0-50 Amp current)

Part Number: TEC99999

Specifications on page 13-47



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.

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