


Model TEC-704 3/16 DIN Temperature Controller



Simple Setpoint and Display!

Design Features

- * 3/16 DIN size – 72 mm × 72 mm
- * Laser trimmed ASIC components
- * Short panel depth – only 2-9/16" (65 mm) required
- * On-off or time proportional selection
- * Digital display, 0.4" (10 mm) red LEDs
- * Wide selection of output options
- * High precision wire wound dial/potentiometer setpoint
- * Sensor break protection
- * Good performance at a very low price
- * Agency Approvals 



Note: TEC-704 has been discontinued. Refer to TEC-7100 (pages 13-30 & 13-31) for replacement controllers or contact Tempco.

Hardware Code: TEC-704-



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 = 90-264 VAC 50/60 Hz

Signal Input BOX 2

- 1 = Thermocouple: Type J
- 2 = Thermocouple: Type K
- 3 = RTD: 100 ohm PT, DIN 0.00385
- 4 = RTD: 100 ohm PT, JIS 0.00392
- 9 = Other

Standard Range Code BOX 3

4 = 0 to 300°C C = 50 to 550°F
 6 = 0 to 600°C E = 50 to 750°F
 7 = 50 to 1200°F

Below available for large volume orders. Consult Tempco for more information.

2 = 0 to 200°C A = 50 to 200°F
 3 = 0 to 200°C B = 50 to 400°F
 5 = 0 to 200°C D = 50 to 750°F
 7 = 0 to 800°C G = 50 to 1400°F
 8 = 0 to 1200°C H = 0 to 2200°F
 9 = Other

Control Mode BOX 4

- 1 = On - Off
- 2 = Proportional

Output 1 BOX 5

- 1 = Relay: 5A / 240 VAC
- 2 = Pulse DC for S.R. driver: 20 VDC (20 mA max)
- 3 = 4-20 mA, linear (max load 500 ohms)
- 4 = 0-20 mA, linear (max load 500 ohms)
- 5 = 0-20 VDC, linear (min. impedance 500K ohms)
- 9 = Other

Output 2 BOX 6

0 = Not Available

Alarm BOX 7

- 0 = None
- 1 = Relay: 2A / 240 VAC Deviation alarm

Communication BOX 8

0 = Not Available



Power Input

Standard: 90 - 264 VAC, 50/60 Hz, 5VA

Signal Input

Accuracy: $\pm 1.0\%$ of full scale at 77°F/25°C

Thermocouple: Type J or K

RTD: 3-wire Pt100 DIN or JIS

Sampling Rate: 3 samples per second

Cold Junction Compensation: $\pm 0.1^\circ\text{C} / 1^\circ\text{C}$

Common Mode Rejection Ratio (CMRR): 120 dB

Normal Mode Rejection Ratio (NMRR): 60 dB

Sensor Break Protection: Upscale

Output

Relay Rating: 240 VAC, 5 Amp

SSR drive: Pulsed DC, 20 V at 20 mA maximum

Current: 4 - 20 mA, 0 - 20 mA, maximum load: 500 Ω

Voltage: 0 - 10 VDC, minimum load: 500K Ω

Control

Proportional Band: 2.2% of span

ON-OFF Hysteresis: 1% of span

Cycle Time: 20 seconds for relay output, 1 second for pulsed voltage output, 0.02 second for linear current or voltage output

Control Action: Reverse Action

Approval Standards

Safety Standards: EN61326

Protective Class: Front panel: IP 30

Housing and Terminals: IP 20

Adjustment

Setpoint: Single turn wirewound potentiometer

Manual Reset: Adjustable up to 2.6% of span

Setpoint Resolution: 0.2% of span

Accuracy of Setpoint: $\pm 2\%$ of span

Repeatability of Setpoint: $\pm 0.1\%$ of span

Alarm

Type: Deviation $\pm 10\%$ of span Relay: 2A / 240 VAC

Display

Process Indicator: 3-1/2 digit, 0.4" / 10 mm red LED display

Output Status Indicator: Red LED lamp

Alarm Status Indicator: Red LED lamp

Environmental and Physical

Operating Temperature: 22 to 122°F (0 to 50°C)

Humidity: 0 to 90% RH non-condensing

Dielectric Strength: 2000 VAC, 50/60 Hz for 1 minute

Vibration: 10 - 55 Hz, amplitude 1 mm

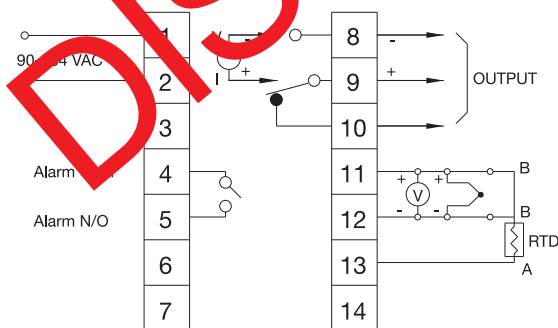
Shock: 200 m/s² (20g)

Dimensions: 2-27/32 x 2-7/32 x 3" (72 x 72 x 78 mm) HxWxD
Depth behind panel: 2-9/16" (65 mm)

Panel Cutout: 2-11/16" x 2-11/16" (68 x 68 mm) HxW

Weight: 53 g (240 grams)

Real Terminal Connections



Stock and Common Part Numbers

(Power Input: 90-264 VAC, Proportional mode)

Part Number	Signal Input	Range	Output	Alarm
TEC43401	J tc	50-850°F	relay	none
TEC43402	J tc	50-550°F	relay	none
TEC43403	K tc	50-850°F	relay	none
TEC43404	K tc	50-550°F	relay	none
TEC43405	J tc	50-850°F	relay	relay
TEC43406	K tc	50-850°F	relay	relay
TEC43407	RTD	50-550°F	relay	none
TEC43408	RTD	50-550°F	relay	relay
TEC43409	J tc	0-300°C	relay	none
TEC43410	J tc	0-600°C	relay	none
TEC43411	J tc	0-300°C	relay	relay
TEC43412	K tc	0-300°C	relay	none
TEC43413	K tc	0-600°C	relay	relay
TEC43414	RTD	0-300°C	relay	none
TEC43415	RTD	0-600°C	relay	relay



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