

Models TEC-404 & TEC-405 1/4 DIN Temperature Controllers



With Dial or Pushwheel Setpoint and Display!

Agency Approvals



Potentiometer Setpoint Hardware Code: TEC-404-



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

Standard lead time is stock to 2 weeks.

Pushwheel Setpoint Hardware Code: TEC-405-



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

Standard lead time is stock to 2 weeks.

Power Input BOX 1

4 = 90-264 VAC 50/60 Hz
5 = 20-32 VAC 50/60 Hz, 20 - 32 VDC

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

(TEC-404 only)

BOX 3

4 = 0 to 300°C **C** = 50 to 550°F
6 = 0 to 600°C **E** = 50 to 850°F

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

2 = 0 to 100°C **A** = 50 to 200°F
3 = 0 to 200°C **B** = 50 to 400°F
5 = 0 to 400°C **D** = 50 to 750°F
7 = 0 to 800°C **F** = 50 to 1100°F
8 = 0 to 1200°C **G** = 50 to 1400°F
9 = Other **H** = 0 to 2200°F

Range code (TEC-405 only)

BOX 3

X = 0 to 499°F **C** = 0 to 299°C
V = 0 to 999°F **E** = 0 to 499°C
W = 0 to 1999°F **H** = 0 to 999°C

Other ranges are available for large volume orders. Consult Tempco for more information.

Control Mode BOX 4

1 = On - Off (used for valves & solenoids)
2 = Proportional (common for electric heaters)

Output 1 BOX 5

1 = Relay: 5A / 240 VAC
2 = Pulse DC for SSR drive: 20 VDC (20 mA max)
3 = 4-20 mA, linear (max load 500 ohms)
4 = 0-20 mA, linear (max load 500 ohms)
5 = 0-10 VDC, linear (min. impedance 500K ohms)
9 = Other

Output 2 BOX 6

0 = Not Available

Alarm BOX 7

0 = None
1 = Relay: 3A / 240 VAC Deviation alarm

Communication BOX 8

0 = Not Available

**Power Input**

Standard: 90 - 264 VAC, 50/60 Hz, 5VA
Optional: 20 - 32 VAC 50/60 Hz, 20 - 32 VDC, 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°C
Common Mode Rejection Ratio (CMRR): 120 dB
Normal Mode Rejection Ratio (NMRR): 60 dB
Sensor Break Protection: Upscale

Output 1

Relay Rating: 5 Amp, 240 VAC
SSR drive: Pulsed DC, 20 V at 20 mA maximum
Current Loop: 4 - 20 mA, 0 - 20 mA, maximum load: 500Ω
Voltage: 0 - 10 VDC, minimum load 500 KΩ

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 Standard: UL3121-1
EN61326
Protective Class: Front panel: IP 30
Housing and Terminals: IP 20

Adjustment

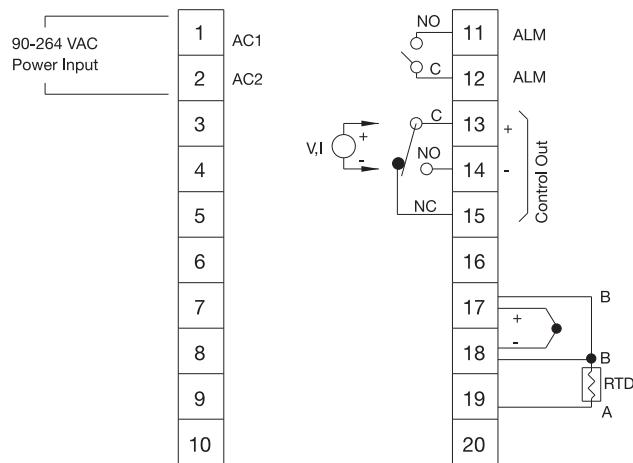
Setpoint: Single turn wirewound potentiometer (TEC-404)
Setpoint Resolution: 0.2% of span
Accuracy of Setpoint: $\pm 2\%$ of span
Repeatability of Setpoint: $\pm 0.1\%$ of span
Setpoint: 3-digit or 4-digit pushwheel switch (TEC-405)
Manual Reset: Adjustable up to 2.6% of span
Setpoint Resolution: ± 1 Least Significant Digit
Accuracy of Setpoint: $\pm 1\%$ of span
Repeatability of Setpoint: ± 1 Least Significant Digit

Display

Single 4-digit LED Display: 0.56" (14 mm) Red

Environmental and Physical

Operating Temperature: 32 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: 3-3/4 × 3-3/4 × 2-9/16" (96 × 96 × 65 mm) H×W×D
Depth behind panel: 2" (53 mm)
Panel Cutout: 3-5/8" × 3-5/8" (92 × 92 mm) H×W
Weight: 0.55 lb. (250 grams)

Rear Terminal Connections

Potentiometer Setpoint
TEC-404 Stock and Common Part Numbers
(Power Input: 90-264 VAC, Proportional Mode)

Part Number	Signal Input	Range	Output	Alarm
TEC57401	J tc	50-850°F	relay	none
TEC57402	J tc	50-550°F	relay	none
TEC57403	K tc	50-850°F	relay	none
TEC57404	K tc	50-550°F	relay	relay
TEC57405	RTD	50-550°F	relay	none
TEC57406	J tc	0-300°C	relay	none
TEC57407	J tc	0-600°C	relay	none
TEC57408	K tc	0-300°C	relay	none
TEC57409	K tc	0-600°C	relay	none

Pushwheel Setpoint
TEC-405 Stock and Common Part Numbers
(Power Input: 90-264 VAC, Proportional Mode)

Part Number	Signal Input	Range	Output	Alarm
TEC57511	J tc	0-999°F	relay	none
TEC57512	J tc	0-499°F	relay	none
TEC57513	K tc	0-1999°F	relay	none
TEC57514	K tc	0-999°F	relay	none
TEC57515	J tc	0-499°C	relay	none
TEC57516	J tc	0-299°C	relay	none
TEC57517	K tc	0-999°C	relay	none
TEC57518	K tc	0-499°C	relay	none
TEC57519	RTD	0-999°F	relay	none
TEC57520	RTD	0-499°C	relay	none