

Temperature Controllers



Models TEC-905 & TEC-900 1/16 DIN

Model TEC-905 1/16 DIN Controller & Model TEC-900 1/16 DIN Indicator Only



Simple Setpoint and Display!



Display only!

Design Features

- * 1/16 DIN size – 48 mm × 48 mm
- * Short panel depth – only 3-3/8" (86 mm) required
- * Laser trimmed ASIC components
- * On-off or time proportional selections
- * Wide selection of output options
- * Universal power input, 90-264 VAC
- * Sensor break protection
- * Good performance at a very low price
- * Model TEC-905 control with pushwheel setpoint
- * Model TEC-900 indicator only

Agency Approvals



Temperature Controller
Hardware Code: TEC-905-

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.

Temperature Indicator
Hardware Code: TEC-900-

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

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

Control Mode BOX 4

(TEC-905 only)

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

Range code (TEC-905 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.

Range code (TEC-900 only) BOX 3

- Thermocouple**
- A** = 0 to 1200°F – Type J
- B** = 0 to 600°C – Type J
- C** = 0 to 2000°F – Type K
- D** = 0 to 1100°C – Type K
- RTD**
- E** = -32 to 752°F
- F** = 0 to 400°C

Output 1 (TEC-905 only) 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

Alarm BOX 7

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 / 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 1 (for TEC-905 only)

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: 500Ω

Voltage: 0 - 10 VDC, minimum load 500KΩ

Control (for TEC-905 only)

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

Protective Class: Front panel: IP 30

Housing and Terminals: IP 20

EMC: EN61326

Adjustment (for TEC-905 only)

Setpoint: 3-digit or 4-digit pushwheel switch

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

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

Output Status Indicator: Red LED lamp (for TEC-905 only)

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 1mm

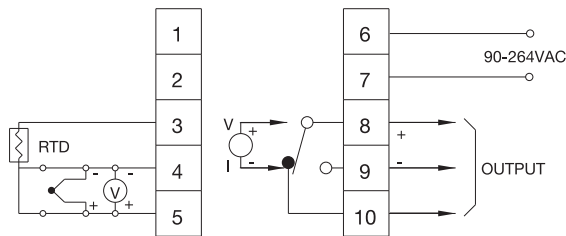
Shock: 200 m/s² (20g)

Dimensions: 1-7/8 × 1-7/8 × 3-3/4" (48 × 48 × 94 mm) H×W×D
Depth behind panel: 3-3/8" (86 mm)

Panel Cutout: 1-25/32" × 1-25/32" (45 × 45 mm) H×W

Weight: 0.42 lb. (190 grams)

Rear Terminal Connections



NOTE: Terminals 8, 9 and 10 are not used for Model TEC-900.

TEC-905 Stock and Common Part Numbers (Power Input: 90-264 VAC, Proportional Mode)

| Part Number | Signal Input | Range | Output |
|-------------|--------------|----------|--------|
| TEC17511 | J tc | 0-999°F | relay |
| TEC17512 | J tc | 0-499°F | relay |
| TEC17513 | K tc | 0-1999°F | relay |
| TEC17514 | K tc | 0-999°F | relay |
| TEC17515 | J tc | 0-499°C | relay |
| TEC17516 | J tc | 0-299°C | relay |
| TEC17517 | K tc | 0-999°C | relay |
| TEC17518 | K tc | 0-499°C | relay |
| TEC17519 | RTD | 0-999°F | relay |
| TEC17520 | RTD | 0-499°C | relay |

TEC-900 Stock and Common Part Numbers (Power Input: 90-264 VAC, Indicator Only)

| Part Number | Signal Input | Range |
|-------------|--------------|----------|
| TEC17021 | J tc | 0-1200°F |
| TEC17022 | K tc | 0-2000°F |
| TEC17023 | J tc | 0-600°C |
| TEC17024 | K tc | 0-1100°C |
| TEC17025 | RTD | 32-752°F |
| TEC17026 | RTD | 0-400°C |