**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**

### Design Features

- 1/16 DIN size – 48 mm x 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

- UL
- CE

---

**Simple Setpoint and Display!**

**Display only!**

---

**Temperature Controller**

**Hardware Code:** TEC-905-

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>

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-

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
</table>

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

---

**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

---

**Control Mode**  **BOX 4**

(TEC-905 only)

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

---

**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

---

View Product Inventory @ www.tempco.com
Power Input
Standard: 90-264 VAC, 50/60 Hz, 5VA

Signal Input
Accuracy: ±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: ±0.1°C / 1°C
Common Mode Rejection Ratio (CMRR): 120 dB
Normal Mode Rejection Ratio (NMRR): 60 dB

Output 1 (for TEC-905 only)
- Relay Rating: 240 VAC, 5 Amp
- SSR drive: Pulsed DC, 20 V at 20 mA maximum
- Current: 0 - 20 mA, minimum 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

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: ±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)

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

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Signal Input</th>
<th>Range</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEC17511</td>
<td>J tc</td>
<td>0-999°F</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17512</td>
<td>J tc</td>
<td>0-999°F</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17513</td>
<td>K tc</td>
<td>0-1999°F</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17514</td>
<td>K tc</td>
<td>0-1999°F</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17515</td>
<td>J tc</td>
<td>0-499°C</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17516</td>
<td>J tc</td>
<td>0-499°C</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17517</td>
<td>K tc</td>
<td>0-999°C</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17518</td>
<td>K tc</td>
<td>0-499°C</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17519</td>
<td>RTD</td>
<td>0-499°C</td>
<td>relay</td>
</tr>
<tr>
<td>TEC17520</td>
<td>RTD</td>
<td>0-499°C</td>
<td>relay</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Signal Input</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEC17021</td>
<td>J tc</td>
<td>0-1200°F</td>
</tr>
<tr>
<td>TEC17022</td>
<td>K tc</td>
<td>0-2000°F</td>
</tr>
<tr>
<td>TEC17023</td>
<td>J tc</td>
<td>0-600°C</td>
</tr>
<tr>
<td>TEC17024</td>
<td>K tc</td>
<td>0-1100°C</td>
</tr>
<tr>
<td>TEC17025</td>
<td>RTD</td>
<td>32-752°F</td>
</tr>
<tr>
<td>TEC17026</td>
<td>RTD</td>
<td>0-400°C</td>
</tr>
</tbody>
</table>

Rear Terminal Connections

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