FEATURES
- High Performance
- Dual Display, 4 digit, 7 segment LED
- LED Status Indicator: Relay ON, Tune, Soak
- 3 Front Panel Control buttons
- TC / RTD Input
- PID, ON/OFF Control
- Two Setpoints
- °C / °F Selectable
- Control Output: Relay or SSR Drive
- Auxiliary Output: Relay or SSR Drive
- Easy to use

BASIC PID CONTROLLERS
ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Supply Voltage</th>
<th>Control Output</th>
<th>Auxiliary Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC544A</td>
<td>85 - 270V AC/DC</td>
<td>Relay</td>
<td>SSR (12V DC)</td>
</tr>
<tr>
<td>TC544A-1</td>
<td>24V AC/DC</td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC544A-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC544A-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC544A-1-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC244AX</td>
<td>12V DC</td>
<td>Relay</td>
<td>SSR (12V DC)</td>
</tr>
<tr>
<td>TC244AX-1</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC244AX-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC244AX-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC244AX-1-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
<tr>
<td>TC244AX-1-24V</td>
<td></td>
<td>SSR (12V DC)</td>
<td>Relay</td>
</tr>
</tbody>
</table>

TERMINAL CONNECTIONS

**TC544**

**TC244**

**TC344**

TECHNICAL SPECIFICATIONS

**INPUT SPECIFICATIONS**

- Inputs: Thermocouple (J,K,T,R,S) / RTD (Pt100)
- Sampling time: 250 ms
- Input Filter (FTC): 0.2 to 10.0 sec
- Resolution: 0.1/1° for TC/RTD inputs
  (Fixed 1° for R & S type TC input)
- Temperature Unit: °C / °F selectable
- Indication Accuracy: For J, K & T inputs: 0.25% of F.S. ±1°
  For R & S inputs: 0.5% of F.S. ±2°
  (20 min of warm up time for TC inputs)
  For RTD inputs: 0.1% of F.S. ±1°
  (F.S. = Full Scale)

**FUNCTIONAL SPECIFICATIONS**

- Control Action: 1) PID
  2) ON-OFF
- Proportional Band (P): 1.0 to 400.0°
- Integral Time (I): 0 to 9999 sec
- Derivative Time (D): 0 to 9999 sec
- Cycle Time: 0.1 to 99.9 sec
- Hysteresis Width: 0.1 to 99.9°
- Manual Reset Value: -19.9 to 19.9°
**TECHNICAL SPECIFICATIONS**

**FUNCTIONAL SPECIFICATIONS**

- **Dwell Timer**: OFF, 1 to 9999 min
- **Heat-cool**
- **Control Action**: PID (with auto-tuning)
- **Proportional Band-Cool**: 0.0 to 400.0
- **Cycle Time-Cool**: 0.1 to 99.9 sec
- **Dead Band**: Programmable from setpoint low limit to setpoint high limit.

**Settings for Alarm Output**

- **Modes**: Deviation, Absolute
- **Hysteresis**: 0.1 to 99.9°

**OUTPUT SPECIFICATIONS**

- **Control**: Max. 2
- **Contact Rating**: 5A @ 250V AC / 30V DC, resistive
- **SSR Drive**: (Voltage Pulse) 12V DC ±10%, 50mA
- **Alarm**: Max. 1
- **Contact Rating**: 5A @ 230V AC / 30V DC, resistive
- **SSR Drive**: (Voltage Pulse) 12V DC ±10%, 50mA

**GENERAL SPECIFICATIONS**

- **Supply Voltage**: 85 to 270V AC/DC (50 / 60Hz)
- **Power Consumption**: 6VA max @230V AC
- **Temperature**: Operating: 0 to 50°C (32 to 122°F)  Storage: -20 to 75°C (-4 to 167°F)
- **Humidity (non-condensing)**: 95% RH
- **Weight**: 180 g (0.3968 lbs)
- **Protection Level**: IP65 for faceplate

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**INPUT RANGES**

**Input (for RTD)**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-150 to 850</td>
<td>-238 to 1562</td>
</tr>
<tr>
<td>0.1</td>
<td>-150 to 850</td>
<td>-199 to 999</td>
</tr>
</tbody>
</table>

**Input (for Thermocouple)**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>°C</th>
<th>°F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-199 to 750</td>
<td>-328 to 1382</td>
</tr>
<tr>
<td>0.1</td>
<td>-199 to 750</td>
<td>-199 to 999</td>
</tr>
<tr>
<td>J</td>
<td>-199 to 1350</td>
<td>-328 to 2462</td>
</tr>
<tr>
<td>K</td>
<td>-199 to 400</td>
<td>-328 to 750</td>
</tr>
<tr>
<td>T</td>
<td>0 to 1750</td>
<td>32 to 3182</td>
</tr>
</tbody>
</table>

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**MODELS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DIM A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC513A/TC513AX</td>
<td>52</td>
<td>52</td>
<td>94</td>
<td>45</td>
<td>4</td>
<td>46</td>
<td>46</td>
</tr>
<tr>
<td>TC221A/TC203AX</td>
<td>72</td>
<td>72</td>
<td>83.7</td>
<td>67</td>
<td>4.5</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td>TC303A/TC303AX</td>
<td>96</td>
<td>96</td>
<td>73</td>
<td>90.5</td>
<td>5</td>
<td>92</td>
<td>92</td>
</tr>
</tbody>
</table>

All dimensions are in mm (to convert to inches, multiply by 0.03937)

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**DIMENSIONS**

Front Side Panel Cutout

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Stay updated with the latest product launches, datasheets, operating manuals