Model TEC-9300 1/16 DIN Temperature Controller

**Design Features**
- 1/16 DIN size – 48 mm × 48 mm
- Fuzzy Logic PID Autotune heat and cool control
- Short panel depth – only 3” (75 mm) required
- Universal input, field configurable (Type J T/C default, PT100, mA, V) with high accuracy 18-bit D-A
- Heater Break Alarm using 0-50 Amp current transformer
- Output 2 can be programmed as output or alarm
- NEMA 4X / IP65 gasketed front panel
- Alarm 1 – programmable NO or NC relay
- Universal input power, 90-264 VAC or 11-26 VAC/VDC
- Bumpless transfer to manual mode during sensor failure
- Power limiter output
- Wide variety of alarm mode selections
- RS-485 and RS-232 data communications interface
- Bright 0.40” (10 mm) red LED process display, 0.31” (8 mm) green LED setpoint display
- Fast input sample rate (5 samples/second)
- Automatic programming
- Differential control
- “Soft-Start” ramp and dwell timer
- Analog input for remote setpoint and current transformer
- Event input for changing functions and setpoint
- Hardware lockout plus remote lockout protection
- Loop break alarm
- Analog retransmission
- DC power supply outputs
- Tempo’s most highly featured 1/16 DIN control

**Agency Approvals:** RoHS

**Configurable with 4 Programmable Outputs and Standard NEMA 4X/IP65 Front Panel!**

**Hardware Code:** TEC-9300-

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<th>Power Input</th>
<th>BOX 1</th>
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<td>90-264 VAC</td>
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<tr>
<td>5</td>
<td>11-26 VAC / VDC</td>
</tr>
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<td>9</td>
<td>Other</td>
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</table>

**Signal Input — Universal, can be programmed in the field** BOX 2

1 = Input 1 – Universal input (factory default = tc type J)
- Thermocouple: J, K, T, E, B, R, S, N, L
- RTD: PT100 DIN, PT100 JIS
- Current: 4-20 mA, 0-20 mA
- Voltage: VDC, 0-1, 0-5, 1-5, 0-10

Input 2 – CT: 0 - 50A AC current Transformer (factory default)
- Linear Input: 0-1V, 0-5V, 1-5V, 0-10V, 0-20mA, 4-20mA

Input 3 – Event Input, not available if RS-232 is specified

9 = Other

**Output 1** BOX 3

1 = Relay: 2A / 240 VAC
2 = Pulse DC for SSR drive: 5 VDC (30 mA max)
3 = Isolated, 4-20 mA (default), 0-20 mA
4 = Isolated, VDC, 1-5 (default), 0-5, 0-1
5 = Isolated, VDC, 0-10
6 = Triac-SSR output 1A / 240 VAC
C = Pulse DC for SSR drive: 14 VDC (40 mA max)
9 = Other

**Alarm 1** BOX 5

0 = None
1 = Relay: 2A / 240 VAC (NO)
2 = Relay: 2A / 240 VAC (NC)
3 = Pulse DC for SSR drive: 14 VDC (40 mA max)
9 = Other

**Output 2 / Alarm 2** BOX 4

0 = None
1 = Relay: 2A / 240 VAC
2 = Pulse DC for SSR drive: 5 VDC (30 mA max)
3 = Isolated, 4-20 mA (default), 0-20 mA
4 = Isolated VDC, 1-5 (default), 0-5, 0-1
5 = Isolated VDC, 0-10
6 = Triac-SSR output 1A / 240 VAC
7 = Isolated 20V @ 25 mA DC, Output Power Supply
8 = Isolated 12V @ 40 mA DC, Output Power Supply
9 = Isolated 5V @ 80 mA DC, Output Power Supply
C = Pulse DC for SSR drive: 14 VDC (40 mA max)
A = Other

**Communications** BOX 6

0 = None
1 = RS-485 Interface
2 = RS-232 Interface
3 = Retransmission 4-20 mA (default), 0-20 mA
4 = Retransmission 1-5 VDC (default), 0-5 VDC
5 = Retransmission 0-10 VDC
9 = Other

**Note:** Detailed information on features common to digital microprocessor-based TEC temperature controls and the complete Table of Input Range and Accuracy can be found on page 13-46.