Power Input
Standard: 90-250 VAC, 47-63 Hz; 10 VA, 5 W max.
Optional: 11-40 VDC / 20 to 28 VAC, 47-63 Hz; 10 VA, 5 W max.

Signal Input
Resolution: 18 bits
Sampling Rate: 5 times / second (200 msec)
Maximum Rating: -2 VDC minimum, 12 VDC maximum
Sensor Break Detection: Sensor open for Thermocouple and RTD inputs, sensor short for RTD input, below 0.1 mA for 4-20 mA input, below 0.25 V for 1-5 V input, not available for other inputs
Sensor Break Response Time: Within 4 seconds for Thermocouple and RTD inputs, 0.1 second for 4-20 mA and 1-5 V inputs

Event Input
Number of Event Inputs: 2
Logic Low: -10 V minimum, 0.8 V maximum
Logic High: 2 V minimum, 10 V maximum

CT Input
CT Type: TEC99998
Accuracy: ±2 % of Full Scale Reading, ±1 digit maximum
Input Impedance: 294Ω
Measurement Range: 0-50 A AC
Output of CT: 0-5 V DC
CT Mounting: Wall (Screw) Mount
Sampling Rate: 1 Time/Second

Output 1 / Output 2
Relay Rating: 2 A, 240 V AC, 200000 Life Cycles for Resistive Load
Pulsed Voltage: Source Voltage 5 V, Current Limiting Resistance 66 Ω
Load Resistance: 1000 V AC
Load Capacity of Linear Output: Linear Current: 500 mA, Linear Voltage: 10 V

Alarm
Maximum Rating: 2 A, 240 V AC, 200000 Life cycles for resistive load
Alarm Functions: Dwell Timer, Deviation Low, Deviation High, Deviation Band Low, Deviation Band High, Process High, Process Low
Alarm Mode: Latching, Hold, Normal, Latching/Hold
Dwell Timer: 0.1 to 4553.6 Minutes

Data Communications
Interface: RS-485
Address: 1-247
Baud Rate: 2.8 - 115.2 Kbits/sec
Parity Bit: None, Even or Odd
Stop Bit: 1 or 2 Bits
Data Length: 7 or 8 Bits
Communication Buffer: 160 bytes

Stock and Common Part Numbers
(All Stock Part Numbers Include Terminal Covers)
(Default Type "J" Thermocouple Input)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Output 1</th>
<th>Out 2/Alm 1</th>
<th>Option 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEC19001</td>
<td>Relay</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEC19002</td>
<td>Relay</td>
<td>None</td>
<td>None</td>
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<tr>
<td>TEC19003</td>
<td>Relay</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEC19004</td>
<td>Pulse DC</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEC19005</td>
<td>Pulse DC</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEC19006</td>
<td>Pulse DC</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEC19007</td>
<td>4-20 mA</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>TEC19008</td>
<td>4-20 mA</td>
<td>Relay</td>
<td>Relay</td>
</tr>
</tbody>
</table>

Analog Retransmission
Output Signal: 4-20 mA, 0-20 mA, 0-10 V
Resolution: 15 Bits
Accuracy: ±0.05% of span ± 0.0025% / °C
Load Resistance: 500 Ω for current output, 10 KΩ minimum for voltage output
Isolation Breakdown: 1000 V AC minimum
Integral Linearity Error: ±0.005% of span
Linear Output Ranges: 0-22.2 mA (0-20 mA / 4-20 mA), 0-5.55 V (0-5 V, 1-5 V), 0-11.1 V (0-10 V)

User Interface
Keypad: 4 Keys
Display Type: 4 digit LCD display
No. of Display: 2
Upper Display Size: 0.58" (15 mm)
Lower Display Size: 0.3" (7.8 mm)

Programming Port
Interface: Micro USB
PC Communication Function: Automatic Setup, Calibration and Firmware Upgrade

Control Mode
Output 1: Reverse (Heating) or Direct (Cooling) Action
Output 2: PID cooling control, Cooling P band 50-300% of PB, Dead band -36.0 ~ 36.0 % of PB
ON-OFF: 0.1-90.0 °F, Integral time 0-3600 seconds, Derivative time 0-3600 seconds
P: 0-100.0 % offset adjustment
PID: Fuzzy logic modified Proportional Band 0.1 ~ 900.0 °F, Integral time 0-3600 seconds, Derivative time 0-3600 seconds
Cycle Time: 0.1-90.0 seconds
Manual Control: Heat (MV1) and Cool (MV2)
Failure Mode: Auto transfer to manual mode while sensor break or A-D Converter damage
Ramping Control: 0 to 900.0°F / Minute or 0 to 900.0°F / Hour Ramp Rate

Environmental and Physical Specifications
Operating Temperature: -10°C to 50°C
Storage Temperature: -40°C to 60°C
Humidity: 0 to 90 % RH (Non-Condensing)
Insulation Resistance: 20 MΩ minimum (500 VDC)
Dielectric Strength: 2000 V AC, 50/60 Hz for 1 Minute
Vibration Resistance: 10 to 55 Hz, 10 m/s² for 2 Hours
Shock Resistance: 200 m/s² (20 g)
Moldings: Flame retardant polycarbonate
Mounting: Panel
Dimensions H × W × D: 1-7/8 x 1-7/8 x 2-3/8" (48 x 48 x 59 mm)
Depth Behind Panel: 2" (50 mm)
Cut Out Dimensions: 1-25/32 x 1-25/32" (45 x 45 mm)
Weight: 0.35 lbs. (160 g)

Rear Terminal Connections
Total Stock and Common Part Numbers
(All Stock Part Numbers Include Terminal Covers)
(Rev 1 (3-19))