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

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

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

Output 1 / Output 2
- Relay Rating: 2A,240V AC, 200000 Life Cycles for Resistive Load
- Pulsed Voltage: Source Voltage 5V, Current Limiting Resistance 66Ω
- Linear Output Resolution: 15 Bits
- Isolation Breakdown Voltage: 1000 V AC
- Load Capacity of Linear Output: Linear Current: 500A, Linear Voltage: 10KΩ minimum

Alarm
- Maximum Rating: 2A, 240VAC, 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
- Protocol: Modbus RTU
- Address: 1-247
- Baud Rate: 2.8 - 115.2 Kbps/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>
</tr>
<tr>
<td>TEC19003</td>
<td>Pulse DC</td>
<td>Relay</td>
<td>None</td>
</tr>
<tr>
<td>TEC19004</td>
<td>Pulse DC</td>
<td>Relay</td>
<td>None</td>
</tr>
<tr>
<td>TEC19005</td>
<td>Pulse DC</td>
<td>Relay</td>
<td>None</td>
</tr>
<tr>
<td>TEC19006</td>
<td>4-20mA</td>
<td>Relay</td>
<td>None</td>
</tr>
<tr>
<td>TEC19007</td>
<td>4-20mA</td>
<td>Relay</td>
<td>None</td>
</tr>
<tr>
<td>TEC19008</td>
<td>4-20mA</td>
<td>Relay</td>
<td>None</td>
</tr>
</tbody>
</table>

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

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

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) hysteresis control (P band = 0)
- P or PD: 0-100.0 % offset adjustment
- PID: Fuzzy logic modified Proportional band 0.1 ~ 900.0°F, Integral time 0-3600 seconds, Derivative time 0-360.0 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 / Hour 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: 20MΩ minimum (@500V DC)
- Dielectric Strength: 2000V AC, 50/60 Hz for 1 Minute
- Vibration Resistance: 10 to 55 Hz, 10m/s2 for 2 Hours
- Shock Resistance: 200 m / s2 (20g)
- Moldings: Flame retardant polycarbonate
- Mounting: Panel
- Dimensions H x W x 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: 6 oz (160 g)
- IP50 for the front panel, IP20 for rear terminals and housing.
- All indoor use.