## Temperature & Process Controller Selection Guide

<table>
<thead>
<tr>
<th>Controller</th>
<th>4081/4082</th>
<th>4080</th>
<th>6060</th>
<th>40 Series 4040, 6040, 6040</th>
<th>20 Series 8020, 8020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Temperature &amp; Process Controller</td>
<td>Temperature &amp; Process Controller</td>
<td>Temperature &amp; Process Controller</td>
<td>Temperature &amp; Process Controller</td>
<td>Temperature &amp; Process Controller</td>
</tr>
<tr>
<td><strong>Control Loops</strong></td>
<td>Single / Dual</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
</tr>
<tr>
<td><strong>Indication/Display</strong></td>
<td>Graphical/Text LCD</td>
<td>Graphical/Text LCD</td>
<td>Upper: 4 digit Low: Hi-Res Text</td>
<td>Dual 4-Digit</td>
<td>Dual 4-Digit</td>
</tr>
<tr>
<td><strong>Panel Cutout (DIN)</strong></td>
<td>1/4</td>
<td>1/4</td>
<td>1/16</td>
<td>1/4, 1/8, 1/16</td>
<td>1/8, 1/16</td>
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<tr>
<td><strong>Thermocouple</strong></td>
<td>2 or 3 wire PT100, Pt1120</td>
<td>2 or 3 wire PT100, Pt1120</td>
<td>2 or 3 wire PT100, Pt1120</td>
<td>2 or 3 wire PT100</td>
<td>2 or 3 wire PT100</td>
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<tr>
<td><strong>Current, Voltage</strong></td>
<td>0/4-20 mA, 0/10-50 mV, 0/1-5 V, 0/2-10 V, 0-100 mV and 2K Ω pot also on aux input), scaling -1999 to +9999</td>
<td>0/4-20 mA, 0/10-50 mV, 0/1-5 V, 0/2-10 V, 0-100 mV and 2K Ω pot also on aux input), scaling -1999 to +9999</td>
<td>0-20 mA, 4-20 mA, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999</td>
<td>0-20 mA, 4-20 mA, 0-50 mV, 10-50 mV, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999</td>
<td>0-20 mA, 4-20 mA, 0-50 mV, 10-50 mV, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999</td>
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<tr>
<td><strong>Digital</strong></td>
<td>9 (+ 4 soft)</td>
<td>2</td>
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<td>N</td>
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<td><strong>Outputs (Maximum)</strong></td>
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<td>9</td>
<td>6</td>
<td>3/5</td>
<td>3</td>
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<tr>
<td><strong>Relay</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>SSR Drive</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Triac/SSR</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td><strong>4-20mA</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
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<td><strong>Number of Control Points</strong></td>
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<td>2</td>
<td>3</td>
<td>2</td>
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<tr>
<td><strong>Number of Alarms</strong></td>
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<td>5</td>
<td>5</td>
<td>3</td>
<td>2</td>
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<td><strong>Number of Events</strong></td>
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<td>5</td>
<td>5</td>
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<td><strong>Agency Approvals</strong></td>
<td>UL, cUL, CE</td>
<td>UL, cUL, CE</td>
<td>UL, cUL, CE</td>
<td>UL, cUL, CE</td>
<td>UL, cUL, CE</td>
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<tr>
<td><strong>Control Modes Limit</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
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<tr>
<td><strong>ON/OFF</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Proportional (w/ manual reset)</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>PID</strong></td>
<td>Y (5 sets)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Auto Tune PID</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Valve Drive</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Ramp and Soak</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
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<tr>
<td><strong>Programs X Segments</strong></td>
<td>64 X 255</td>
<td>64 X 255</td>
<td>16 X 16</td>
<td>-</td>
<td>-</td>
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<tr>
<td><strong>Ramp to Set Point</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td><strong>Other</strong></td>
<td>Loop / Heater Break Alarm, Cascade, Ratio, Gain Scheduling, Valve Motor Drive</td>
<td>Loop / Heater Break Alarm, Cascade, Ratio, Gain Scheduling, Valve Motor Drive</td>
<td>Loop / Heater Break Alarm, Valve Motor Drive</td>
<td>Loop / Heater Break Alarm, Heater Motor Drive</td>
<td>Valve Motor Drive, Heater Break Alarm</td>
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<tr>
<td><strong>Remote Endpoint</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
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<tr>
<td><strong>Communications (Modbus unless otherwise specified)</strong></td>
<td>RTU/RS485 &amp; TCP/Ethernet, USB Data Port</td>
<td>RTU/RS485 &amp; TCP/Ethernet, USB Data Port</td>
<td>RTU/RS485</td>
<td>RTU/RS485</td>
<td>RTU/RS485</td>
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<td><strong>See Page</strong></td>
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1 Some outputs are field selectable as Alarms or Events.
## Temperature & Process Controller Selection Guide

<table>
<thead>
<tr>
<th>Controller</th>
<th>2110</th>
<th>3204</th>
<th>ETR-3400</th>
<th>300D/300B</th>
<th>1040</th>
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<tbody>
<tr>
<td><strong>Control Loops</strong></td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>Single</td>
<td>1 - 32 / System</td>
</tr>
<tr>
<td><strong>Indication/Display</strong></td>
<td>Single 4-Digit</td>
<td>Single 4-Digit</td>
<td>Single 4-Digit</td>
<td>Set Point Dial/Non Indicating</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Panel Cutout (DIN)</strong></td>
<td>1/4</td>
<td>1/32</td>
<td>1/32</td>
<td>DIN Rail</td>
<td>DIN Rail Mount</td>
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<tr>
<td><strong>RTD</strong></td>
<td>PT100</td>
<td>PT100</td>
<td>PT100</td>
<td>PT100</td>
<td>3 wire PT100, NI120</td>
</tr>
<tr>
<td><strong>Current, Voltage</strong></td>
<td>-</td>
<td>4-20mV, 0-20mV and 4-20mA*, 0-20mA*</td>
<td>4-20mA, 0-20mA, 0-1, 0-5, 1-5 or 0-10Vdc</td>
<td>-</td>
<td>0/4-20 mA, 0/10 to 50 mA, 0/1-5 V, 0/2-10 V, scaling -32000 to +32000, Heater Current: 0 to 50mA/60mA Scaleable 0.1 to 100AAC</td>
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<tr>
<td><strong>Digital</strong></td>
<td>N</td>
<td>1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td><strong>Outputs (Maximum)</strong></td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>Up to 48</td>
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<tr>
<td><strong>Relay</strong></td>
<td>Y (20 Amps)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td><strong>SSR Drive</strong></td>
<td>Y (10 Amps)</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Triac/SSR</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>4-20mA</strong></td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td><strong>Number of Control Points</strong></td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>-</td>
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<tr>
<td><strong>Number of Alarms</strong></td>
<td>1</td>
<td>1</td>
<td>2 (1 out Vdc)</td>
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<td>Up to 16</td>
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<tr>
<td><strong>Number of Events</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>Up to 16</td>
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<tr>
<td><strong>Agency Approvals</strong></td>
<td>UL, cUL</td>
<td>UL, cUL, CE</td>
<td>UL, CSA, CE</td>
<td>UL, CUL</td>
<td>UL, cUL, CE</td>
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<td>NEMA 4X</td>
<td>NEMA 4X</td>
<td>NEMA 4X</td>
<td>NEMA 1</td>
<td>IP20</td>
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<tr>
<td><strong>Control Modes Limit</strong></td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>ON/OFF</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td><strong>Proportional (w/ manual reset)</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td><strong>PID</strong></td>
<td>Y (PI Only)</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td><strong>Auto Tune PID</strong></td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Valve Drive w/Feedback</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
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<tr>
<td><strong>Ramp and Soak</strong></td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
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<tr>
<td><strong>Programs X Segments</strong></td>
<td>-</td>
<td>1 X 2</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Ramp to Set Point</strong></td>
<td>-</td>
<td>Y</td>
<td>-</td>
<td>Y</td>
<td>-</td>
</tr>
<tr>
<td><strong>Control Action</strong></td>
<td>Heat</td>
<td>Heat, Cool Heat/Cool</td>
<td>Heat, Cool Heat/Cool</td>
<td>Heat</td>
<td>Heat, Cool Heat/Cool</td>
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<tr>
<td><strong>Other</strong></td>
<td>High Current Output</td>
<td>-</td>
<td>Differential Input Loop / Heater Break</td>
<td>Sensor Break</td>
<td>Heater Break Alarm</td>
</tr>
<tr>
<td><strong>Remote Setpoint</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td><strong>Retransmit Output</strong></td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
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<tr>
<td><strong>Communications (Modbus unless otherwise specified)</strong></td>
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<td>RTU/RS485, RS232</td>
<td>RTU/RS485</td>
<td>RTU/RS485, TCP/IP, DeviceNet, Ethernet/IP, ProfiBus</td>
<td>N</td>
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<tr>
<td><strong>See Page</strong></td>
<td></td>
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</table>

1 Some outputs are field selectable as Alarms or Events.
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<table>
<thead>
<tr>
<th>Controller</th>
<th>3340 / 3380</th>
<th>CX224</th>
<th>50 Series 4050, 6050</th>
<th>LIMIT</th>
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<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Temperature &amp; Process Controller</td>
<td>Monitor</td>
<td>High/Low Limit</td>
<td>High Limit</td>
</tr>
<tr>
<td><strong>Control Loops</strong></td>
<td>Four / Eight</td>
<td>Twelve</td>
<td>Single</td>
<td>Single</td>
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<tr>
<td><strong>Indication/Display</strong></td>
<td>Dual 4-Digit</td>
<td>LED</td>
<td>Dual 4-Digit</td>
<td>Set Point Dial Non-Indicating</td>
</tr>
<tr>
<td><strong>Panel Cutout (DIN)</strong></td>
<td>1/4</td>
<td>Special Front Panel Mount</td>
<td>1/4 &amp; 1/16 (1/8 available)</td>
<td>Back Panel Mount</td>
</tr>
<tr>
<td><strong>RTD</strong></td>
<td>PT100</td>
<td>Pt, Ni, Cu</td>
<td>3 wire PT100</td>
<td>PT100</td>
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<tr>
<td><strong>Current, Voltage</strong></td>
<td>0-5, 0-10, 1-5 Vdc</td>
<td>4-20 mA</td>
<td>0-20 mA, 4-20 mA, 0-50 mA, 0-20 mA, 10 to 50 mA, 0-5 V, 1-5 V, 0-10 V, 2-10 V, scaling -1999 to +9999</td>
<td>0-20 mA, 4-20 mA, 0-5 V, 1-5 V, 0-10 V</td>
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<tr>
<td><strong>Digital</strong></td>
<td>Up to 5</td>
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<td>Reset</td>
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<td><strong>Outputs (Maximum)</strong></td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>1</td>
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<tr>
<td><strong>Relay</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>SSR Drive</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td><strong>Triac/SSR</strong></td>
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<td>N</td>
<td>Y</td>
<td>N</td>
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<tr>
<td><strong>4-20mA</strong></td>
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<td><strong>Number of Alarms</strong></td>
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<tr>
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<td>UL, cUL, CE</td>
<td>UL, cUL, FM</td>
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<td>NEMA 4</td>
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<td>Y</td>
</tr>
<tr>
<td><strong>ON/OFF</strong></td>
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<tr>
<td><strong>Proportional (w/ manual reset)</strong></td>
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<tr>
<td><strong>PID</strong></td>
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<td>N</td>
</tr>
<tr>
<td><strong>Auto Tune PID</strong></td>
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<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Valve Drive w/Feedback</strong></td>
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<td>N</td>
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<tr>
<td><strong>Ramp and Soak</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Programs X Segments</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Ramp to Set Point</strong></td>
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<td>N</td>
<td>N</td>
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<tr>
<td><strong>Control Action</strong></td>
<td>Heat, Cool Heat/Cool Limit/Alarm Limit/Alarm</td>
<td>Heat, Cool Heat/Cool Limit/Alarm Limit/Alarm</td>
<td>Heat, Cool Heat/Cool Limit/Alarm Limit/Alarm</td>
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<tr>
<td><strong>Other</strong></td>
<td>Heater Break, Multi-Memory Area Differential Input Heater Break</td>
<td>Heater Break, Multi-Memory Area Differential Input Heater Break</td>
<td>Heater Break, Multi-Memory Area Differential Input Heater Break</td>
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<tr>
<td><strong>Retransmit Output</strong></td>
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<td>RTU/RS485, RS232</td>
<td>RTU/RS485</td>
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</table>

1 Some outputs are field selectable as Alarms or Events.