## **Controls**

# 3204 1/32 DIN Temperature Controller

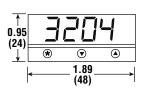
- Ultra-Compact 1/32 DIN Size
- Dual Outputs for Heat, Cool and Alarm
- User Selectable Sensor and Process Inputs
- · Autotune PID
- · Single Ramp/Soak
- NEMA 4X (Front Panel)
- · IP66
- · Large 4 Digit Display
- Program Security
- RS-232/ RS-485 Digital Communications Option



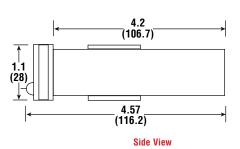




#### **Dimensions**







All Dimensions in Inches (mm)

#### Description

The 3204 control provides full auto-tuning PID control in a compact 1/32 DIN package, making it an excellent choice where panel space is a premium. The large 4-digit display, several temperature and process control options, a rugged design and efficient programming capabilities make the 3204 ideal for use in several demanding applications such as plastics, packaging, heat treating and life sciences. Input options include 9 different thermocouples,  $100\Omega$  Pt RTD or 0-20 or 4-20 mV or mA linear process. Each of the two outputs can be programmed as heat control, cool control or

alarm output. Select from Relay and SSR Drive output combinations. The 3204 also offers either RS-232 or RS-485 Modbus/RTU communications for remote management needs. Auto tuning functions calculate dependable PID parameters for optimal control of the process. The single ramp to setpoint feature enhances process control capability. NEMA 4X/IP66 front panel withstands harsh environments and applications where the unit might come in contact with water or corrosives.

# **Controls**

# 3204 1/32 DIN Temperature Controller *(cont'd.)*

### **Specifications**

| 1 3                               |  |   |  |   |                                |
|-----------------------------------|--|---|--|---|--------------------------------|
| Control Modes                     | Field Selectable, On/Off, PID  |   |  |   |                                |
| Control Adjustments               | P<br>A<br>R<br>C   | control Setpoi<br>Proportional B<br>Lutomatic Res<br>Rate<br>Dutput Cycle T<br>Lupproach Cont     | and<br>et<br>ime                                 | Instrument Range<br>25% of span, adjustable<br>0.1 to 60 min. or Off<br>1-200 seconds or Off<br>0.1-81 seconds<br>0.5 to 5 x Proportional B |                                |
| Outputs                           |  |   |  |   |                                |
| Output #1                         | C  | one Heat, Coo<br>Relay  | Nor  | larm Output<br>mally open SPST contact<br>50 Vac  | rated 2 Amps                   |
|                                   |  | SSR Drive   |  | dc, +0, -15%, 15 mA, non  | isolated                       |
| Output #2                         | C  | One Heat, Cool or Alarm Output Relay Normally open SPST contact rated 1 Amps at 250 Vac           |  |   |                                |
|                                   |  | SSR Drive   |  | lc, +0, -15%, 15 mA, non  | isolated                       |
| Alarm Features<br>Functions       | F  | ield Selectable   |  | Dand  |                                |
| Types                             | Process, Devation, Band<br>Field Selectable<br>High/Low, Inhibit on Start up, Latching |   |  |   |                                |
| Input Specifications              |  |   |  |   |                                |
| Input Sampling                    | 10 times per   | second  |  |   |                                |
| Sensor Type                       |  | Range   | * °F   | С   | Accuracy                       |
| Thermocouple                      | J<br>K<br>T<br>E<br>R<br>S<br>N<br>B<br>L  | 32 to 1<br>-58 to 2<br>-273 to<br>32 to 1<br>32 to 2<br>32 to 2<br>-58 to 2<br>32 to 3<br>32 to 3 | 2192<br>482<br>112<br>912<br>912<br>2192<br>2272 | 0 to 800<br>-50 to 1200<br>-200 to 250<br>0 to 600<br>0 to 1600<br>0 to 1600<br>-50 to 1200<br>0 to 1800<br>0 to 800                        | ±0.25% of<br>Sensor<br>Maximum |
| RTD                               | 100 Ohm Pt   | -273 to   |  | -200 to 400   | ш                              |
| Linear Voltage<br>Linear Amperage | 0-20 mV, 4-2<br>0-20 mA, 4-2   | 0 mV<br>20 mA (must ı   | ıse 19   | Ω resistor)   |                                |
| Instrument Power                  |  | 90-264 Va   | 50/  | 60 Hz or 12 to 24 Vac/Vdd   | ;                              |
| Operating Environment             |  | 32-130°F (0-50°C) with relative humidity 90% or less (non-condensing)                             |  |   |                                |
| Physical Specifications           |  |   |  | 48) x 0.95 (24) x 3.98 (10<br>kness 0.39 (10)   | 02)                            |



## **Controls**

# 3204 1/32 DIN Temperature Controller *(cont'd.)*

### Ordering Information

Complete the model number using the matrix provided.

| Model  | 3204 1/              | /32 DIN Auto Tuning PID Controller   |                           |                           |   |  |  |
|--------|----------------------|--|---------------------------|---------------------------|---|--|--|
| 3204   | 0-20, 4-<br>and limi | 20 mV or<br>t control o  | mA** line<br>capabiliy, v | ear proces<br>with user p | ntroller with the following standard features: User selectable inputs (thermocouple, RTD or is inputs), dual outputs for heat, cool and alarm; single ramp & soak program, latching alarm program security levels. Also, NEMA 4X / IEC IP66 front panel; large 4-digit display. Optional modBus RTU digital communications. 3 year warranty. Approvals: UL, cUL, CE |  |  |
|        | Code                 | Outputs 1 and 2, Control Output or Alarm   |                           |                           |   |  |  |
|        | 11*                  | Two Relay Outputs: Output 1: 2 Amps at 250 VAC. Output 2: 1 Amp at 250 VAC. Both resistive loads   |                           |                           |   |  |  |
|        | 71                   | 71 Two Outputs: Output 1: Solid State Relay Drive, 5 Vdc, 15 mA. Output 2: Relay, 1 Amp at 250 VAC |                           |                           |   |  |  |
|        | 77                   | 77 Two Solid State Relay Drive Outputs: 5 Vdc, 15mA (X 2)  |                           |                           |   |  |  |
|        |                      | Code   |                           |                           |   |  |  |
|        |                      | Add to complete model number   |                           |                           |   |  |  |
|        |                      | 9  | Special                   | Configura                 | tion  |  |  |
|        |                      |  | Code                      | Options                   | 3   |  |  |
|        |                      |  | 0                         | None                      |   |  |  |
|        |                      |  | 1                         | RS-485                    | ModBus/RTU Digital Communications Interface   |  |  |
|        |                      |  | 2                         | RS-232                    | ModBus/RTU Digital Communications Interface   |  |  |
|        |                      |  |                           | Code                      | Power Supply  |  |  |
|        |                      |  |                           | 0                         | 90-264 Vac  |  |  |
|        |                      |  |                           | 1                         | 12-24 VDC/AC +/20%  |  |  |
| 3204 - | 71                   | 0  | 0                         | 0                         | Typical Model Number  |  |  |

<sup>\*2</sup> Relay Output Code "11" is not available with the 12-24 VDC/AC Power supply option

### Stocked Items

| Model      | PCN    |
|------------|--------|
| 3204-11000 | 305090 |
| 3204-71000 | 305082 |
| 3204-77000 | 305103 |
| 3204-71001 | 305146 |
| 3204-77001 | 305162 |
| 3204-11010 | 305120 |
| 3204-71010 | 305111 |
| 3204-77010 | 305138 |
| 3204-11020 | 305189 |
| 3204-71020 | 305170 |
| 3204-77020 | 305197 |

### Accessories

| Description                 | PCN    |
|-----------------------------|--------|
| Resistor, 1Ω (2% tolerance) | 305630 |



<sup>\*\*0-20</sup> mA or 4-20 mA input signal requires  $1\Omega$  resistor. See accessories.