



# P Series Universal Temperature/ Process Controllers

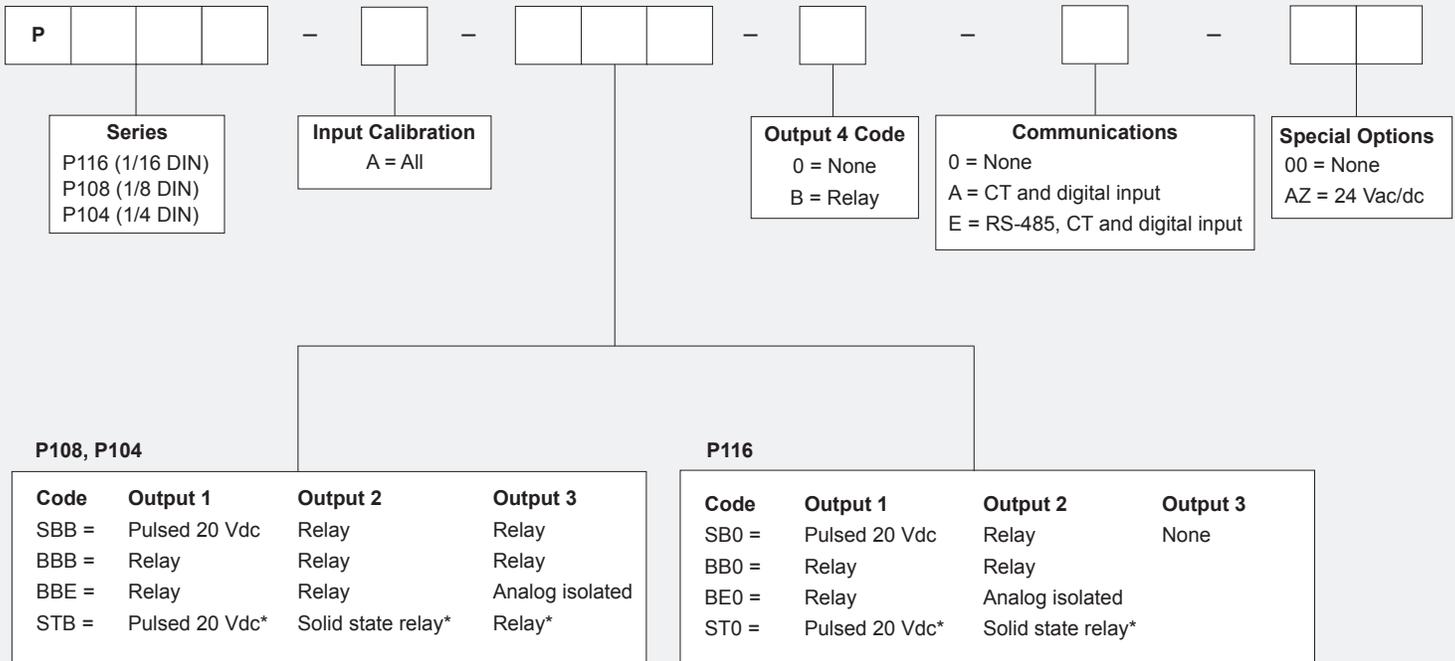
P Series controllers are advanced, affordable panel controls that aid the drive to improve OEE and sustainability. The products offer the precision you need and communicate easily with existing modbus factory floor networks. They will also help you monitor heater life, so you'll have less downtime and greater throughput. P Series controllers are easy to use, customize and operate.



Athena P Series auto tuning controllers are panel mounted and can be used for precise control of a single loop with independent outputs. RS-485 communications interface is available and a large digital LED display provides visual indication of various control functions.

- Field configurable universal inputs
- On/off through full PID operation
- Ramp soak timer and soft start
- Heater failure detection
- High-visibility color LED display
- Digital setpoint retransmission
- Analog retransmission
- Modbus RTU digital communications

## Ordering Information



\* Not available on 24 V AC/DC units. Code combinations for outputs 1, 2 and 3 are fixed.



## Technical Specifications

### Operating Limits

**Ambient Temperature:** 32 °F to 140 °F  
(0 °C to 60 °C)  
**Relative Humidity Tolerance:** 90%, non-condensing  
**Power:** 100-230 Vac, +/- 15% (48-62 Hz);  
24 Vac, -15% to +10% optional;  
24 Vdc, -15% to +20%, +/- 5% ripple optional  
**Power Consumption:** 6 W (P116); 8 W (P104 & P108)

### Performance

**Accuracy:** +/- 0.25% of full scale; +/- 1 digit  
**Setpoint Resolution:** 0.1 degree, <1000 degrees;  
1 degree, >999 degrees  
**Drift with Temperature:** <50 ppm typical  
**TC Cold-End Tracking:** <+/- 1 °C at 25 °C ambient  
**Noise Rejection:** 48-63 Hz, >-120 dB, common mode;  
48-63 Hz, >-93 dB, series mode  
**Process Sampling:** 250 ms

### Control Characteristics

**Control Types:** PID, on/off; Auto, manual, standby  
**Alarm:** 3, Absolute high & low; Deviation high, low or band; Auto or manual latching, non-latching

### Inputs

**Themocouple:** B, C, J, K, L, N, R, S, T  
**RTD:** 3-wire, Pt 100, DIN 43760  
**Linear:** -10 to 80 mV, 0 to 10 Vdc

### Outputs

**Logic:** ON 12 Vdc @ 44 mA;  
OFF <300 mV @ 100 mA  
**Relay:** Form A, Max 2 A @ 264 Vac resistive;  
Min 100 mA @ 12 Vdc  
**Triac:** 0.75 A (rms) 30-264 V (rms) resistive load  
**Analog:** 0-20 mA into <500 ohms

### Alarm Type

**Type:** Absolute high & low; Deviation high, low or band  
**Latching:** Auto or manual latching, non-latching  
**Output Assignment:** Relay or digital output

### Communications

**Protocol:** Isolated 485 Modbus RTU

### Mechanical Characteristics

**Display:** Dual, 4-digit LED Display;  
Process value: green; Setpoint value: amber  
**Front Panel Rating:** NEMA 4X (IP65)  
**Front Panel Cutout:**  
P116: 1.771" x 1.771" (45 mm x 45 mm)  
P108: 1.771" x 3.622" (45 mm x 92 mm)  
P104: 3.622" x 3.622" (92 mm x 92 mm)  
**Connections:** Screw terminals



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