



Model 20 Dual-Zone Universal Temperature/Process Controller

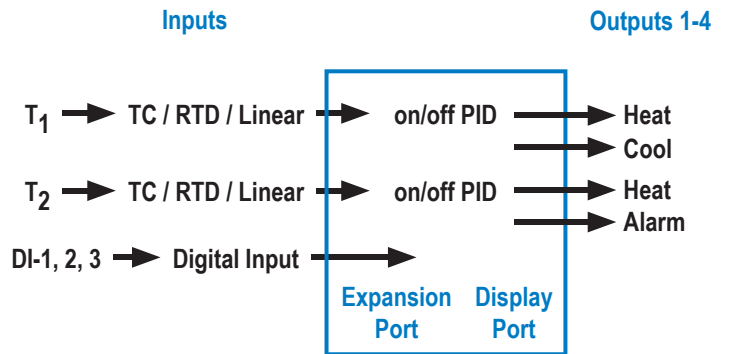
The Athena Foundation series of embedded Multi-Loop PID Controls offer the designer unlimited custom design possibilities for less cost than individual loop controllers with similar capabilities. The Foundation 20 controllers have a two-zone configuration with universal RTD, TC and linear inputs with each PID loop capable of being independently auto-tuned. The controller boards have expansion ports to add communications, additional I/O, and various display options.

KEY FEATURES:

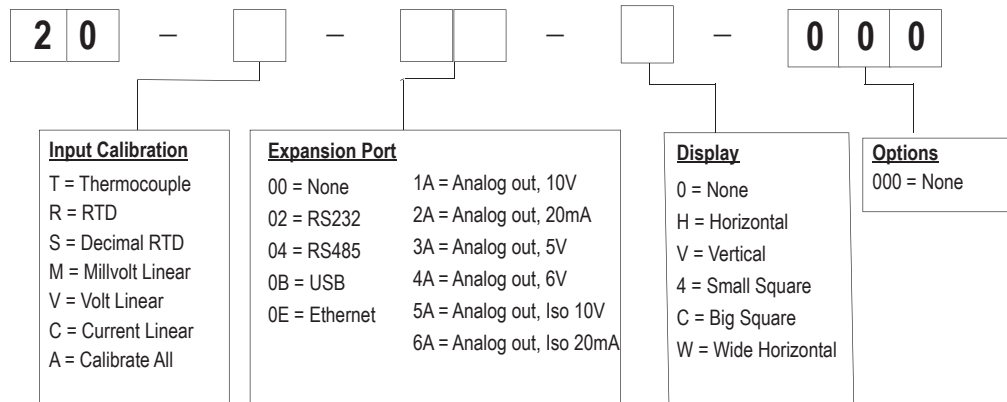
- ▲ Small size (3"x5") control boards provide maximum flexibility in embedded machine design applications
- ▲ Low-voltage, energy-efficient 18Vac/24Vdc control boards designed to UL 508 standards
- ▲ Autotune provides precise tuning of PID algorithms
- ▲ Ambient 0-70 °C temperature rating enables control to withstand environment and extremes
- ▲ Agency Approvals: UL



Model 20 Process Control Application



ORDERING INFORMATION



TECHNICAL SPECIFICATIONS

TECHNICAL OPERATING LIMITS

Ambient Temperature	32 deg F to 158 deg F (0 deg C to 70 deg C)
Relative Humidity	90% non-condensing
Power	18Vac / 24Vdc External fuse required 2.25A for 24Vdc input power

PERFORMANCE

Accuracy	± 0.20% of full scale, ± 1 digit
Setpoint resolution	1 count / 0.1 count
Repeatability	± 1 count
Temperature Stability	5 uV/°C (maximum)
TC Cold End Tracking	0.05°C/°C ambient
Noise Rejection	100 dB common mode
Process Sampling	126 ms X number of active zones +1

CONTROL CHARACTERISTICS

Proportional Band	2 to span of sensor
Integral	0 to 9600 seconds
Derivative	0 to 2400 seconds
Cycle Time	0-200 ms; 1 to 120 seconds
Control Hysteresis	1 to span of sensor
Autotune	Operator Initiated
Manual Control	Operator Initiated

INPUT SPECIFICATIONS

Thermocouple	B, C, E, J, K, N, NNM, R, S, T, Platinel II. Maximum lead resistance 100 ohms for rated accuracy grounded or ungrounded
RTD	Two- & three-wire 100 ohm RTD, 100 ohms at 0 deg C (DIN curve standard 0.00385) Option: 1000 ohm RTD (consult factory) (three-wire RTD requires two channels for input)
Linear	0-10mV, 0-50mV, 10-50mV, 0-100mV 0-1V, 0-5V, 1-5V, 0-10V 0-20mA, 4-20mA
Digital Inputs	24Vdc

OUTPUT SPECIFICATIONS

4 Outputs, 24Vdc sourcing, 1A Max, each configurable as Heat, Cool or Alarm

Note: Each output must be protected from overload by a 1A fast-blow external fuse.

MECHANICAL CHARACTERISTICS

Dimensions	3" x 5" (77mm x 143mm)
Connections	Mating plugs with screw terminals

Foundation[®] Series



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