

Full Feature Analog Temperature Controllers

- Accurate Proportional Temperature Control Ideal for Most Processes
- Noise-Immune Analog Circuitry
- Simple to Use (No Programming Required)
- Thermocouple or RTD Input
- Adjustable Bandwidth and Reset
- Optional PID
- Adjustable High/Low Alarm
- Linearized Analog setpoint (2000)
- Digital Push-Button setpoint (3020)
- Limit Controller Configuration Available (2000 only)



Ordering Information



Sensor Input Code
 0=Thermocouple
 2= RTD

Output type (Plug-In)
 B = SPDT Relay 7A/5A
 F = 4-20mA dc
 S = Pulsed dc 20 Vdc
 T = SPST SS Relay, 1A
 L = Limit Control

Control Options
 O= Proportional/
 on-off
 (Standard)
 A= 3-mode (PID)

Alarms (STD) Code
 B= High alarm only
 C= Low alarm only
 D= High and low
 alarm
 O= None

STANDARD RANGE CODE
 (Special analog temperature setpoints available, consult factory)

Thermocouple

Code	Set Range	Type
14F	-100 to +400° F	T
03F	0 to +300° F	J
04F	0 to +400° F	J
13F	-100 to +350° F	J
16F	100 to +600° F	J
08F	0 to +800° F	J
01F	0 to 1000° F	J
03C	0 to +300° C	J
05C	0 to 500° C	J
51F	500 to +1500° F	K
02F	0 to +2000° F	K
25F	0 to +2500° F	K
01C	0 to +1000° C	K
30F	0 to 3000° F	R

Platinum RTD (3-wire, 100Ω @ 0°C)

R30	0 to 300° F	
R60	0 to 600° F	
R10	0 to 1000° F	
R06	0 to 600° C	



Sensor Input
 0= Thermocouple
 2= RTD

Output type (Plug-In)
 B= SPDT Relay 5/7A
 F= 4-20mA dc
 T= SPST SS Relay 1A
 S= Pulsed 20 Vdc

Control Options
Code
 O= Proportional/
 on-off
 (Standard)
 A= 3-mode (PID)

Alarms (STD)
Code
 B= High alarm only
 C= Low alarm only
 D= High and low
 alarm

STANDARD RANGE CODE

Thermocouple

Code	Set Range	Type
01F	0 - 999° F	J
05C	0 - 500° C	J
02F	0 - 1999° F	K

Platinum RTD (3-wire, 100Ω at 0°C, DIN CURVESTD)

R10	0 - 999° F	100Ω
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SERIES 2000 & 3020 ANALOG TEMPERATURE CONTROLLERS

SPECIFICATIONS

Line Voltage:	120/240 V \pm 10% to \pm 15%, 50-60 Hz
Power Consumption:	Less than 5VA
Setpoint:	2000 - Analog-Single turn potentiometer 270° rotation 3020 - Mechanical digital potentiometer
Setpoint Resolution:	2000 - 0.2% span 3020 - 1°F or °C
Indication:	Temperature: Deviation meter \pm 50°F or \pm 30°C of setpoint Load: Red LED output light Alarm: Red LED
Accuracy:	\pm 0.5% of span at calibration points.
Cold Junction Compensation:	Automatic, electrical
Setpoint Repeatability:	0.3% of span (2000)
Thermocouple Break Protection:	Failsafe, open sensor, output zero, Upscale indication on meter
Input:	2000 - J,K,R,T, thermocouples Platinum RTD DIN standard 3020 - J,K, thermocouple Platinum RTD DIN standard
Sensor Lead Resistance:	Thermocouple, maximum lead resistance 100 Ω for specified accuracy
Proportional Band:	On/off or nominal 5-50°F (3-30°C).
Offset (manual reset):	Adjustable over 100% of proportional band
Rate (derivative):	0.5 to 40 seconds
Reset (integral):	0.7, 1, 2 or 4 minutes via internal switches
Alarm:	2°F differential
Common Mode Rejection:	Maximum error \pm 1°C with 240 V, 60 Hz applied

Rejection:	As a common mode signal between sensor input and chassis ground
Series Mode Rejection:	Maximum error =1°C with series mode signal of 100 mV pk-to-pk at 60 Hz
Ambient Temperature:	32° to 131°F (0° to 55°C)
Dimensions:	Front Panel- 3.780 sq. in. (96mm ²) Depth Behind Panel- 3.780" (96mm) Panel cutout- 3.622 sq. in. (92mm ²)

Temperature
Controllers

Output Type	B	F	S	T	L	Alarm
Output (field changeable modules)	SPDT relay Resistive load rating: 7 A/120 V 5 A/240 V, 50 VA inductive	4-20 mA _{dc} into 1000 Ω maximum; not isolated from thermocouple	Pulsed DC for driving SS contactors 0-20 V, open ckt; 0-20 mA, short ckt; not isolated from thermocouple	SPST SS relay, zero voltage switched 1A 120/240 Vac, 10 A inrush, 2-4 mA leakage.	Limit Controller	SPDT relay 3A @ 120 V resistive
Output cycle time (Switch selectable)	On-off, 5-10-15 seconds	Continuous Proportioning	0.5-1.0-1.5 seconds	0.5-1.0-1.5 5-10-15 seconds	N/A	On-off
Proportional Band		On-off or nominal 5°F-50°F (3°C-30°C) (front panel adjustment)			N/A	2°F differential