

8004

1/8 DIN

Temperature Controller

- **SMART Self-Tuning with Fuzzy Logic**
- **Heat/Cool Control**
- **Heater Breakdown Alarm Option with Indication of Load Current**
- **Universal Inputs: RTD, TC, Voltage and Current**
- **Four Outputs**
- **Soft-Start Power Limiting on Power Up**
- **NEMA 4X Faceplate**
- **RS-485 Digital Communications with ChromaSoft® Capability**
- **Three Year Warranty**

Features

- Heat/Cool Control Features Selection of Cooling Medium and Overlap
- Two Independent Run-Idle Setpoints Switched by Dry Contact
- Heater Breakdown (HB) Alarm/Current Transformer Input
- Auto/Manual Control
- ChromaSoft® Remote Operator Interface Software Compatibility
- SoftStart - Timed Output Power Limit on Start-Up
- Programmed Advanced Alarm Functions for Each Alarm
- Auto/Manual Control
- Control Output "Turn Off" via Pushbuttons
- Programmable Ramp on Setpoint Change
- Alarm Inhibit



Description

The model 8004 controller meets the application needs of operators with or without skills in temperature processes and PID control. SMART self-tuning adjusts automatically and rapidly to all process changes—load changes, setpoint changes and more.

Sophisticated control features include:

- Start-up and continuous in-process tuning, without artificial upset
- Proprietary control algorithm using fuzzy logic/artificial intelligence concepts
- Proven maximum suppression of overshoot.

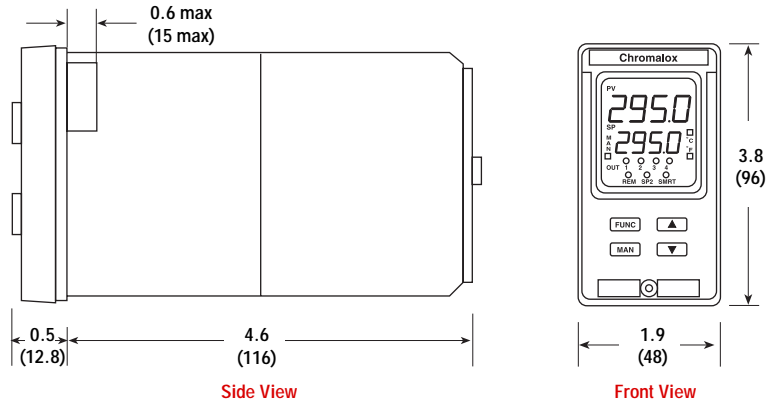
Specifications

Control Modes	Field Selectable	On/Off PID SMART (Autotune) Manual
Outputs		
Output #1 –Field Selectable	Relay or SSR Drive	
Output #2 –Cool or Alarm Output	Relay, 2 Amps, NO. SPST	
Output #3 (option) –Alarm	Output , 2 Amps, NO. SPST	
Output #4 –Alarm or Heater Breakdown Alarm	Relay, 2 Amps, NO. SPST	
Alarm Features		
Functions	Field Selectable	Process, Deviation, Heater Breakdown, Band
Input Specifications		
Sensor Type	Range* °F	°C
Thermocouple	J	0-1830
		-
	K	0-2190
	L	0-1650
	N	0-2550
	R	0-3200
RTD	S	0-3200
	100 Ohm Pt	-
	100 Ohm Pt	-330 to 1470
Current	0-20 mA or 4-20 mA dc	Range and decimal points programmable, -1999 to +4000
Voltage	0-5, 1-5, 0-10, or 2-10 Vdc,	
	0-60 or 12-60 mVdc	
*Field Programmable for °C or °F		
Digital Communications (option)	RS-485 multi-drop, opto-isolated, with selection of CPIO, ASCII Line or MODBUS/J-BUS Protocols	
Instrument Power	100-240 Vac, +10%, -15%, 50-60 Hz, 24 Vac or Vdc	
Operating Environment	30-130°F (0 to 55°C) ambient with less than 85% relative humidity	

8004

1/8 DIN Temperature Controller *(cont'd.)*

Dimensions



All Dimensions in Inches (mm)

Ordering Information

Complete the Model Number using the Matrix provided.

In Stock:

Model	PCN
8004-11130	306229
8004-11230	306237
8004-11430	306245

Model	1/8 DIN Temperature Controller
8004	SMART Self-Tuning, 2 Outputs (Heat/Cool or Control/Alarm), Dual 4-Digit Display of Process and Setpoint, Auto-Manual Control, Programmable Alarms, Option Heater Breakdown Alarm (#3)/Current Transformer Input, NEMA 4X Faceplate
Code	Output 1 - Heat or Cool
1	Relay, 3 Amps at 240 Vac or SSR Drive, 14 Vdc at 20 mA, Jumper Selectable
Code	Output 2 - Cool or Alarm
1	Relay, 2 Amps at 240 Vac
Code	Options
1	Output #3, 2 Amps at 250 Vac (Relative Load)
2*	Heater Break Down Input, Output #3 and Output #4
3	RS-485 Digital Communications, Output #3 and Output #4
4*	RS-485 Digital Communications, Heater Break Down Input, Output #3 and Output #4
Code	Power Supply
3	100/240 Vac
5	24 Vac/Vdc
Code	0 Add to complete model number
8004 - 1 1 2 3 0	Typical Model Number

Accessories

*Controllers with the Heater Break Down option, model 1604-xx2xx and 1604-xx4xx require a Current Transformer to monitor the load current controlled by the 1604 controller. Specify one of the four Current Transformers listed below when ordering a controller with the Heater Break Down option.

	Part No.	PCN
Current Transformer, for 0.0-10.0 Amp Load Current	0149-01340	306480
Current Transformer, for 0-25 Amp Load Current	0149-01341	306350
Current Transformer, for 0-50 Amp Load Current	0149-01342	306368
Current Transformer, for 0-100 Amp Load Current	0149-01343	306376
ChromaSoft® Remote Operator Interface Software	SOFT-12000	—