2002

1/4 DIN Heat/Cool Temperature Controller

- **PID or ON/OFF Control**
- **Dual PID Outputs, Dual Display**
- **Four Types Plug-in Output Modules for Heat or Cool Output**
- **J, K, E, T, R, N, S Thermocouples, RTD and Analog Inputs**
- **Self-Tuning**
- **16 Interval Ramp/Soak Program**

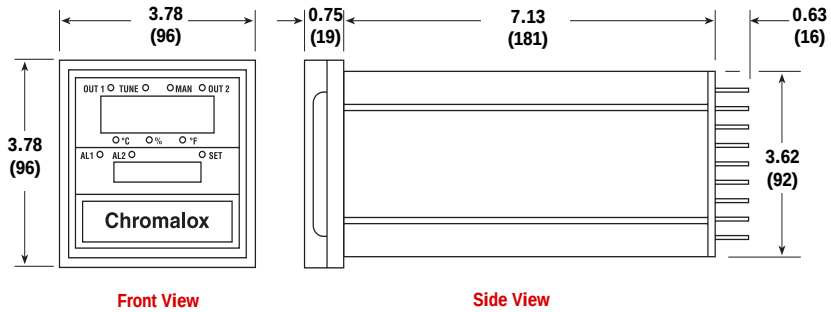
Description

The Chromalox 2002 temperature and process controller has unlimited applications flexibility, providing heating and cooling control for a broad range of heat/cool applications, as well as other applications requiring bidirectional, dual output PID control.

Features

- Two programmable PID outputs, heat (Output #1) and cool (Output #2). Field selectable Proportional, PID or ON/OFF control modes may be programmed for each output.
- Heat/Cool Ratio (gain ratio) and Offset adjustment optimize heat/cool performance, balancing between heating and cooling control and yielding stable process control.
- Expertly engineered Cold Start and Adaptive self-tuning algorithms determine the optimum PID control parameters, eliminating tedious and time-consuming start-ups.
- One Alarm and Event Relay Output may be selected as normally-energized or normally-de-energized with upper and lower limits.
- Digital Communications option accommodates RS-232, RS-422 and RS-485 serial interfaces and operates using a simple ASCII data terminal or specialized software on a computer. ChromaSoft™, Chromalox's remote operator interface software, communicates with up to 255 controllers in any combination.
- Digital Communications Interface also operates without a software program. Using a standard ASCII data terminal or personal computer, any parameter that can be accessed from the controller's front panel can be changed or adjusted. Automatic Data Logging provides a printout and/or display of up to 10 different control parameters and variables.
- Optional Process Signal Output and Remote Setpoint features allow the 2002 to operate with other system peripherals.
- 16 Interval Ramp/Soak Program includes HOLD, STANDBY and RUN selections, 16 separate setpoints plus a Standby setpoint, Guaranteed Soak, individually timed intervals, and the option of assigning the Alarm Relay as an Event Output.

Dimensions



All Dimensions in Inches (mm)

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Ordering Information

Complete the Model Number using the Matrix provided.

Model	Microprocessor-Based 1/4 DIN Temperature Controller
2002	P, PI, PD, PID and ON/OFF Control with Dual Outputs, Dual Display of Process Setpoint, Self-Tuning, Auto/Manual Control, Alphanumerics, Scale °F, °C or %, Alarm Relay with Programmable Mode Selection, 16 Interval Ramp/Soak Program

Code	Heat Control Output #1
1	Relay—1 NO. Form A Contact, 5A at 120 Vac, 2.5A at 230 Vac
2	Triac—1 Amp at 120 or 230 Vac
4	Analog, field select 4-20 mA or 1-5 Vdc
7	Solid State Relay Drive—20 Vdc at 40 mA

Code	Cool Control Output #2
1	Relay—1 NO. Form A Contact, 5A at 120 Vac, 2.5A at 230 Vac
2	Triac—1 Amp at 120 or 230 Vac
4	Analog, field select 4-20 mA or 1-5 Vdc
7	Solid State Relay Drive—20 Vdc at 40 mA

Code	Alarm Output #3
1	1 Relay Output—NO. Form A Contact, rated 5A at 120 Vac, 2.5A at 230 Vac

Code	Remote Setpoint, Process Retransmit and Communications Options
0	None
1	Analog Remote Setpoint and Field Select 4-20 mA/1-5 Vdc
J	J TC, Process Retransmit 1-5 Vdc, Remote SP
K	K TC, Process Retransmit 1-5 Vdc, Remote SP
E	E TC, Process Retransmit 1-5 Vdc, Remote SP
T	T TC, Process Retransmit 1-5 Vdc, Remote SP
R	R TC, Process Retransmit 1-5 Vdc, Remote SP
S	S TC, Process Retransmit 1-5 Vdc, Remote SP
N	N TC, Process Retransmit 1-5 Vdc, Remote SP
D	RTD, 0.00385 (DIN standard), Process Retransmit 1-5 Vdc, Remote SP
A	RTD, 0.00392 (American standard), Process Retransmit 1-5 Vdc, Remote SP
8	Non-Isolated RS-232/422 Digital Communications
9	Non-Isolated RS-232/422 Digital Communications, 1-5 Vdc Analog Remote Setpoint

Code	Sensor Type
1	Thermocouple, Field Select J -100 to +1400°F (-73 to +760°C) K -100 to +2100°F (-73 to +1149°C) E -100 to +1100°F (-73 to +593°C) T -350 to +750°F (-212 to +399°C) N -100 to +2300°F (-73 to +1260°C) Analog, Field Select 4-20 mA or 1-5 Vdc
2	Thermocouple, Field select R 50-3000°F (10-1649°C) S 50-3000°F (10-1649°C) Analog, Field Select 4-20 mA or 1-5 Vdc
4	RTD, 100 Ohm Pt. -200 to +1000°F (-128 to +538°C), Field Select Alpha = 0.00385 or Alpha = 0.00392 Analog, Field Select 4-20 mA or 1-5 Vdc

2002 -	2	2	1	E	1	Typical Model Number