3101

1/4 DIN High/Low Limit Controller

cULus

◀**FM**▶

- **One High/Low Limit Control Output**

- **Two Independent Alarm Outputs**

- **Analog Process Output for Retransmit of Process Variable**

- **Peak Temperature Display**

- **Universal Sensor Inputs**

- **NEMA 4X Front Panel**

- **Switching Power Supply 100-240 Vac or 12-24 Vac/Vdc**

- **Digital Communications with ChromaSoft™ Compatibility**

Description

The 3101 is a compact, fully programmable high or low limit controller. It is a UL Listed Overtemperature (or Undertemperature) controller, and FM approved as a limit controller. With user programmable inputs, outputs and high/low limit features, it is flexible to most any limit control application, and can be easily reconfigured as needed.

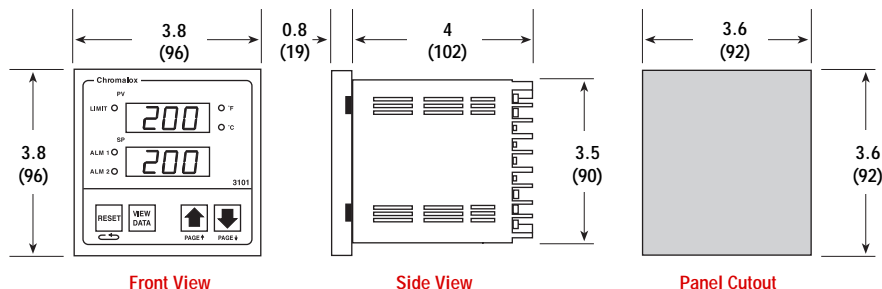## Peak Temperature Display

The 3101 records and displays the peak process temperature.

Over Setpoint Timer Display

The 3101 is equipped with a timer to record the total process time over setpoint.

Dimensions

Features

- Control Limit Output can be programmed for high or low limit control (overtemperature or undertemperature).

- Two Independent Alarm Outputs, Form C Relays, can be used to warn of impending out-of-limit process conditions, providing protection for equipment and personnel.

- Universal Sensor Input accepts thermocouple, RTD or analog signals.

- 24 Vdc Output for loop power.

- Digital Input available for remote alarm reset.

- Analog Process Output option for retransmission of process variable to a remote recorder, computer or other device.

- Isolated Serial Digital Communications (RS-232/422/485) can be used to address from 1 up to 255 Chromalox controllers.

- Security Code Protection prevents unauthorized access to programmable control parameter.

- Operating Ambient up to 150°F.

- Three Year Warranty.

Front View	Side View	Panel Cutout

All Dimensions in Inches (mm)

Chromalox®

3101

1/4 DIN High/Low Limit Controller *(cont'd.)*

Specifications

Limit Output

Automatic	Normally-energized latching relay; relay de-energizes at limit setpoint. Form C contacts, 5 Amps at 120/230 Vac

Limit Control Adjustments

High/Low Limit Setpoint	Sensor Range
Setpoint Limit	Sensor Range
Deadband	0-100°F
Display Offset	-100 to +100°F

Alarm Outputs (2)

Relay	Form C contacts, 5 Amps at 120/230 Vac (resistive)

Sensor Input　　Field selectable Thermocouple, RTD, Current or Voltage

Digital Input　　Accepts dry-contact closure

Input Specifications

	Range °F	Range °C
J TC	-100 to +1400	-73 to +760
K TC	-300 to +2400	-184 to +1316
T TC	-350 to +750	-212 to +399
E TC	-100 to +1100	-73 to +593
R TC	0-3200	-18 to +1760
S TC	0-3200	-18 to +1760
B TC	50-3300	10 to +1816
100Ω Pt RTD (a = .00385)	-200 to +1000	-128 to +538
4-20mA	-500 to +5000 (programmable)	
0-5 Vdc	-500 to +5000 (programmable)	
1-5 Vdc	-500 to +5000 (programmable)	

Transmitter Power

+24 Vdc Output	+24 Vdc $\pm$ 20% at 50 mA maximum

Digital Communications (Optional)

RS-232	Single-drop, isolated
RS-422/485	Multi-drop, isolated, field selectable by switch

Instrument Power　　100-240 Vac, +10%, -15%; 50-60 Hz; 15 VA
12-24 Vac/Vdc, $\pm$ 20% (optional); 15 VA

Operating Environment　　32-150°F (0-65°C) ambient temperature, relative humidity less than 95%, non-condensing

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Ordering Information

Complete the Model Number using the Matrix provided.

Model	High/Low Limit Controller
3101	Microprocessor-Based 1/4 DIN Programmable High/Low Limit Controller. Universal Sensor Input accepts Thermocouple, RTD, Current or Voltage Inputs, One Digital Input and One Alarm Output.

Code	Limit Output #1
1	Relay—Form C Contact, 5A @ 120 or 230 Vac

Code	Alarm #1 Output
1	Relay—Form C Contact, 5A @ 120 or 230 Vac

Code	Analog Process Output Option
0	None
1	Field selectable 4-20 mA or 1-5 Vdc

Code	Digital Comm. and Alarm #2 Options
0	None
1	RS-422/485 Digital Communications and Alarm #2 Relay - Form C Contact, 5A @ 120 or 230 Vac
2	RS-232 Digital Communications and Alarm #2 Relay - Form C Contact, 5A @ 120 or 230 Vac

Code	Power Supply
0	100-240 Vac
1	12-24 Vac or Vdc

3101 -	1	1	1	2	0	Typical Model Number

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