1. INSTALLATION

**Panel-Mounting**

The mounting panel must be rigid, and may be up to 6.6mm (0.255in) thick. Cut-out sizes:

- **Cut-out Dim A**: 120mm
- **Cut-out Dim B**: 45mm

For more than one instrument mounted side-by-side, cut-out A is 48mm.

**Mounting Panel**

- Use copper conductors (except for T/C Inputs).
- Either direct or indirect (through a switch or relay).
- The above applies to any and all connection to hazardous mains supply.
- Becoming loose and coming in contact with other wires or the instrument insulation and conductor material. (Use a standard crimping tool).

**Rear Terminal Wiring**

- The above applies to any and all connection to hazardous mains supply.
- Becoming loose and coming in contact with other wires or the instrument insulation and conductor material. (Use a standard crimping tool).

**CAUTION:**

- For an effective IP65 seal against dust and moisture, ensure gasket is well compressed against the panel.
- For an effective IP65 seal against dust and moisture, ensure gasket is well compressed against the panel.
- Mounting clamp. Push clamp forward, using a flat-blade screwdriver, ensuring that the gasket is compressed and instrument held firmly in position.

**Electrical shock can result in death or serious injury. Avoid contact with the leads and terminals.**

High voltages that may be present on leads can cause electrical shock.

2. FRONT PANEL AND OPERATION BASICS

**Control functions**

- Process value display
- Slot-point, control output or parameter
- Status LED indicators – see next column
- Ramp gradient is active
- F key to alter or activate functions
- UP/DOWN to change set-point or controller output value
- ENTER to accept value and show next screen

**3. CONTROLLER OPERATION**

This is the start screen in controller mode.

- The upper display line always shows the process value. The lower line is used for the setpoint.
- A second screen shows the output value in the lower line. The status line has six LED beacon which indicates the following (left to right): controller in manual operation, timer or program is active, alternative setpoint used, heat mode active or valve open, cool mode active or valve close and limit alarm active.

**Changing the Setpoint**

The setpoint can be adjusted by pressing the UP/DOWN-keys.

- Control Functions
- The F-key opens the function list in the lower display line. Depending on configurations (LOG) the list contains the following groups of parameters:
  - Err: ........No error list
  - SP...: External setpoint active
  - SP...: Second setpoint active

4. PROFILER OPERATION

- Entering the Profiler
- The F-key opens the profiler control menu in the lower display line. The display will show “P” followed by the actual state.
- Prerequisite: Programmer is in the reset or stop condition and program/segment selection (Pr.no/Pr.SG) is in the extended operating level.
- The procedure to select a defined program (Pr.:=) followed by a segment (Pr.SG) is shown below. When starting the profiler program, operation starts at the beginning of the selected segment in the selected program.

**Screen sequence shown below:**
**Examples of Profiler Displays:**

- **Profiler OFF**
- **Program 02 or Segment 02 active**
- **Program 02 with Setpoint limits**
- **Program 02 with Setpoint limits and Setpoint limits**

**Profiles in run mode**

Program 02 or Segment 02 active

Setpoint is ramping up to 1000°C.

End of Program

The last setpoint remains active

See if the user manual for details. Download at http://www.chromalox.com

**5. ALARM MANAGEMENT**

In case of an alarm the lower display line will toggle between red and green and an alarm screen will be added to the list of operator screens. Navigate to the alarm screen by pressing the ENTER key. You will find one of the following messages:

- **Search Run at Programmer Start**
- **Programs 16**
- **Control outputs 4**
- **Segments 16 per program**
- **Segment types: ramp (set-point and time) ramp (set-point and gradient) hold segment (holding time) step segment (alarm suppression) end segment**

All segment types can be combined with "Wait at the end and call operator".

**6. SETUP AND CALIBRATION**

After power-up the controller will show the operating level in the lower text line. The controller status is retained and will be the same as before the last power-down. To access the options for parameter setup, configuration and calibration, press ENTER for more than 3 seconds.

This will now allow the options to be accessed. Use the UP/DOWN keys to select and ENTER to go to the next option.

**7. SPECIFICATIONS**

**Inputs**

- **Feedback Value Input (IMP1):**
  - Resolutions: 14 Bit (0.0005 steps)
  - Decimal point: 0 to 3 digits behind the decimal point
  - Digital filter input: adjustable 0.0...100.0 µS
  - Scanning cycle: 5...70 ms
  - Measured value correction: 2-point or offset correction

**Thermocouples**

- **Input resistance:** ≤ 1µΩ
- **Effect of source resistance:** ≤ 1µΩ
- **Cold-Junction Compensation:** ≤ 0.5°C
- **Sensor current:** ≤ 1 µA

**Programs**

16

**Control outputs**

4

**Segments**

16 per program

**Segment types**

- ramp (set-point and time)
- ramp (set-point and gradient)
- hold segment (holding time)
- step segment (alarm suppression)
- end segment

**All segment types can be combined with "Wait at the end and call operator".**

**Time units**

configurable in hours:minutes or minutes:seconds

**Maximum segment duration**

9999 hours = 1 year 51 days

**Maximum program duration**

16 x 9999 hours = 15 years

**Gradient**

0.01°C/h (min) to 9999°C/h (max)

**Program name**

8 characters, adjustable via ChromaloxPro software

**Bandwidth control**

bandwidth high and low (B.Lo.b.H) limits definable for each program

**9. ENVIRONMENTAL**

- **Humidity**
  - Storage: 0...95% RH
  - Operating: 0...90% RH

- **Temperature effect**
  - < 100 ppm/K

- **Permissible Temperatures**
  - For specified accuracy: 0...60°C
  - For storage: -20...70°C

- **Shielding**
  - Transmitter Supply: 10 V into 500 Ω
  - Min contact rating: 500 V, 1mA

- **Current and Voltage Signal**
  - Span start, end of span: anywhere within measuring range
  - Measuring range: 0...60°C
  - Measuring range: 0...500 mA AC

- **Input circuit monitor**
  - Break and short circuit

- **Input circuit monitor**
  - Break and short circuit

- **Input resistance:**
  - ≤ 120Ω
  - ≤ 100Ω
  - ≥ 2KΩ

- **Input range:**
  - ≤ 1999...0.000...9999

- **Measuring range:**
  - ≥ 0.25%