**Step 11.** Enter to the Thermocouple Type Input Submenu

Press  to display flashing press , otherwise press until  is displayed. Now press to store and go to next menu item.

**Step 12.** Scroll through available selection of TC types

Press  to sequence thru flashing Thermocouple types, (see k, - for "k" CHROMEGA®/ALPHA®)

**Step 13.** Store TC Type

Press  to store and go to next menu item.

**Step 14.** Enter to Reading Configuration Menu

The display shows Reading Configuration, which is the top menu for 4 submenus. Decimal Point, Degree Units, Filter Constant and Inputting Submenus.

**Step 15.** Enter to Decimal Point Submenu

Press to show Decimal Point.

**Step 16.** Display the Decimal Point position

Press again to display the flashing Decimal Point position.

**Step 17.** Select the Decimal point position

Press to select  or Degree position.

**Step 18.** Store selected Decimal position

By pressing  momentarily the Decimal position will be stored and the instrument will go to the next menu item.

**Step 19.** Enter to Temperature Unit Submenu

Display shows Temperature Unit.

**Step 20.** Display available Temperature Units

Press  to display the flashing Degree Unit.

**Step 21.** Scroll through Temperature Units selection

Press to select  or Degree.

**Step 22.** Store the Temperature Unit

Press to display momentarily that the Degree Unit has been stored and the instrument will go automatically to the next menu item.

**Step 23.** Enter to Filter Constant Submenu

Display shows Filter Constant Submenu.

**Step 24.** Display the Filter Constant Value Submenu

Press  to display the flashing, previously selected Filter Constant.

**Step 25.** Scroll through available Filter Constants

Press  to select a convergence Filter Constant.

**Step 26.** Store the Filter Constant

Press momentarily to store Filter Constant and the instrument will automatically go to the next menu item.

**Step 27.** Enter Alarm Menu

The display will show the top menu for Alarm 1. In the following steps we are going to enable Alarm 1. Deviation, Unrath, Normally Open, Active Above. Enable power on and +2°C High Alarm i.e. Process Value > Setpoint Value +2°C will activate Alarm 1.

**Step 28.** Enter Alarm 1 Enable/Disable Submenu

Press  to display flashing  otherwise press until  is displayed, then press to store and go to next menu item.

**Step 29.** Enable Alarm 1 Submenu

If flashing  is displayed, press , if  is displayed, press until  is displayed, then press to store and go to next menu item.

**Step 30.** Select the Deviation Control Type Submenu

Press  if flashing  is displayed, press , otherwise press until  is shown. Now press  to store and go to next menu item.

**Step 31.** Select the Latched Type Submenu

Press  if flashing  is displayed, press , otherwise press until  is displayed. Press  to store and advance to next menu item.

**Step 32.** Select the Normally Open Type of Contact

Press  if flashing  is displayed, press , otherwise press until  is displayed. Press  to store and advance to next menu item.

**Step 33.** Select the Above Type of Active Submenu

Press  if flashing  is displayed, press , otherwise press until  is displayed. Press  to store and advance to next menu item.

**Step 34.** Enable Alarm 1 at Power On

Press  if flashing  is displayed, otherwise press until  is displayed. Press  to store and advance to next menu item.

**Step 35.** Enter Alarm 1 High Submenu

Press to twice to skip Alarm 1 Low value. is for below & for above.

**Step 36.** Set the Alarm 1 High value

Press  or  until the display to 000. Press  to save.

**Step 37.** Enter the Alarm 2 Menu

The display will show for the top menu for Alarm 2. Repeat steps from 28 to 36 to set for Alarm 2 the same conditions as for Alarm 1.

**Step 38.** Skip the Loop Break Time Menu

Press to jump to the Output 1 Menu.

**Step 39.** Configuration the Output 1 Menu

**Step 39.** Set Alarm 1 Disabled (Step 29) to be able to Enable Output 1.

**Step 40.** Configuration of Display Color Selection

Press  or  until the display to . Press  or  until the display . Please refer to the operator's manual if needed.

**Step 41.** Set the N/A parameter

Press momentarily to reset the controller and return to RUN mode to display Ambient Temperature. Now you are ready to observe temperature as it rises 10°C higher. This line refers to the operator's manual if needed.

**SPECIFICATION**

**Accuracy**

±0.5°C temp; ±0.03% rdg. process typical

**Resolution**

0.03°C/°C RTD; 0.05°C/°C TC @ 25°C (77°F); 50 ppm/°C process

**Display**

4-digit, 5-segment LED, 10.2 mm (0.40”) with red, green and amber programmable colors

**Input**

Thermocouple, RTD, Analog Voltage and Current

**Options**

- Temperature Stability: RTD: (ITS68) 100/500/1000 ohm Pt sensor

**Alarm**

- Normally Open is displayed, press  or  to store and advance to next menu item.

- If flashing  is displayed, press , otherwise press until  is displayed. Press  to store and advance to next menu item.

- Press  to twice to skip Alarm 1 Low value. is for below & for above.

- Press  or  until the display to 000. Press  to save.

- Press momentarily to reset the controller and return to RUN mode to display Ambient Temperature. Now you are ready to observe temperature as it rises 10°C higher. This line refers to the operator's manual if needed.

- Touch the tip of the Thermocouple to raise the temperature above the Alarm 2 High value 2 AL2 will turn on, and Display Color will change from Green to Amber. Continue touching the tip to raise the temperature above the Alarm 1 High value 1 AL1 will turn on, and Display Color will change from Red to Amber. Annunciator “1” is turning on and off displaying output.

**Error Code**

- If an Error Code is displayed, it may be referring to the following problems:

1. Low battery
2. Communication error
3. Display error

**WARNING:**

These products are not designed for use, and should not be used for any purpose except as specifically described in the documentation. The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. extends no warranty of any kind, whether expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, with respect to any information in this document, or with respect to the use of this information. No liability is assumed for any errors that may appear in this document. Further, no responsibility is assumed for any damages resulting from the use of this product. OMEGA is not responsible for any errors or omissions that may appear in this manual without liability to itself or the user, holder or operator of any device, system or application based upon the information in this document.SERVING GLOBAL MARKETS

**For immediate technical or application assistance:**

USA and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®
Customer Service: 1-800-622-2378 / 1-800-622-BEST®
Engineering Service: 1-800-672-9468 / 1-800-USA-6966®

Mexico and Latin American:
TOLL: (01)800-TC-OMEGA®  FAX: (01)203-309-7687
En Español: 1-800-203-397-063

e-mail: espanol@omega.com

**For technical service:**

1. Purchase Order number to cover the COST of the service.
2. Model and serial number of the product.
3. Repair instructions and/or specific problems relative to the product.

**For warranty information or repairs:**

USA and Canada: Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®
Customer Service: 1-800-622-2378 / 1-800-622-BEST®
Engineering Service: 1-800-672-9468 / 1-800-USA-6966®

**FCC Compliance Statement:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CE Marking Information:**

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**RETURN REQUESTS/INQUIRIES**

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will assist you with this process. If a Customer Service Request Form is not included with your unit, OMEGA will provide you with one. In all cases, OMEGA will require a Return Request Form before any unit is accepted for service. The following information is required before contacting OMEGA:

1. Model and serial number of the product.
2. Repair instructions and/or specific problems relative to the product.
**CONFIGURATION**

**MENU Mode:** Flashing display in MENU Mode means you can make your selection by pressing button. If the flashing display is not a four digit value, pressing button will always direct the instrument one step backward of the top menu item. The second push on the button will reset the instrument except after the setpoint and the alarms, that will go to the RUN Mode without resetting the instrument. The button will always sequence the instrument thru the menu items.

**WIRING**

Wire the instrument according to the figure shown below.

**FLOW CHART**

Connect the main power connections as shown in the figure below.

**OPERATION - (For Thermocouple Input)**

Step 1. **Apply Power to the Instrument**
When your device is first powered up it will display the instrument temperature (e.g. °C, °F).

Step 2. **Enter Setpoint 1 Menu**
Press one time from run mode to get to Setpoint 1.

Step 3. **Enter the Setpoint 1 Value Submenu**
Press. Display shows the previous selection of Setpoint 1.

Step 4. **Change the Setpoint 1 Value**
Set the Setpoint 1 to 10 degree higher than Process value (SP1 = 85) and press to store, display flashes message and advances to Setpoint 2 Menu.

Step 5. **Store the Setpoint 1 Value**
Repeat steps 3 and 4. Set the Setpoint 2 to 5 degree higher than Process value (SP2 = 80) and press to store, display flashes message and advances to Configuration Menu.

Step 6. **Enter to the Input Type Menu**
Press to enter Type Menu.

Step 7. **Enter to the submenu items of Input Menu**
Press until a flashing message for Thermocouple is displayed. If flashing message is displayed press button and proceed to Step 11.

Step 8. **Enter to the Thermocouple Input Submenu**
Press until a flashing message for Thermocouple Input is displayed. The display will stop flashing and show the top menu for Thermocouple types. If you press controller will step to next menu item (Skip to Step 15).

Step 9. **Scroll through available selection of Input Menu**
Press until a flashing message for Thermocouple Input is displayed and proceed to Step 11.

Step 10. **Enter to the Thermocouple Input Submenu**
Press until a flashing message for Thermocouple Input is displayed. The display will stop flashing and show the top menu for Thermocouple types. If you press the controller will step to next menu item (Skip to Step 14).

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**Panel Mounting Instruction:**

1. Using the dimensions from the panel cutout diagram shown above, cut an opening in the panel mounting panel.
2. Insert the unit into the opening from the front of the panel, so the gasket seats between the bezel and the front of the panel.
3. Slide the retainer over the rear of the case and tighten against the backside of the mounting panel.

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**SAFETY CONSIDERATION**

This device is marked with the international Caution symbol.

The instrument is a panel mount device protected in accordance with EN 61010-1:2001, electrical safety requirements for electronic electrical equipment for measurement, control and laboratory. Remember that the unit has no power-on switch. Building installation should include a switch or circuit-breaker that must be compliant to IEC 947-1 and 947-3.

**SAFETY:***

- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

**EMC:**

- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wire in the same conduit.
- Use wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

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**WIRING**

Connect the main power connections as shown in the figure below.

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**FLOW CHART**

It is required that you put the controller in Standby Mode for any configuration changes other than Setpoints and Alarms.