User's Guide

DP1000

Automatic Temperature Scanner/Alarm

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TABLES AND PICTURES

1.0 INTRODUCTION

The DP1000 is a 6 channel thermometer. This means it is able to measure temperatures from 6 different locations and portray this information in a fashion very similar to watching television. Each location is assigned to a channel. To view the temperature of that location, you switch to that channel and It's temperature will appear on the screen.
It has various different modes, power sources, and measuring units from which you can choose from. The prescence of this selection allows the thermometer to become what is almost an "allpurpose thermometer".

1.1 General Description

- 6 available channels
- Universal power supply between 85~260 with either 50 or 60 Hz
- Dual 0.56" LED display for PV and SV value.
- Latching Hi/Low alarm 3A(115VAC) with manual reset.
- Each channel has individual, independent and programmable alarm setpoint with alarm indicator.
- Multi-functions for Channel No., ℃/℉, Auto/Manual, Scan rate, K/J type and Hi/Low setting selectable.
- Rear screw terminal connections with thermocouple break .
- ES232 communications for PC interface.

1.2 Accessories

This device comes with a set of mounting pins.
On the top and bottom surfaces of the device you will see three holes. To apply the mounting pins simply slip the two notches on the mounting pins into the first two holes closest to the screen.

2.0 GETTING STARTED

2.1 Unpacking

Remove the packing list and verify that you have received all equipment.
Upon receipt of shipment, inspect the container and equipment for any signs of damage.

NOTE: any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

NOTE: The carrier will not honor any claims unless all shipping material is saved for their examination. After examining and removing contents, save packing materials and carton in the event reshipment is necessary.

3.0 SAFETY CONSIDERATIONS

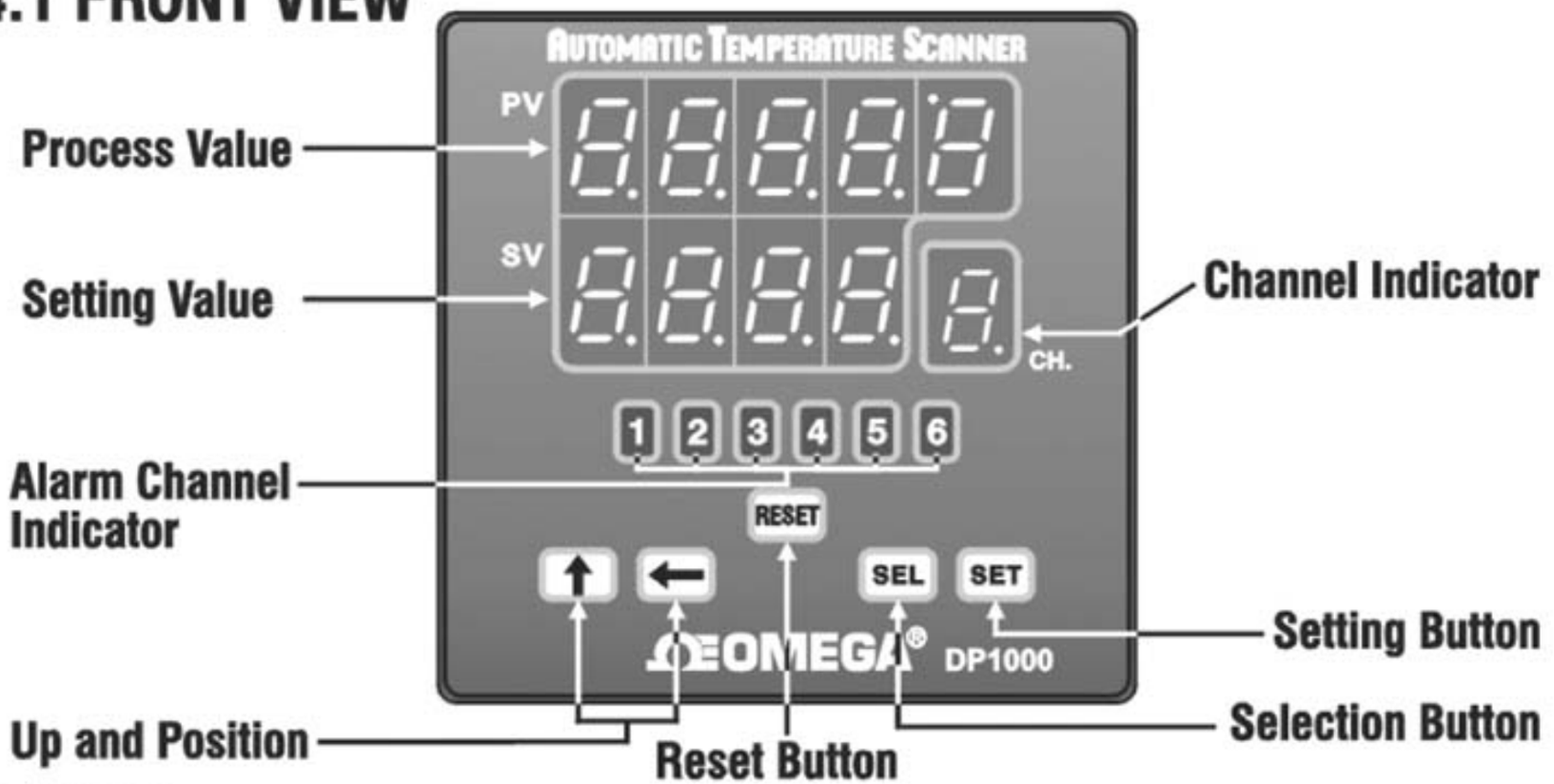
Unpacking & Inspection

Unpack the instrument and inspect for obvious shipping damage. Do not attempt to operate the unit if damage is found. This instrument has no power-on switch. An external switch or circuit-breaker shall be included in the building installation as a disconnecting device. It shall be marked to indicate this function, and it shall be in close proximity to the equipment within easy reach of the operator.

- **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.**

4.0 FRONT AND BACK PANEL DISPLAY :

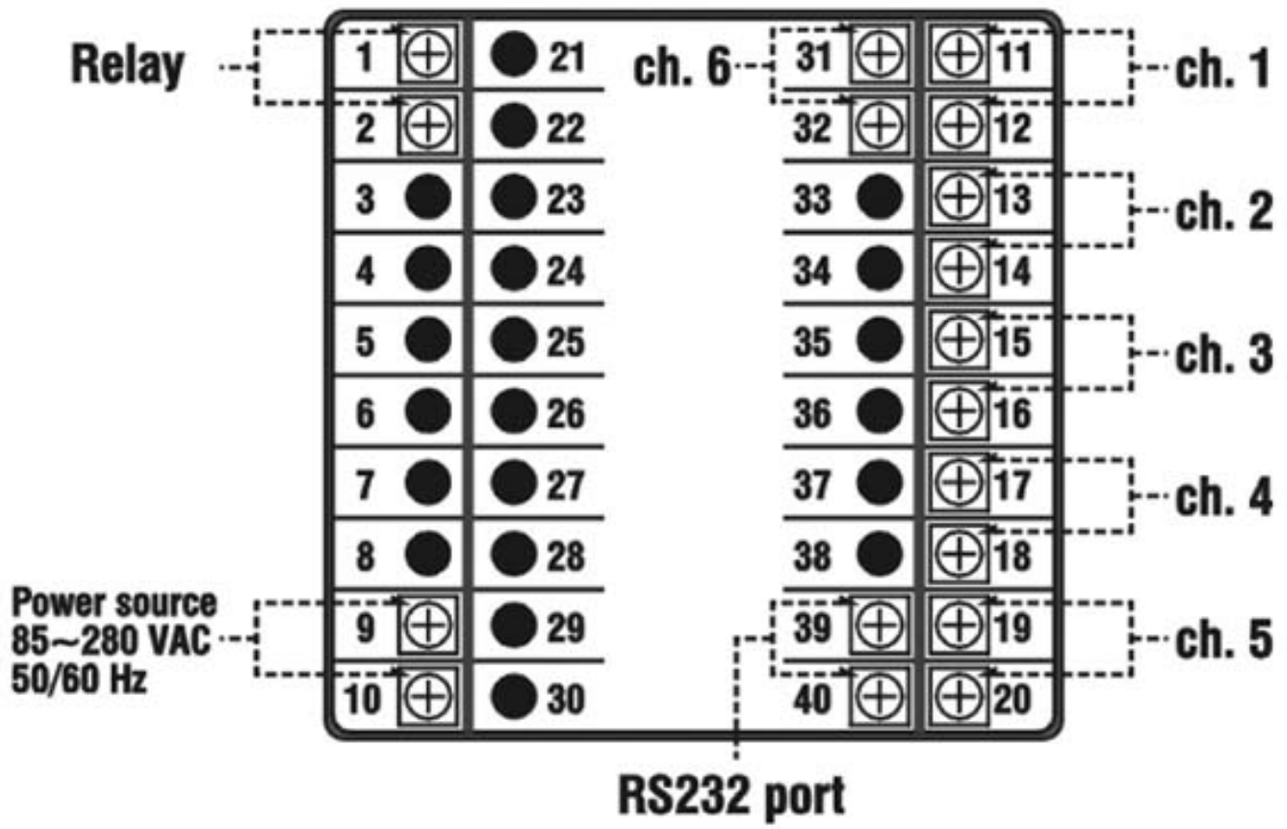
4.1 FRONT VIEW



1. **PV LED:** Process value.
2. **SV LED:** Setting value
3. **Channel Indicator:** The LED display show you what channel you are on.
4. **LED Lamp 1~6:** These lamp show you which channels are over setting
5. **Reset:** The Hi or Low alarm lamp will be latched until release By press "Reset" button.
6. **Set:** Press " SET " button to set " setting value " for Hi or Low alarm. The setting can be set by left or right up arrow.
7. **SEL:** Press " SEL "button to set channel number 1 to 6, degree C or F, Auto or Hand scan type, Scan rate, K or J type and Hi or Low alarm by left and or up arrow.
8. ↑ : Increase the setpoint value or changes the selection functions
9. ← : Changes the setting value position or the selection functions.

4.0 BACK AND FRONT PANEL DISPLAYS :

4.2 BACK VIEW



All of the channel labels : Each channel requires a positive and negative wire. This picture shows which channels represent which input terminals and if they are negative or positive.

Negative and positive RS232 port : This is the port used when you want to hook up the Automatic Temperature Scanner to a computer.

85-260 VAC : This input terminal can take power from an power source with a VAC between 85 and 260. Also the power supply frequency can be either 50 Hz or 60 Hz.

5.0 OPERATION INSTRUCTIONS

1. Connect Seusor and power source 85-260 VAC with rear terminal.
2. Press "SET" button to set "setting value" for Hi or Low alarm.
   The setting can be set by left or right up arrow.
3. Press "SEL" button to set channel number 1 to 6,degree C or F, Auto or Hand
   scan type, Scan rate, K or J type and Hi Low alarm by left and or up arrow.
4. The Hi or Low alarm lamp will be latched until release By press "Reset" button.

6.0 CONSUMPTION

Wattage: 50mA X 110V= 5.5W

7.0 SPECIFICATION

Range	-50 to 1200℃/-58 to 1999℉	Power	85 to 260 VAC
Resolution	0.1/1	Dimensions	96x96x90mm(3.77x3.77x5.54")
Accuracy	±0.2% FS	Weight	370 g(13.05 oz)

8.0 RS232 SET UP FOR DP-1000 COMMUNICATIONS

1) RS232 port wired by connecting unit's pin 40 tp PC's pin 5 (gnd), and unit's pin 39 (TX) to pin 2 (RX) of the PC's 9 pin COM port.
2) Baud rate = 2400, 8 DATA bits, 1 Stop bit, No Parity.
   (Unit will work with Windows HyperTermingl.)
3) Data trsnsfer from the unit: one string of data every 5 seconds.

Protocol for DP-1000

Example:	C	1	:	0	0	2	9	3	C	CR	LF
Position:	1	2	3	4	5	6	7	8	9	10	11

Position:	Description
1	Fixed digit "C", ASCII code
2	Channel NO. "1 to 6"
3	Fixed digit ":"
4 to 8	Show temperature reading Position 4-7 show temperature reading before decimal Position 8 show value after decimal
9	"C" or "F"
10	CR ASCII code ØDH => Carriage retum
11	LF ASCII code ØDH => Line feed

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and triacs.

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RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

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

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