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 in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use if its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

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.

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 or calibration,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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with the ▲ (up arrow) button or ▼ (Down arrow) button. Holding the ✱ button and the ▲ (Up)/ ▼ (Down) button for an extended period will cause the setpoint temperature to advance more rapidly to a desired value. The minimum and maximum setpoints are locked out at 0 and 260°C (32 and 500°F), respectively.

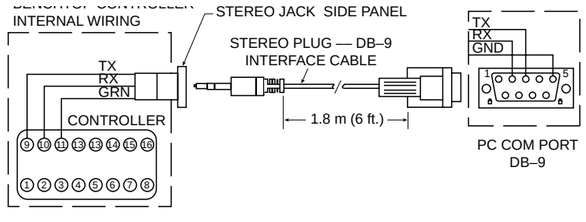
Changing the Display Units from °C to °F or (°F to °C)

Press and hold the ▲ (Up) and ▼ (Down) buttons on the controller at the same time for 3-4 seconds, then release. The display will be flashing between "tune – off". Press the ▼ button one time. The display will be flashing between "LEVEL-1". While holding the ✱ (Modify) key down press the ▲ button one time. The display will be flashing between "LEVEL-2". Now that you are on menu level 2 release the ✱ button. Press the ▲ button eleven times. The display will now be flashing between "unit-°F" or "unit-°C". To change the current units setting press and hold the ✱ button, then press the ▲ or ▼ button one time to change between units. To save your change and return to the run mode press and hold the ▲ and ▼ buttons at the same time for 3-4 seconds, then release.

Communication (RS-232)

This section only applies to CL1000 Series Calibrators purchased with optional RS-232 Communications (-C2) Option

Your calibrator unit has been factory pre-wired and configured for ease of use with a stereo jack connection on the side panel that will require no additional wiring. An interface cable, Part No. OM-NOMAD-CP9 is included with your unit for easy connection between your benchtop calibrator and PC.



Wiring Connections From Calibrator To PC

Calibrators with the –C2 option come complete with communication software, OMEGA part number CN9-SW. The software is designed to interface with your calibrator.

NOTE:

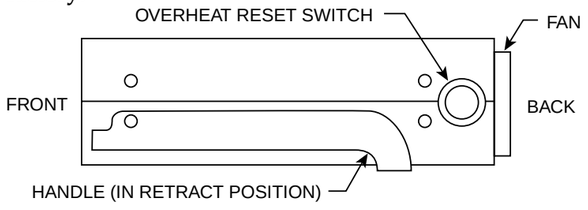
The CN9-SW software is Windows 95/98/NT/2K/XP compatible.

Cool-Down Procedure

1. Turn the power switch on the back of the calibrator to "standby" mode.
2. The cooling fan may continue to run or turn on after several minutes if the heater assembly inside the unit has not yet fully cooled down to ambient temperature. Do not remove the power cord or the main line power until the fan stops running permanently.
3. It is now safe to remove your unit from the power source and/or return to storage.

Overheat Reset Switch

If the unit is operated at high temperatures in elevated ambient temperatures, an overheat condition may occur. In an overheat situation a mechanical reset switch on the right side panel will pop and open the heater circuit. The controller will still have power. While the controller will be demanding heat from the heater, the process temperature will fall continuously until it equalizes with room temperature. **If an overheat condition occurs, let the unit cool off for one hour (leave the unit on), then press the reset button, firmly. If this does not correct the problem, contact the factory.**



Overheat Reset Switch (Right Side Panel)

QUICK START

For complete product manual:
www.omega.com/manuals/manualpdf/M3529.pdf

CL1000 SERIES

Mini hot point® Dry Block Probe Calibrator

OMEGA®

omega.com info@omega.com

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U.S.A.: Toll-Free: 1-800-826-6342 (USA & Canada Only)
Customer Service: 1-800-622-2378 (USA & Canada Only)
Engineering Service: 1-800-872-9436 (USA & Canada Only)
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e-mail: info@omega.com

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The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

START HERE

Using This Quick Start Manual

Use this Quick Start Manual with your CL1000 series Mini hot point® Dry Block Probe Calibrator for easy installation and basic operation. For detailed information, refer to the User's Guide (Manual Number M3529).

Precautions:

- Follow all safety precautions and operating instructions outlined in this manual.
- Never leave your calibrator unattended when in use.
- Keep out of reach of all children.
- Never touch the probe well or probes when hot without proper protection.
- Never place any objects other than temperature probes in the well.
- Do not operate in flammable or explosive environments.
- Never operate with a power cord other than the one provided with your unit.
- Turn unit off and disconnect main power cord before attempting any maintenance or fuse replacement.
- Never disconnect main power cord or main power source when unit is still hot.
- Do not connect and or operate this unit to a non-grounded, non-polarized outlet or power source.
- This unit is intended for indoor use only. Avoid exposure to moisture or high humidity.
- Never operate the unit outside.
- Do not return your unit to storage when hot, allow unit to cool down to ambient temperature.

General Description

The CL1000 is a portable, rugged, benchtop, dry block calibration source with a built-in precision PID digital controller. The calibrator is used to test and calibrate temperature probes. The probe well can be set to any temperature between +11 to 260°C (+20 to 500°F) when being operated in ambient temperatures up to 24°C (75°F).

Mounting

Mount the unit in an ambient environment between the specified 32 to 122°F (0 to 50°C) on a bench, table top or shelf in a horizontal position and operate at least ten inches from any air obstructions to the fan, front panel or rear panel. Do not block the bottom or top vented covers of the unit.

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Power Connection

Connect the unit to a stable, earth grounded AC mains supply of the correct voltage for the model calibrator you have. Use the power cord provided.

Calibrator power requirements:
- 3.15 amps @ 115 VAC~ (±10%) 50/60 Hz, 275W
- 1.6 amps @ 230 VAC~ (±10%) 50/60 Hz, 275W

If you have a "~230VAC" model you must first connect the international style power cord to the proper connector used in your country or local area (connector not provided).

Certification CE (CL1000 ~230 VAC)

Ambient Temperature Effects

When operating the unit at an ambient temperature greater than 24°C, do not exceed the "Maximum Allowable Probe Well Temperature" shown below. Failure to adhere to these guidelines may cause a safety switch inside the unit to open the heater circuit. If this occurs refer to the section titled **Overheat Reset Switch** or section 3.2.6 in the User's Guide.

Amb. Temp. °C (°F)	Max. Setpoint °C (°F)
24.0 (75)	260 (500)
24.4 (76)	252 (486)
25.6 (78)	244 (472)
26.7 (80)	237 (458)
27.8 (82)	229 (444)
28.9 (84)	221 (430)
30.0 (86)	213 (416)
31.1 (88)	205 (402)
32.2 (90)	198 (388)
33.3 (92)	190 (374)

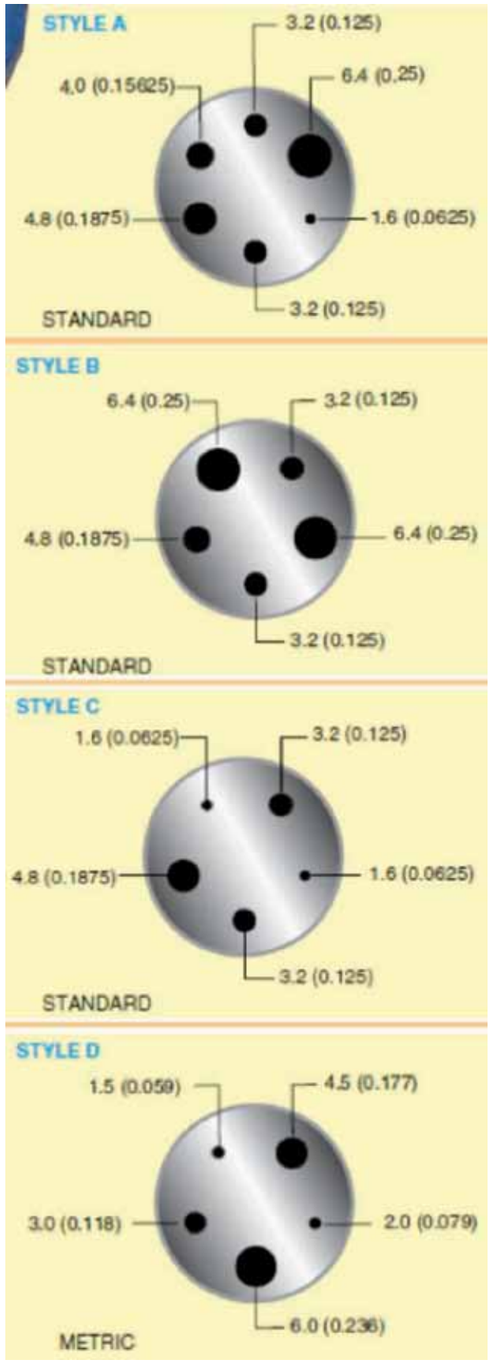
Maximum Setpoint Temperature Vs. Ambient Temp.

NOTE:

An increase of ambient temperature of +0.6°C (+1°F) above 24°C (75°F) reduces maximum setpoint by 4°C (7°F).

3

Probe Well Styles

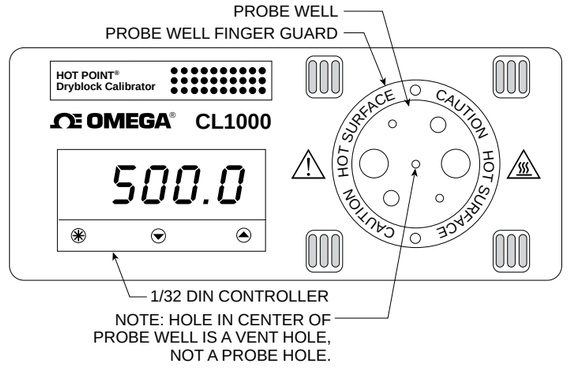


Dimensions: mm (inch)

4

NOTE:

- Hole in center of probe well is a vent hole, not a probe hole.
- To ensure the highest degree of accuracy possible, when placing probes into the well, make sure the probe tip goes all the way down to the bottom of the probe tip well (the full 4.5").
- After inserting or removing probes into the probe well allow the calibrator time to stabilize before making your measurement. Adding or removing probes changes the total mass of the probe well, the controller will require time to adjust for this change and stabilize back to the temperature you have set.



Controller Front Panel Buttons

Modify Key: Press and hold to view current setpoint temperature. While held, press the decrease or increase key to change the setpoint.

Decrease Key: Press in conjunction with Modify Key in order to decrease setpoint.

Increase Key: Press in conjunction with Modify Key in order to increase setpoint.

Changing the Controller Parameters

In the default mode the digital display indicates the probe well temperature known as (PV) Process Variable. Holding down the modify button causes the display to show the programmed setpoint known as (SV) Setpoint Variable. Making changes to the setpoint or units of measurement settings are made by pressing the (Modify) button in conjunction