

OMEGAcert Online Service Internet e-mail
www.omega.com info@omega.com

Servicing North America:

USA: One Omega Drive, Box 4047
Spartanburg, CT 06907-0047
Tel: (203) 359-1660 FAX: (203) 359-7700
e-mail: info@omega.com

Canada: 976 Bigrig
Laval (Quebec) H7L5A1, Canada
Tel: (514) 856-6928 FAX: (514) 856-6886
e-mail: info@omega.ca

For immediate technical or application assistance:

USA Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA
Customer Service: 1-800-625-2378 / 1-800-62-BEST
Engineering Service: 1-800-872-9450 / 1-800-USA-WHEN
Canada: TELEX 99604 EASTYLNK 62869934 CABLE: OMEGA

Mexico: En Espanol: (001) 203 359-7803
e-mail: esp@omega.com
Fax: (001) 203 359-7807 info@omega.com.mx

Servicing Europe:

Belgium: Postbus 8034, 1180 J.A. Ausbeelden, The Netherlands
Tel: +31 (0)20 377131 FAX: +31 (0)20 6434643
Toll Free in Belgium: 0800 0993344
e-mail: sales@omegaping.nl

Czech: Frýsková 184, 713 01 Karišova, Czech Republic
Tel: +420 (0)59 631 889 FAX: +420 (0)59 631 1114
Toll Free in Belgium: 0800 1 66342 e-mail: info@omegaping.cz

France: 11 rue Jacques Cartier, 78380 Guyancourt, France
Tel: +33 (0)1 61 37 2900 FAX: +33 (0)1 30 57 9427
Toll Free in France: 0800 466 342
e-mail: sales@omegaping.fr

Germany/ Denmark: 26, D-25392 Deckenbrom, Germany
Austria: Tel: +48 (0)7056 9398-0 FAX: +49 (0)7056 9398-29
Toll Free in Germany: 0800 639 7678

United Kingdom: One Omega Drive, River Bend Technology Centre
North Hain, Hain, Manchester
Kingdom: M44 3BD, United Kingdom
Tel: +44 (0)161 777 6611 FAX: +44 (0)161 777 6622
Toll Free in United Kingdom: 0800-488-488
e-mail: sales@omega.co.uk

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and it 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.

WARRANTY / DISCLAIMER

OMEGA ENGINEERING, INC. warrants the unit to be free of defects in materials and workmanship for a period of 13 months from the date of purchase. OMEGA's warranty does not cover product wear, misuse, accident and shipping time. This states that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory. The resolution 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 use, including operation outside of design limits, improper freight, 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 tires.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA retains liability for any damages that may result from the use of the product in accordance with instructions provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED.

Herein are excluded, a liability, the remedy of OMEGA with respect to the product, 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 the user (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity, or (2) in or with any application or used on humans. Should any special application, used on humans, be intended 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 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 (weight insurance and proper packaging to prevent breakage in transit).

FOR WARRANTY RETURNS:

PLEASE HAVE THE FOLLOWING INFORMATION AVAILABLE BEFORE PURCHASE ORDER NUMBER UNDER WHICH THE PRODUCT WAS PURCHASED

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

FOR NON-WARRANTY RETURNS:

PLEASE CONTACT OMEGA for information on the following information:

1. Purchase Order number under which the product was purchased
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 unannounced, non-medical changes, when a performance improvement is possible. This informs our customers the latest in technology and engineering.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC. © Copyright 2004 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA... Of Course! Stop online at www.omega.com

TEMPERATURE

- Thermocouple, RTD & Transistor Probes; Connectors, Patches & Assemblies
- Wire; Thermocouple, RTD & Transistor Calibrators & Ice Point References
- Recorders, Controllers & Process Monitors
- Infrared Pyrometers

PRESSURE/STRAIN AND FORCE

- Transducers & Strain Gages
- Load Cells & Pressure Gages
- Displacement Transducers
- Instrumentation & Accessories

FLOW/LEVEL

- Rotameters, Gas Mass Flowmeters & Flow Computers
- Air Velocity Indicators
- Turbine/Paddlewheel Systems
- Totalizers & Batch Controllers

PH/CONDUCTIVITY

- pH Electrodes, Testers & Accessories
- Benchtop/Laboratory Meters
- Controllers, Calibrators, Simulators & Pumps
- Industrial pH & Conductivity Equipment

DATA ACQUISITION

- Data Acquisition & Engineering Software
- Communications-Based Acquisition Systems
- Plug-in Cards for Apple, IBM & Compatibles
- Datalogging Systems
- Recorders, Printers & Plotters

HEATERS

- Heating Cable
- Cartridge & Strip Heaters
- Immersion & Band Heaters
- Flexible Heaters
- Laboratory Heaters

ENVIRONMENTAL MONITORING AND CONTROL

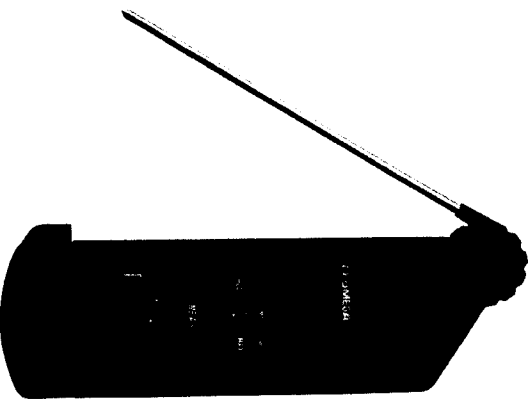
- Metering & Control Instrumentation
- Refrigerators
- Pumps & Tubing
- Air, Soil & Water Monitors
- Industrial Water & Wastewater Treatment
- pH, Conductivity & Dissolved Oxygen Instruments



Har's Guide

Shop online at www.omega.com

OMEGA
e-mail: info@omega.com



HH68K
Digital Thermometer

MANV1208KA

INTRODUCTION

This HH68K is a portable 3½ digit, compact-sized digital thermometer designed to use an attached K-type thermocouple as temperature sensor. Temperature indication follows Reference Temperature/Voltage Tables N.I.S.T. Monograph 175 Revised to ITS-90 for K-type thermocouples.

The sensor is attached to the HH68K with a hinge allowing approximately 90 degrees of movement. The sensor has a pointed tip for use in liquids or semisolids. A pocket hook and magnetic hanger are provided on the back.

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

WARNING

To avoid electrical shock, do not use this instrument when voltages at the measurement surface exceed 24V AC or DC.

WARNING

To avoid damage or burns, do not make temperature measurement in microwave ovens.

CAUTION

Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.

SPECIFICATIONS

ELECTRICAL

Temperature Scale:

Celsius or Fahrenheit user-selectable.

Measurement Range:

-30°C to 850°C, -22°F to 1562°F

Temperature Coefficient:

0.1 times the applicable accuracy specification per °C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 83°F to 122°F)

Accuracy:

Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 83°F), for 1 year, not including thermocouple error.

±(0.3% rdg + 1°C) on °C ranges
±(0.3% rdg + 2°F) on °F ranges

Resolution: 1°C/1°F, 0.1°C/0.1°F (Auto)

Resolution	Range
0.1°C	-30°C to 199.9°C
1°C	200°C to 850°C
0.1°F	-22°F to 199.9°F
1°F	200°F to 1562°F

Input Protection:

24V dc or 24V ac rms maximum input voltage or any combination of input pins

GENERAL

Display:

3½ digit liquid crystal display (LCD) with maximum reading of 1999

Low battery indication:

The "E3" is displayed when the battery voltage drops below the operating level.

Measurement rate:

1.5 times, per second, nominal.

Operating Environment:

0°C to 50°C at < 70% R.H.

Storage Temperature:

-20°C to 60°C, 0 to 80% R.H. with battery removed from meter.

Accuracy:

Stated accuracy at 23°C±5°C, <75% R.H.

Standby consuming current: <10µA

Auto power off: 15 minutes.

Battery Life:

140 hours (continuous) typical.

Battery: 3 pcs 1.5V (AAA size) included.

Dimensions: 160mm(H) x 48mm(W) x 24mm(D).

Weight: Approx. 2.83 oz. (80.2g) including battery.

Attached probe:

Diameter: 3.18mm (1/8 in.)

Length: 132mm (5.2 in.)

Material: Stainless steel.

OPERATING INSTRUCTIONS

MEAS (MEASURE) Button

Press "MEAS" button to turn on the meter for measuring temperature. Press "MEAS" button again turns meter off.

DATA HOLD Mode

Press the "HLD" key to enter the Data Hold mode, the "H" annunciator is displayed. When DATA HOLD mode is selected, the thermometer holds the present readings and stops all further measurements.

Press the "HLD" key again cancels DATA HOLD mode, causing the thermometer to resume taking measurements.

°C/°F Selecting the Temperature Scale

Readings are displayed in either degrees Celsius (°C) or degrees Fahrenheit (°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the "°C/°F" key.

MAX HOLD Mode

Press the "MAX" key to enter the MAX HOLD mode. The thermometer then records and updates the maximum absolute values and the "MAX" indicator appears on the display. Press the "MAX" key again to exit the MAX HOLD recording mode.
In the MAX HOLD mode, press "HLD" key to stop the recording, press "HLD" key again to resume recording.

ADJ Function

1. Thermocouple offset adjustment. Press "ADJ" button for more than 2 seconds to enter ADJ Function which can adjust the offset of thermocouple in the ambient temperature. Insert the thermocouple into a known temperature (T) and compare the displayed temperature to the known temperature.
ex: room temperature at 25°C
ice point at 0°C
boiled water at 100°C

2. Press "▲" or "▼" to add or subtract the value.
3. It can be adjusted 0±3°C.
4. Press "ADJ" button again to confirm and exit ADJ function.

APD (Auto power off) Function

To remove rubber cover on front and slide the switch to right to enable "APD" function.
To slide the switch to left to disable "APD" function.
It will turn off automatically after approximately 15 minutes to lengthen battery life.

OPERATOR MAINTENANCE

WARNING

To avoid possible electrical shock, disconnect the thermocouple connectors from the thermometer before removing the cover.

MAINTENANCE

Battery Replacement

1. Power is supplied by three 1.5V (AAA size) batteries.
2. The "E3" appears on the LCD display when replacement is needed. To replace the batteries, remove the screw from the back of the meter and lift off the battery cover.
3. Remove the batteries from battery contacts and replace.
4. When not in use for long period of time, remove the batteries.
5. Don't store in a location with high Temp. or high humidity.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.