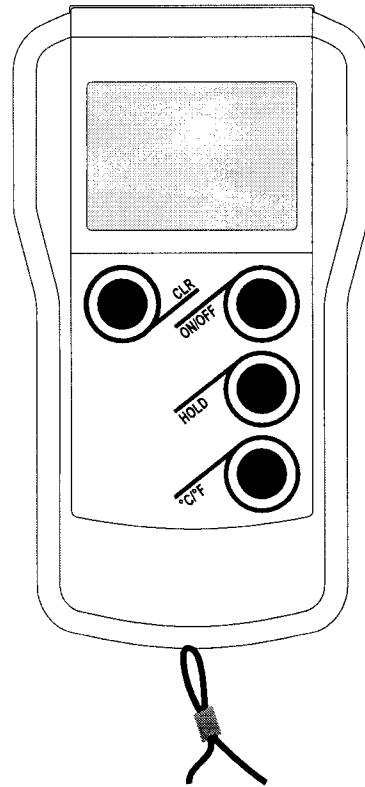


Instruction Manual

HH601A

**Portable K-Thermocouple
Thermometer**





OMEGAnet® Online Service www.omega.com	Internet e-mail info@omega.com
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Servicing North America:
USA: One Omega Drive, Box 4047
 Stamford CT 06907-0047
 TEL: (203) 359-1660 FAX: (203) 359-7700
 e-mail: info@omega.com

Canada: 976 Bergar
 Laval (Quebec) H7L 5A1
 TEL: (514) 856-6928 FAX: (514) 856-6886
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Servicing Europe:
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 TEL: +31 (0)20 3472121 FAX: +31 (0)20 6434643
 Toll Free in Benelux: 0800 0993344
 e-mail: sales@omegaeng.nl

Czech Republic: Rudé armády 1868, 733 01 Karviná 8
 TEL: +420 (0)59 6311899 FAX: +420 (0)59 6311114
 Toll Free: 0800-1-66342 e-mail: info@omegashop.cz

France: 11, rue Jacques Cartier, 78280 Guyancourt, France
 Tel: +33 (0)1 61 37 26 00 FAX: +33 (0)1 30 57 54 27
 Toll Free in France: 0800 466 342 e-mail: sales@omega.fr

Germany/Austria: Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
 Tel: +49 (0)7056 9398-0 FAX: +49 (0)7056 9398-29
 Toll Free in Germany: 0800 639 7678
 e-mail: info@omega.de

United Kingdom: One Omega Drive, River Bend Technology Centre
 Northbank, Islam, Manchester
 M44 5BD United Kingdom
 Tel: +44 (0)161 777 6611
 Toll Free in United Kingdom: 0800-488-488
 FAX: +44 (0)161 777 6622 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 reserves the right to alter specifications without notice.

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

Dear Customer,
 Thank you for choosing an Omega Engineering product.
 Please read this instruction manual carefully prior to use.
 This manual will provide you with necessary information for correct use of the instrument.

TABLE OF CONTENTS

PRELIMINARY EXAMINATION 3
 GENERAL DESCRIPTION 3
 SPECIFICATIONS 4
 OPERATIONAL GUIDE 6
 CALIBRATION 8
 BATTERY REPLACEMENT 9

PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it to make sure that no damage has occurred during shipping. If there is any damage, notify Omega Customer Service.

Each meter is supplied complete with:

- 3 x 1.5V AA alkaline batteries;
- Instruction manual
- Beaded type K thermocouple

Note: Save all packing material until you are sure that the instrument functions correctly. All defective items must be returned in the original packing with the supplied accessories.

GENERAL DESCRIPTION

HH601A is a powerful and flexible K-type thermocouple thermometer which has been designed using the latest microprocessor technology to provide reliable and accurate measurements in a wide temperature range.

HH601A is ideal for laboratory use as well as a wide range of field applications.

SPECIFICATIONS OF HH601A

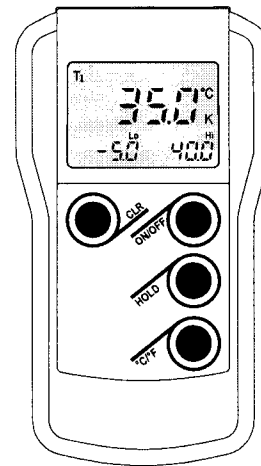
SPECIFICATIONS	
Range (*)	-50.0 to 199.9°C / 200 to 1350°C -58.0 to 399.9°F / 400 to 2462°F
Resolution	0.1°C (up to 199.9°C) / 1°C (outside) 0.1°F (up to 399.9°F) / 1°F (outside)
Accuracy (@20°C/68°F)	± 0.2% full scale for one year, excluding probe error
Typical EMC Deviation	± 3°C / ± 6°F with K-thermocouple probe
Battery	3x1.5V AA (IEC LR6) batteries, approx. 1600 hours of continuous use
Auto-off	user selectable: 8 min, 60 min, disabled
Environment	-10 to 50°C (14 to 122°F); RH 100%
Dimensions	150 x 80 x 36 mm (5.9 x 3.1 x 1.4")
Weight	235 g (8.3 oz.)

(*) Range may be limited by probe.

Main features:

- Display of temperature in degrees Celsius or Fahrenheit
- Range -50 to 1350°C or -58 to 2462°F
- HOLD function
- HI and LO (Max and Min) temperature values always displayed on the LCD
- Remaining battery life indication / low battery detection
- Waterproof casing
- Auto-off capability

HH601A

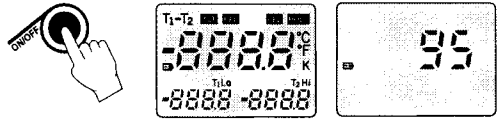


Keyboard Functions:

- ON/OFF** : turn the meter ON and OFF.
- HOLD** : freeze the reading on display.
- °C/°F** : change reading unit (°C or °F).
- CLR** : clear the HI and LO values.

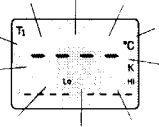
OPERATIONAL GUIDE

To switch the instrument ON, press the ON/OFF key.
 The thermometer will carry out a self diagnostic test routine, the LCD will show all segments for a few seconds (or as long as ON/OFF is held), followed by the percentage indication of the remaining battery life.



The thermometer then enters normal measurement mode.
 If a temperature probe is plugged in, the meter displays the measured temperature.

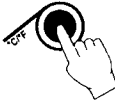
If no probe is plugged in, or if the reading is over-range, the display shows flashing dashes.
 If a measurement is slightly over the range of the meter specifications, the display will flash the closest full-scale value.



To switch the meter OFF, press the ON/OFF key.

°C/°F SELECTION

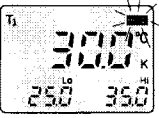
Measurements can be displayed in either degrees Celsius or Fahrenheit. The meter is factory set to °C scale; to change the scale, press °C/°F key.



HOLD FUNCTION

The HOLD function is activated by pressing the HOLD key.

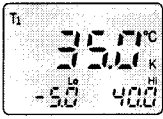
The measured temperature is held on the display until HOLD is pressed again. The "HOLD" tag blinks on the display while in HOLD mode.



Note: Although the display is frozen, internally the meter continues measuring and updating Hi/Lo values.

HIGH/LOW TEMPERATURES

The maximum and minimum temperatures are continuously monitored and displayed on the lower portion of the LCD.



Note: When the reading goes over-range or the probe is removed, the Hi and Lo values display dashes until cleared.

CLEAR FUNCTION

Upon pressing the CLR key, the High/Low values may be cleared at any time during measurement and the current reading is assigned to the highest and lowest temperature values for the displayed channel only.



AUTO SHUT-OFF

To save battery life, the HH601A model is provided with an auto-off feature, which switches the instrument off after a certain period of nonuse.

The delay time can be changed by the user (8 minutes, 60 minutes, or disabled).

To access this feature, the HH601A is provided with an internal button located in the battery compartment. Unscrew the 4 screws on the back of the meter and select the desired auto-off time period by pressing the button and viewing the value on the LCD. Re-attach the back making sure that the gasket is in place and tighten the 4 screws to ensure a watertight seal.

CALIBRATION

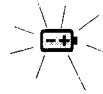
All OMEGA Engineering thermometers have been accurately pre-calibrated at the factory; they are not field calibratable.

However, it is recommended to have all thermometers recalibrated at least once a year.

For an accurate annual recalibration, contact OMEGA Customer Service Dept.

BATTERY REPLACEMENT

When the battery level is below 10%, a warning symbol will blink on the LCD to indicate a low battery condition.



If the battery level is low enough to cause erroneous readings, the Battery Error Prevention System (BEPS) turns the meter off.

Immediately replace the batteries with new ones.

The batteries are accessed by separating the front and the back halves of the meter: unscrew the 4 screws on the back of the meter and carefully replace the three batteries located in the battery compartment, while paying attention to their polarity. Reattach the back making sure that the gasket is in place and tighten the 4 screws to ensure a watertight seal.

Battery replacement must only take place in a non-hazardous area using 1.5V AA (IEC LR6) alkaline batteries.

Recommendations for Users

Before using these products, make sure that they are entirely suitable for the environment in which they are used.

Operation of these instruments in residential area could cause unacceptable interferences to radio and TV equipments, requiring the operator to take all necessary steps to correct interferences.

Any variation introduced by the user to the supplied equipment may degrade the instruments' EMC performance.

To avoid electrical shock, do not use these instruments when voltages at the measurement surface exceed 24VAC or 60 VDC.

To avoid damages or burns, do not perform any measurement in microwave ovens.

Note: To clean the meters, do not use aggressive detergents. It is recommended to use water.

WARRANTY

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.

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 of its products in accordance with information 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. 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.

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.

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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