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OMEGA ENGINEERING, INC. warrants that the unit to be free of defects in materials and workmanship for a period of 13 months from the date of purchase. OMEGA® 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 handles all authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, 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 storage, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY IS VOID if the unit shows evidence of having been tampered with, shows evidence of having been damaged as a result of excessive corrosion, or current, heat exposure or vibration, improper specification, misapplication, misuse or other operation outside of OMEGA's control. Components which wear are not warranted, including but not limited to contact points, fuses, and tubes.

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## INTRODUCTION

This HH74K is a portable 3½ digit, compact-sized digital thermometer designed to use external K-type thermocouple as temperature sensor. Temperature indication follows Reference Temperature/Voltage Tables N.I.S.T. Monograph 175 Revised to TS-90 for K-type thermocouples. A pocket hook and magnetic holder are provided on the back of the unit.

## 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: -100°C to 850°C, -148°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 84°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 -59.9°C to 199.9°C

1°C -100°C to -80°C

20°C to 850°C

0.1°F -59.9°F to 199.9°F

1°F -148°F to -80°F

200°F to 1562°F

## Input Protection:

24Vdc or 24Vac rms maximum input voltage on any combination of input pins.

## Input Connector:

Accepts standard miniature thermocouple connectors (flat blades spaced 7.9mm, center to center). SMP-K-m type.

## GENERAL

### Display:

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

### Low battery indication:

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

### Measurement rate:

15 times per second, nominal.

### Operating Environment:

0°C to 50°C at < 70% relative humidity.

### 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: 148mm(H) x 48mm(W) x 24mm(D).

Weight: Approx. 2.56 oz. (73.4g) including battery.

Probe Included: 3 feet type "K" beaded wire thermocouple with connector.

## OPERATING INSTRUCTIONS

### MEAS (MEASURE) Button

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

### APO (Auto power off) Function

To remove rubber cover on front and slide the switch to right to enable "APO" function. To slide the switch to left to disable "APO" 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 "  " 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.

## \*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.

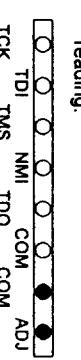
1. Thermocouple offset adjustment. Press "ADJ" button for more than 2 seconds to enter ADJ Function which can adjust the offset of thermocouple in the ambient temperature. Insert the thermocouple into a known temperature (T) and compare the displayed temperature to the known temperature.

ex: ice point at 0°C  
boiling 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.



## PROCEDURE OF CALIBRATION

1. Make COM & ADJ short and turn the meter on.
2. Input 35°C to the meter. After the display is stabilized, then press "C/F" key and "00.1", is displayed.
3. Press "C/F" key.
4. Input 130°C to the meter. After the display is stabilized, then press "C/F" key and "130", is displayed.
5. Press "C/F" key.
6. Input 0°C to the meter. After the display is stabilized, then press "C/F" key and then the meter will auto power off (adjustment is finished).
7. Disconnect COM & ADJ.
8. Make COM & ADJ short and then supply a stable voltage: 3.5V.