Instruction Manual

HH612P2C
Printing
Pt 100 Thermometer

omega.com
CE
Dear Customer,

Thank you for choosing an OMEGA Product. Please read this instruction manual carefully before using the instrument. This manual will provide you with all the necessary information for the correct use of the instrument, as well as a more precise idea of its versatility in a wide range of applications.

This instrument is in compliance with the CE directives EN 50081-1 and EN 50082-1.

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PRELIMINARY EXAMINATION

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

HH612P2C is supplied complete with:
- Paper Rolls (5 pcs)
- 1.5V AA size Batteries (4 pcs)
- Rugged Carrying Case

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

GENERAL DESCRIPTION

The OMEGA portable Pt 100 thermometer with built-in printer is microprocessor-based and enables you to accurately measure temperature and record data.

The instrument housing is made of rugged and lightweight material.

Equipped with a large, easy-to-read LCD, it features an extended battery life and a special design that enables results to be obtained even in humid, wet or dusty conditions.

Measurements can be performed with lab-grade precision in the field as well as in the laboratory without compromising accuracy. A 12VDC car battery or a battery charger can also be used to power the unit for extended use.
1. Pt 100 Probe Connectors
2. Power adapter plug
3. LCD Display
4. PAPER key to feed the paper
5. ON/OFF key, to turn the meter on or off
6. INTV key to select the printing interval
7. TEMP key, to select the resolution or the channel number
8. UP key to set up
9. DOWN key to set up
10. PRINT key to obtain a printout (printing present time and temperature/s)
11. RECORD key to enter the recording mode
### SPECIFICATIONS

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The meter is supplied complete with batteries. Remove the back cover, unwrap the batteries and install them while paying attention to the polarity.

To prepare the instrument for use, connect a 4-wire Pt 100 temperature probe to the connector located on the top of the instrument.

To wire a RTD to the TA4F connector, solder the leads as shown at right:

- pin 1  negative
- pin 2  negative
- pin 3  positive
- pin 4  positive

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

With the meter facing you, channel #1 is the first connector on the top left hand side.

If the Pt 100 temperature probe is not connected to the instrument, the meter will display and print "-----" to alert the user.

This also indicates the possibility of a broken probe cable.

**Note:** To ensure accurate readings it is recommended that the temperature probes be connected to consecutive channels beginning with channel #1. If only one probe is used, it must be connected to channel #1.
To maximize battery life, the display is automatically switched off after 5 minutes of non-use. However, the meter will continue to monitor (if in the logging/recording mode) temperature.

To revive the display, press the ON/OFF key.
OPERATIONAL GUIDE

SETTING THE PRINTING INTERVAL

Turn the instrument on by pressing the ON/OFF key.

Press the INTV and the UP or DOWN keys simultaneously.

OR

The display will show the log number. At the bottom of the display the printing interval will be flashing.

Keep the INTV key pressed and set the printing interval by pressing the UP or DOWN key.

SETTING THE MEASUREMENT RESOLUTION

Press the TEMP key to select the 0.1° or 1° resolution.

To return the reading to its original resolution, simply press the TEMP key again.
To print the measured values press the PRINT key. The printout provides the following information:

a - Running sample number
b - Accumulative time
c - Temperature value
d - Channel #

**RECORDING MODE (PROGRAMMED PRINTOUTS)**

Press the RECORD key to enter the recording mode. The log number will appear for a few seconds on the display to indicate the correct operational mode. The meter will write the first measurement/s taken in that moment, and will print at the interval selected thereafter until the ON/OFF key is pressed.

The printout provides the following information:

a - A running log number
b - A running sample number (in that particular log)
c - Printing interval indicator in minutes
d - The accumulated time since printing started (HH:MM)
e - Temperature value/s
f - Channel number.

If only one probe is plugged in during recording mode, the meter will print only the value of the connected probe.
If the second probe is not connected during the recording mode, the data from the second probe will not be printed.

Data from the second channel can only be added if the recording mode is exited and a new log number is entered.

A blinking "CH" will appear on the display next to the channel number not utilized and/or recorded.

When the meter is in recording mode "LOG" is displayed on the bottom left corner of the LCD with the temperature value on the primary display.

If no keys are pressed, the meter goes to standby mode to prolong battery life.

To reactivate the display press the ON/OFF key

Notes:

- It is recommended to use the power supply (HH610-AC or HH610-AC-220V) during recording mode, especially when many printouts are going to be taken.
- Before proceeding with recording, make sure there is enough paper for your measurements. When the paper is finished the meter will not advise the operator and the printouts could be lost.
- It is possible to insert a new paper roll during recording session (see page 14).
- If the PRINT key is pressed while still in recording mode, a printout is produced without affecting the running number.
• Once in recording mode, the printing interval cannot be changed. Exit the recording mode first (pressing the ON/OFF key) before setting the new interval.

**TO STOP RECORDING**

In order to quit the recording mode, press the ON/OFF key.
The meter is factory programmed to automatically diagnose a fault. This is displayed with error codes on the LCD.

Error codes:
PEr 0, PEr 1, PEr 2 = Short circuit on the system, the meter should be returned for repair (see Warranty section).
PEr 3 = Printer mechanism fault - repair needed (see Warranty section).
PEr 4 = Printer clutch jammed - reset the printer (see page 15).
PEr 9 = Printer jammed - reset the printer (see page 15).
PRINTER MAINTENANCE

TO CHANGE THE INK CARTRIDGE
When printouts become faint, it might be necessary to change the ink cartridge. Contact your OMEGA authorized center.

TO INSERT THE PAPER ROLL
Use plain paper rolls 38 mm width (HH610-PR). To insert a new roll is very easy.
Open the paper cover pulling it gently.

Take the carton cylinder away.

Insert the paper edge in the printer slot and feed the printer by pressing the PAPER key.
Allow approximately 5 cm (2") to exit from the printer and replace the paper cover.

**TO RESET PRINTER**

Press PAPER to reset the printer when jammed.

If the printer is still jammed, take the battery cover off by removing the screws. Using a pencil press the black button. This will reset the printing mechanism.

Before replacing the battery cover investigate the cause of the printer jam (e.g. the paper caught under the cover and prevented printer from advancing paper feed).

Replace the battery cover and secure screws.
BATTERY REPLACEMENT

If "LO BAT" appears on the display, it is an indication that the batteries are running down. If it appears during printing, it means that 200 printouts can be made before the batteries are exhausted. When there is only sufficient power for 100 printouts, the "LO BAT" sign is displayed continuously on the LCD.

Battery replacement must only take place in a non-hazardous area using the battery types specified in this instruction manual.

In order to replace run down batteries, simply remove the two screws on the rear cover of the instrument and replace the four 1.5V AA batteries with new ones, paying attention to the correct polarity.

A 12VDC power source can also be used to power the unit (see the Accessories section page 18).
Note: The instrument uses the following configuration.

![Configuration Diagram]

It is recommendable to purchase OMEGA HH610-AC and HH610-AC-220 voltage adapters that use the proper polarity configuration. Other adapters can also be used. In this case, remember to check the correct polarity of your adapter before connecting it to the meter.

CALIBRATION

All OMEGA 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.
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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 Authorization Return (ARR) number immediately upon phone or written request.
(See instructions 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 start-up, operation outside of design limits,
unsatisfactory or unremedied 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 incorrect, hard, misuse or vibration, improper specifications, misapplications, misuse or
other operating conditions outside of OMEGA'S control. Components which are not warranted,
including but not limited to contact points, fuses, and transducers.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA
neither assumes responsibility for any emissions 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
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remedies of purchaser set forth herein are exclusive, and the total
liability of OMEGA with respect to this order, whether based on contract,
waiver, 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) in a
"Nuclear Component" under 10 CFR 21 [.NCR], 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 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 manner.

RETURN REQUESTS/INQUIRIES

Before all returns and repair requests/queries to the OMEGA Customer Service Department. Be
sure when returning any products to OMEGA, you should also include an Authorization Return (ARR)
Number from OMEGA'S Customer Service Department (in order to avoid processing delays). The
assigned ARR number should then be placed on the outside of the return package and on
any correspondence.

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

FOR WARRANTY RETURNS, please follow the fol-
lowing instructions available BEFORE contacting OMEGA:

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

FOR NON-WARRANTY REPAIRS, contact OMEGA
for current repair charges. The following instructions
are 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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