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 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.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA...Of Course!

Shop online at omega.com

TEMPERATURE

- Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- Wire: Thermocouple, RTD & Thermistor
- 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
- Refractometers
- Pumps & Tubing
- Air, Soil & Water Monitors
- Industrial Water & Wastewater Treatment
- pH, Conductivity & Dissolved Oxygen Instruments

M4276/0606

1 YEAR WARRANTY

User's Guide

Shop online at

omega.com®

OMEGA®

omega.com

e-mail: info@omega.com

For latest product manuals:

omegamanual.info

ISO 9001 CERTIFIED CORPORATE QUALITY STAMFORD, CT

ISO 9002 CERTIFIED CORPORATE QUALITY MANCHESTER, UK

PHB-550R
pH/mV/Temperature/RS232 Microprocessor

omega.com®
OMEGA®

OMEGAnet® Online Service omega.com	Internet e-mail info@omega.com

Servicing North America:

U.S.A.:
ISO 9001 Certified
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, Canada
Tel: (514) 856-6928
FAX: (514) 856-6886
e-mail: info@omega.ca

For immediate technical or application assistance:

U.S.A. and Canada:
Sales Service: 1-800-826-6342/1-800-TC-OMEGA®
Customer Service: 1-800-622-2378/1-800-622-BEST®
Engineering Service: 1-800-872-9436/1-800-USA-WHEN®

Mexico:
En Español: (001) 203-359-7803
FAX: (001) 203-359-7807
e-mail: espanol@omega.com
info@omega.com.mx

Servicing Europe:

Czech Republic:
Frystatska 184, 733 01 Karviná, Czech Republic
Tel: +420 (0)59 6311899
FAX: +420 (0)59 6311114
Toll Free: 0800-1-66342
e-mail: info@omegashop.cz

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:
ISO 9002 Certified
One Omega Drive, River Bend Technology Centre
Northbank, Irlam, Manchester
M44 5BD 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

FEATURES:

- Microprocessor based with large LCD backlight display.
- The rugged housing and splash proof keyboard.
- Simultaneous display pH and Temperature, or millivolts.
- Automatic or manual temperature compensation.
- 5 memorized calibration values for fast, convenient and accuracy, or calibration value can be adjusted as needed.
- Memory function stores and recalls up to 20 points. Min/Max storage and recall.
- Indicate percentage of slope (PTS) after calibration.
- RS 232 output for linking PC.

SPECIFICATIONS:

Range:	0.00 to 14.00 pH, ±1999 mV, 0 to 100℃
Accuracy:	±0.01pH+1 digit, ±1 mV+1digit, ±0.2℃+1 digit
Resolution:	0.01 pH, 1 mV, 0.1℃
ATC:	0 to 100℃
Calibration:	pH1.68, 4.00, 7.00, 10.00, 12.45
Power:	AC adaptor
Dimensions:	165 x 200 x 70 mm
Weight:	700g

OPERATING PROCEDURE:

Accessories:

Upon receiving the shipment, inspect the container and equipment for any signs of damage. Remove the packing list and verify that you have received all equipments:

Meter, pH electrode, Temp. probe, Buffer solution 4 & 7, AC/DC adaptor, RS232 Software, Connection cable, User's guide.

Preparation

1. Connect AC adaptor with power source.
2. Remove the protection cap from the electrode and connect to BNC input.
3. Connect Temp. Probe to meter and turn on the power switch.
4. Rinse the electrode with clean water and wipe it dry.

Calibration (ORP doesn't require calibration)

1. Dip the electrode into the buffer solution pH 7.00, Stir gently and wait until the display stabilized. Press and hold **CAL** key 3 second to into calibration mode. The display will appear **CAL** and flash 7.00. When the display stop flashing then it's end of calibration.
2. Dip the electrode into the buffer solution pH 4.00 and same as step 1

Note: Calibration value can be adjusted as your buffer solution value under **CAL** mode and flash status by ▲ and ▼ key. For example, pH 6.86 instead of pH 7.00

3. After slope calibration, the LCD display will indicate percetage of slope(PTS) to show the status of electrode. If the slope % is below 75% or above 125%, the electrode must be replaced. A slope of 100% is ideal.

Measurement

1. After calibration, rinse the electrode with clean water and wipe it dry. Dip the electrode into sample solution to be measured. Stir gently and wait until a stable reading can be obtained
2. Press **pH/mV** key to change pH or ORP mode as needed. The optional ORP electrode is required to input for measuring ORP Value.
3. Press and hold **MAX/MIN** key 3 second to into measuring MAX and MIN mode with flash. Press this key with light, and will get the value of maximum and minimum. To exit this mode, press and hold **MAX/MIN** key 3 second will return to normal operation.
4. Press **STO/RCL** key to store the reading. The storage location number will be displayed followed by the stored reading up to 20 points. Press and hold this key 3 second to into recall mode and the last stored reading taken will be displayed first. To recall the stored reading by press ▲ and ▼ key. Press ▲ and ▼ key simultaneously to erase all stored reading. Press and hold this key 3 second will return to normal operation.

Temperature compensation

1. Automatic temperature compensation(ATC) mode by insert temperature probe. For manual temperature compensation, a temperature probe is not connected to the meter. Adjust temperature display by ▲ and ▼ key.

2.Degree C and F can be changed by press and hold **pH/mV** key 3 second.