

American Marine is proud to introduce **PINPOINT® Water Hardness Meter**, the only truly accurate and affordable freshwater hardness measurement meter. The precise measurement of water hardness (inorganic salts) by electronic conductive means has long been considered to be the most accurate method to determine hardness. The display readings of the **PINPOINT® Water Hardness Meter** are easily converted to several different measurement scales as needed.

**NOTE:** The Meter body is NOT waterproof and must be operated on a dry surface. Liquid contact on the printed circuit board will cause corrosion and void warranty.

• **Set-up**

Unwrap the protective plastic packaging from the **PINPOINT® Water Hardness Meter** unit. Remove the battery cover on the back of the meter and install a standard 9-volt battery or the **PINPOINT® AC Adapter Kit**. Battery replacement is visually indicated on the display as “LOBAT” when appropriate. Activate the unit by setting the power switch to the ON position. Use the pop-up stand on back and place meter on any flat, dry surface. Your **PINPOINT® Water Hardness Meter** is now ready for calibration.

• **Calibration Procedure**

The meter should be calibrated during initial set up and should also be checked occasionally to verify the readings. Calibration should be performed with the bottom switch in the left position (2K position). Use any calibration solution of known value and high accuracy such as **PINPOINT® 45µS**. The calibration adjustment screw #3 is located inside the battery compartment most toward the center of the meter. Place the probe tip into the liquid and allow a minute for any temperature compensation to take place. Be sure to be sure that NO air bubbles have accumulated under the probe tip. Using a miniature screwdriver, turn screw #3 until the display matches the value of your calibration fluid. DO NOT adjust screw #4 since this is used to set measuring frequency and requires specialized equipment for adjustment. Screw #4 has been factory set and does not require further adjustment. A small amount of blue glue has been placed onto screw #4 to prevent accidental adjustment.

**Note:** The 2K scale will display up to 2,000 microSiemens (µS) in a resolution of single microSiemen units (0000 µS). This is most useful for highly precise measurements. The 20K scale will display up to 20,000 microSiemen (µS). When the meter is used in the 20K scale, only the first four digits will be displayed, i.e., 15.41 is actually 15,410 microSiemens (µS). Sample measurements in excess of either scale will display as “1” signifying that the sample is of out of range of the instrument.

CONVERSION TO OTHER SCALES OF HARDNESS

33 microSiemens = 17.9ppm\*

33microSiemens = 1dH (German ° hardness)

1dH = 17.9ppm

\* Therefore the mathematical formula for a conversion to ppm is: Take the reading on the display and divide it by 33, then take the result and multiply it by 17.9.

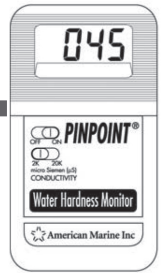
\*\* A note concerning TDS conversions. TDS is not a standardized scale of measurement. TDS meters use the electrical conductivity microSiemens value and apply a ratio (which has never been standardized) to arrive at a TDS Value.

Please read “Important Points to Remember” printed on back.

# PINPOINT® Water Hardness Meter

Freshwater Hardness

\*includes 45µS Calibration Fluid



## User's Guide

 American Marine Inc

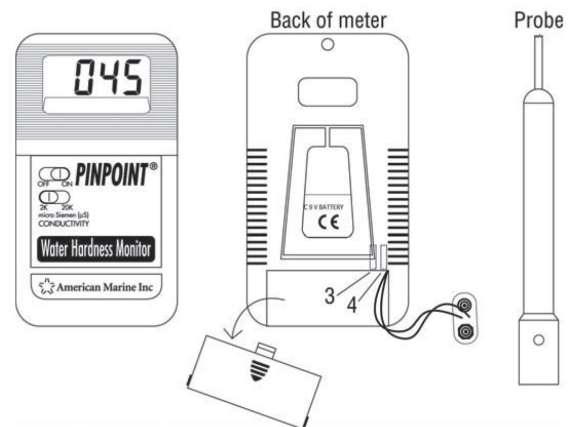
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Also available at [www.americanmarineusa.com](http://www.americanmarineusa.com)

- **PINPOINT® pH Monitor**
- **PINPOINT® Wireless Thermometer**
- **PINPOINT® ORP (REDOX) Monitor**
- **PINPOINT® pH, ORP, Oxygen Electrodes**
- **High Precision Calibrating Fluids**
- **PINPOINT® II Dissolved Oxygen Monitor**
- **4 Meter Oxygen Probe Extension Cord**
- **PINPOINT® Salinity Monitor**
- **PINPOINT® AC Adapter Kit for most PINPOINT® models**
- **PINPOINT® pH Controller**
- **PINPOINT® ORP (REDOX) Controller**
- **PINPOINT® Calcium Monitor**

## Important Points to Remember

- The **PINPOINT® Water Hardness Meter** is NOT waterproof and must be operated on a dry surface. Liquid contact on the printed circuit board will cause corrosion and void warranty.
- Concerning TDS conversions. TDS is not a standardized scale of measurement. TDS meters use the electrical conductivity microSiemens value and apply a ratio (which has never been standardized) to arrive at a TDS Value. Most common conversion value is .55 or .60 x microSiemens reading = TDS
- Avoid accumulating any air bubbles under the probe before taking a measurement or calibration.
- The **PINPOINT® Water Hardness Meter** is automatically compensated throughout the temperature range 32°F to 122°F (0° to 50°C). Therefore the displayed value has already taken the temperature into effect and this value is considered already corrected and extremely accurate.
- Calibrate the monitor with the appropriate fluid before use. Be sure that the range switch is on the correct scale during calibration.
  - Range Switch LEFT
    - Use the 2K scale for a calibration fluid with a value under 2,000µS
    - Range Switch RIGHT
      - Use the 20K scale for a calibration fluid value between 2,000 and 20,000µS
- Check the calibration occasionally or when an unusual reading is noted. Calibration fluid can be re-used for up to 1 year if uncontaminated by other fluids and kept in a tightly capped container.

## Warranty

**PINPOINT® Water Hardness Meter** by American Marine Inc. is warranted to be free of defects in material and workmanship for a period of 2 years from date of sale. Positive proof of purchase is required for warranty claim.

Removal or alteration of the serial number will void warranty.

American Marine Inc. will not be liable for any costs of removal, installation, transportation charges, or any other charges, which may result in connection with a warranty claim.

American Marine Inc. will not be liable for any damage or wear to products or livestock caused by abnormal operating conditions, water damage, abuse, misuse, unauthorized alternation or repair or if the product was not installed in accordance with the printed operating instructions.

Any defective product must be sent freight prepaid with appropriate documentation supporting the warranty claim. Replacement or repair will be at the discretion of American Marine Inc. Typical turnaround time within 48 hours. Overnight delivery available.



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