

American Marine is proud to introduce the **PINPOINT® Nitrate Monitor**. The only truly affordable and accurate digital Nitrate measurement instrument for marine saltwater. The **PINPOINT® Nitrate Monitor** has been designed as a precision spot-testing instrument. A 9-volt battery is recommended. Replace battery when "LOBAT" appears on the display. **NOTE:** The Nitrate Monitor unit 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 plastic bubblewrap packaging from both the meter and the probe. Carefully unscrew and remove the plastic storage bottle from the end of the probe. You may leave the bottle top on the probe. DO NOT discard the storage bottle, it will be used for calibration, measurement and storage. Remove the battery cover on the back of the monitor and install a 9-volt battery. Attach the BNC connector to the input on the front of the monitor, and rotate ¼ turn clockwise to lock the connector.

#### New Probe

Condition a new probe by putting the tip into each calibration fluid 10ppm, 100ppm and 1ppm for 20 minutes in each fluid. This is usually only necessary for the first time use.

#### High Range Calibration (10 ppm to 100 ppm)

- 1) Pour 10 ppm Nitrate Calibration Fluid into the storage bottle to the fill line. Insert the end of the probe into the fluid and screw the top onto the bottle. Check the flat probe tip is not resting on the bottom of the bottle.
- 2) Slide the Range Switch to the HIGH position
- 3) Press and release the ON/OFF button to power on the monitor.
- 4) Press and release the Calibrate button. "CAL" will appear on the display and the number 10 will flash slowly for about 40 seconds.
- 5) When the number 100 starts to flash rapidly, the meter is ready for the 100 ppm fluid. Don't rush; you have as much time as you need. Unscrew the bottle and return the 10 ppm calibration fluid back into its original bottle. Pour 100 ppm nitrate calibration fluid into the storage bottle to the fill line. Insert the end of the probe into the fluid and attach the bottle.
- 6) Press and release the Calibrate button. The number 100 will flash slowly for about 40 seconds. When the flashing stops the meter is fully calibrated for the HIGH Range. Pour the 100 ppm calibration fluid back into the original container.
- 7) Pour a water sample to the fill line on the storage bottle and insert the probe to determine the exact Nitrate level. Allow up to one minute for the reading to stabilize. When finished, rinse the probe with R/O or deionized water and blot dry with a paper towel prior to storage.

#### Low Range Calibration ( 1 ppm to 10 ppm)

- 1) Pour 1 ppm Nitrate Calibration Fluid into the storage bottle to the fill line. Insert the end of the probe into the fluid and screw the top onto the bottle. Check the flat probe tip is not resting on the bottom of the bottle.
- 2) Slide the Range Switch to the LOW position
- 3) Press and release the ON/OFF button to power on the monitor.
- 4) Press and release the Calibrate button. "CAL" will appear on the display and the number 1 will flash slowly for about 40 seconds.
- 5) When the number 10 starts to flash rapidly, the meter is ready for the 10 ppm fluid. Don't rush; you have as much time as you need. Unscrew the bottle and return the 1 ppm calibration fluid back into its original bottle. Pour 10 ppm nitrate calibration fluid into the storage bottle to the fill line. Insert the end of the probe into the fluid and screw the top onto the bottle.
- 6) Press and release the Calibrate button. The number 10 will flash slowly for about 40 seconds. When the flashing stops the meter is fully calibrated for the LOW Range. Pour the 10 ppm calibration fluid back into the original container.
- 7) Pour a water sample to the fill line on the storage bottle and insert the probe to determine the exact Nitrate level. Allow up to one minute for the reading to stabilize. When finished, Rinse probe with RO or deionized water and blot dry with a paper towel prior to storage.

#### Troubleshooting and Important Points to Remember on back

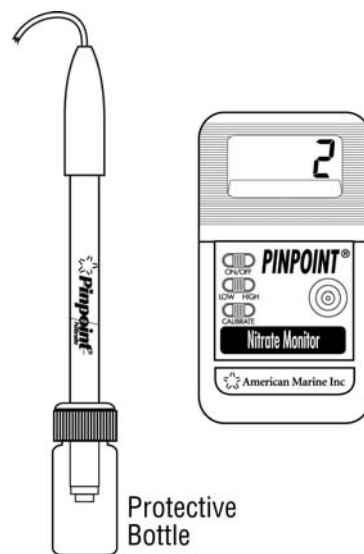
# PINPOINT® Nitrate Monitor

(For Marine Saltwater Only)

## User's Guide

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The world's finest selection of electronic measurement and control instruments designed and optimized for the professional aquaculture industry.

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## Important Points to Remember

- **PINPOINT® Nitrate Monitor** has been designed as a high precision spot-testing monitor. Continuous Nitrate Monitoring may not always be possible and may require more frequent recalibration and probe replacement.
- **PINPOINT® Nitrate Monitor** is NOT waterproof and must be operated on a dry surface. Liquid contact with the printed circuit board may cause corrosion and void warranty.
- **PINPOINT® Nitrate Monitor** has 2 independent ranges:
  - 0 – 10 ppm NO<sub>3</sub>-N (nitrate-nitrogen)
  - 10–100 ppm NO<sub>3</sub>-N (nitrate-nitrogen)
- Accuracy for either scale after calibration is +/- 1 ppm NO<sub>3</sub>-N (nitrate-nitrogen)
- Resolution for either scale is 1 ppm NO<sub>3</sub>-N (nitrate-nitrogen)
- When the probe is not in use, the tip should be stored in the protective bottle-dry. That is with NO fluid added to the bottle. A properly stored probe may have a life up to 2-3 years.
- For greatest accuracy all calibration and sample fluids should be at (the same) room temperature.
- The Nitrate Meter will always store the last calibration even when the power is turned off.
- **PINPOINT® Nitrate Probe** should be kept very clean. Rinse off the probe tip with RO/DI water prior to storage. Do not use any cleaning fluids or chemicals.
- Calibration fluids can be reused and should be replaced occasionally. Calibration Fluid replacement will depend on individual technique and be indicated by the inability to calibrate.
- For increased stability allow the probe tip to soak in calibration fluid for a minute or so before calibration.
- There are several possibilities for the meter to display **Er...P** during the calibration process:
  - 1-The probe BNC is not connected to the meter.
  - 2-The probe membrane is very dry (common with a new probe). Soak the probe tip in both 10 ppm or 100 ppm calibration fluid for 60 minutes each fluid. Recalibrate.
  - 3-The probe has reached the end of its useful life
- **Lo** on the display indicates the probe is measuring a nitrate value below the selected scale.
- **High** on the display indicates the probe is measuring a nitrate value above the selected scale.

## Warranty

**PINPOINT® Nitrate Monitor** 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.

**PINPOINT® Nitrate Probe** is warranted to be free of defects in material and workmanship for a period of 6 months from the 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 to 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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