

# **Internal PVC Rod-Style Fluid Level Sensor**

**New Providence Marine Systems**

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**INTERNAL PVC ROD SENSOR**

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# Introduction

Note: This sensor is designed for use in metal tanks, wood-cored fiberglass tanks, or any plastic tank whose walls are unsuitable or unaccessible for installation of our external foil-based level sensors

Ever have a float sensor foul and fail in a waste tank? Our PVC rod-style level sensors solve this problem as it is a completely solid-state design with no moving parts to foul.

This sensor installs through a 1" NPT threaded hole in the top of the tank to monitor. If your tank already had a float sensor installed it may be that there is already a suitable hole through which to install this sensor. If this hole has 5 smaller holes surrounding a larger central hole it is likely that this is the standard SAE-5 lug sensor pattern for which we manufacture an adapter plate which will greatly simplify your installation

Small things can make big differences. A power-on light is just such a small thing that can be incredibly useful when you are installing a system. When our sensors are being read by the monitoring panel, its green light glows telling you that its power is on. This gives you valuable instant feedback that the sensor is hooked up properly.

We have taken considerable time and effort to ensure that you have purchased the best marine tank monitoring system possible. Our Engineering and Sales staff has over five years experience in the Marine Industry and has launched several highly successful marine products. In order to ensure continuing product quality we build all of our products on our state of the art electronics production line and test and inspect each and every sensor several times prior to packaging and shipping to the customer.

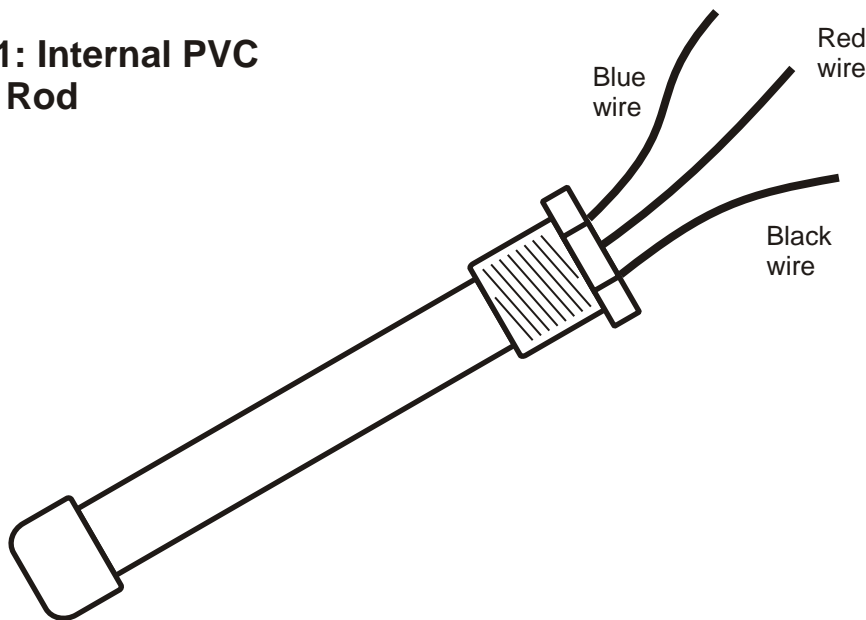
# Installation Guide

This sensor has been designed to be installed with common tools and materials by both marine professionals and boat owners. The installation process is fairly involved, but can be accomplished as a series of simple steps. We highly recommend you read this manual in its entirety and familiarize yourself with each step prior to beginning the installation. You should also read the owners manual for the display panel you are installing and become familiar with it as it contains important wiring instructions required to completely setup your system. If you have any questions at all about the installation or setup process please contact our technical support staff, they will be happy to answer any questions you have to ensure a successful installation.

## Included parts

The internal PVC sensor rod is pictured below:

**Figure 1: Internal PVC Sensor Rod**



## Required additional tools and materials

In addition to the sensor and the contents of the monitoring panel kit, you will need to provide the following tools and materials to install these sensors on your tanks:

- 1) Tools appropriate to cut and tap the 1" NPT threaded hole into the top of your tank
- 2) If your tank already has a SAE-5 lug pattern they we recommend the use of our SAE-5 to 1" NPT adapter plate
- 3) a wrench large enough to screw the sensor into the mounting hole
- 4) Wire cutter, stripper and terminal crimper for 18 AWG wire (inexpensive combination tools are usually available at most auto parts or hardware stores)
- 5) Crimpable insulated butt connectors for 18 AWG wire (you will need 3 for each sensor you are intending to install)

You will need additional tools and materials to install the monitoring panel for your system. Refer to the owners manual for your panel for a list of these items.

**2:INSTALLATION**

## **Installation: Panel Installation**

The first step in installing the monitoring system is to install the monitoring panel and pull the wires from the panel location each monitored tank. Refer to the owners manual you received with your monitoring panel for installation instructions. This sensor requires wires for power, sensor return, and ground.

## **Installation: Mounting The Sensor**

If you are replacing a float sensor check to see if it was mounted through a large hole surrounded by 5 smaller threaded holes. If it is then we strongly recommend the use of our SAE-5 to 1" NPT adapter. To mount the sensor through this adapter, first remove the old sensor making sure to save the gasket between it and the tank and the five screws. If the gasket is unsalvageable you could create a seal between the adapter and tank using some RTV silicone sealant available at most hardware stores.

Note: the screw holes in both the adapter and gasket will only fit onto the tank one way. If all 5 holes do not line up with the holes in the tank, rotate the adapter and gasket until they do. Once all the holes are properly aligned, secure the adapter plate in place with the original 5 screws previously removed.

Next, insert the sensor rod through the large threaded opening in the adapter plate and screw securely in place with the wrench.

If your tank has a threaded opening which is too large for our sensor (i.e. a 1 1/2" NPT threaded hole) you will need to purchase a threaded adapter from a plumbing or hardware store to reduce this opening to the 1" NPT head on our sensor. Screw our sensor into this adapter then screw the entire assembly into the threaded opening in your tank.

If there is SAE-5 opening or threaded hole in the top of your tank you will need to create a 1" NPT threaded hole through-which to mount the sensor. If you lack the skill to do this properly, we encourage you to contact a professional who can mount the sensor without damaging your tank

However you mount the sensor, try to keep it a couple of inches away from the sides of the tank, this can negatively affect sensor accuracy.

## **Installation: Sensor Wiring**

Complete the sensor wiring with the crimpable butt connectors as described in the owners manual for your monitoring panel.

## **Final Installation**

Follow the above installation procedure for all sensor rods in your system. It would be helpful to leave all the sensors exposed until you are finished testing your system. Once everything is working well, you can replace any panels or covers for each tank.

# Limited Warranty

New Providence Marine Systems (New Providence) warrants to the original purchaser that this product is free of defects in materials or workmanship for a period of one year from the product's date of purchase. Should this product prove defective by reason of improper workmanship and/or materials within the warranty period, New Providence shall, at its sole option, repair or replace the product.

1. TO OBTAIN WARRANTY SERVICE, Consumer must deliver the product prepaid, together with a detailed description of the problem, to:

New Providence Marine Systems  
Attn: Warranty Service  
PO Box 2272  
Pocatello, ID 83206-2272

When requesting warranty service, purchaser must present a sales slip or other document which establishes proof of purchase. THE RETURN OF THE PRODUCT REGISTRATION FORM IS NOT A CONDITION PRECEDENT OF WARRANTY COVERAGE. However, please complete and return the Product Registration Form so that New Providence can contact you should a question of safety arise.

2. THIS WARRANTY DOES NOT COVER defects caused by modifications, alterations, repairs or service of this product by anyone other than New Providence; defects in materials or workmanship supplied by others in the process of installation of this product; defects caused by installation of this product other than in accordance with the manufacturer's recommended installation instructions or standard industry procedures; physical abuse to, or misuse of, this product. This warranty also does not cover damages to equipment caused by fire, flood, external water, excessive corrosion, or Act of God.

3. ANY EXPRESS WARRANTY NOT PROVIDED HEREIN, AND ANY REMEDY FOR BREACH OF CONTRACT WHICH BUT FOR THIS PROVISION MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, IS HEREBY EXCLUDED AND DISCLAIMED. ALL IMPLIED WARRANTIES SUCH AS THOSE OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, IF APPLICABLE, AS WELL AS ANY IMPLIED WARRANTIES WHICH MIGHT ARISE BY IMPLICATION OF LAW, ARE EXPRESSLY LIMITED TO A TERM OF ONE YEAR. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG A LIMITED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

4. UNDER NO CIRCUMSTANCES SHALL NEW PROVIDENCE BE LIABLE TO PURCHASER OR ANY OTHER PERSONS FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, OR OTHERWISE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

5. No other person or entity is authorized to make any express warranty, promise or affirmation of fact or to assume any other liability on behalf of New Providence in connection with its products except as specifically set forth in this warranty.

6. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**3:LIMITED WARRANTY**

# Product Registration Form

In order for us to notify you about possible safety issues or to notify you about possible product upgrades we request the following information. Having this dated form on file in our offices also serves to establish your purchase date for warranty issues.

## Owner Information:

Name: \_\_\_\_\_.  
Address 1: \_\_\_\_\_.  
Address 2: \_\_\_\_\_.  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_.  
Phone: (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_.  
Email: \_\_\_\_\_.

## Product Information:

Product(s) Purchased: \_\_\_\_\_.  
Date Purchased (MM/DD/YY): \_\_\_\_/\_\_\_\_/\_\_\_\_.  
Where Purchased From: \_\_\_\_\_.  
Make/Model of Boat: \_\_\_\_\_.  
# of Tanks Monitored: \_\_\_\_\_.

Please fill out as clearly as possible and return to:

New Providence Marine Systems  
Attn: Product Registration  
PO Box 2272  
Pocatello, ID 83206-2272

4:PRODUCT REGISTRATION