

Introduction

The Wireless Tank Monitor System simplifies the installation of a tank level monitor for marine & RV plastic drinking, gray and black water storage tanks.

This system combines proven sensor technology with the latest in wireless control and monitoring mesh network.

Attach the sensors and wireless **Tank-End Module** to the tank to be monitored.

Then mount the **Display Panel module** in any convenient location.

Once mounted, link the modules with two touches of the enclosed magnet.

The Wireless Tank Monitor System eliminates the need for wire runs between the tank sensor(s) and the display(s). No more drilling holes and running wires in difficult places.

What is Nowire Wireless Network

Nowire created by AxonRF, Inc. is a powerful, yet easy to install and configure wireless mesh network protocol to be used in low cost, sophisticated device monitoring and control.

Whether controlling 2 or 200 devices Nowire makes device configuration and operation quick and easy.

The Nowire wireless hardware and software uses IEEE 803.15.4 network specifications and is United States

(FCC), Canada (IC) and Europe (ETSI) approved. The typical range of the wireless signal in a vessel is approximately 80 feet (24 meters).

NOTE: The Nowire Wireless Tank Monitor System passed Ignition Protection Test requirements of ISO 8846, the USCG, stated in Title 33 CFR 183.410 and the SAE J1171 Standard.

Please read all the instructions before attempting to install this system.

Installation and Wiring for the SensaTank II Sensors

SensaTank II Sensor Harness Mounting

Find and mark FLAT points where the tank "VOLUME" (not height) equals 1/3, 2/3 and Full. The Detector Cells may be mounted in any order and do not have to be directly above each other. The maximum distance between volume points is 15" (38mm).

At the volume points, clean the tank surface with isopropyl alcohol (do not use rubbing alcohol because it contains lanolin).

One at a time, remove the adhesive backing and stick the Detector Cells to the FLAT points on the tank wall.

Detector Cells must fully contact the tank wall, so press hard over the entire Detector. Air gaps will negatively affect performance. Care should be given on fiberglass tank installations not to place the Detector Cells over air pockets or rough areas in the tank wall.

NOTE: It is recommended the sensors be taped in the desired locations before permanently attaching them with the adhesive back tape. Leave the sensors like this until you have confirmed the locations work properly and are reading correctly.

Tank End Interface Module Mounting

The Tank-End Interface Module should be mounted in a dry location, protected from impact having, an ambient temperature of 0° to 150° F. Mount the module in any convenient location with either the adhesive backing or using fasteners. Avoid mounting it where metal can block the RF signal. Connect the Sensor Harness to the Tank-

End Interface Module using the plug supplied.

Power Source

Connect to main's power via a 1-amp fused power source, 12-24VDC. The RED lead is positive and the YELLOW lead is negative.

Note: Incorrectly connecting the power can cause serious harm to the module.

Display Interface Module Mounting

Install the Display Module in a clean, dry location. The Display Panel Box may be mounted in any convenient location using double backed tape, fasteners or it may be left unmounted in a drawer or cabinet.

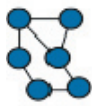
The Display modules are water resistant, not water proof and are not suitable for mounting on the exterior or where it might be exposed to weather conditions. Avoid mounting

them where metal can block the RF signal.

Power Source

Connect to main's power via a 1-amp fused power source, 12-24VDC. The RED lead is positive and the YELLOW lead is negative.

Note: Incorrectly connecting the power can cause serious harm to the module.



Linking Modules

Linking the Nowire Modules is a simple process that can be done by one person using the magnet supplied with each module. It is important the modules be in the correct

state for each linking step and the modules are linked in the proper order. The state of each module is indicated by their LED(s).

Step One - Prepare the first Tank-End Module for linking.

Confirm the Tank-End Module is wired correctly before applying power. Now turn on the power to the Tank-End Module.

The single LED on the Tank-End Module should be blinking very rapidly. If not, see Module Initialization section.

Using the magnet supplied with your modules briefly tap

(less than a second) it to the RED dot on the side of the Tank-End Module. The LED will change from very rapid blinking to moderately fast blinking.

This indicates the Tank-End Module is ready to link to the Display Module. The Tank-End Module will remain in this state for approximately four minutes.

Step Two - Link the first Tank-End Module to the Display Module.

Confirm the batteries are installed. Now turn on the power to the Display Module.

The fourth (bottom) and third LEDs will begin to blink very rapidly. If not see the Module Initialization section.

Using the magnet supplied with the modules briefly tap (less than a second) it to the word "Touchsensor" at the lower right corner of the Display Module.

All four LEDs on the Display Module will blink very rapidly and then go out.

The LED on the Tank-End module will blink very rapidly and then begin to blink slowly.

This indicates the two modules are linked and ready for use.

Step Three - Normal Operation.

When operating normally the Tank-End Module LED will blink slowly indicating it is on and operating. The Display Module shows no LEDs until a button is pushed and released.

Press the "Tank 1" button to get a reading. Please be aware the reading is taken when you release the button not when

you press it. One or more of the LEDs will light indicating current tank level.

If all the Display Module LEDs blink rapidly several times it indicates there was no response from the Tank-End Module. Check that the Tank-End Module LED is blinking slowly.

Step Four - Prepare the Display Module for linking to an additional Tank-End Module.(optional)

Confirm the Display Module is on and working correctly with the first Tank-End Module.

Using the magnet supplied with the modules briefly tap (less than a second) it to the word "TouchSensor" at the lower right corner of the Display Module. The fourth and third LEDs will begin to blink moderately fast. Sometimes this requires a second brief tap with the magnet.

By pressing the various "Tank" buttons you can choose

the button you want to link. Pushing "Tank2" will cause the fourth and second LEDs to blink. Pushing "Tank3" will cause the fourth and first LEDs to blink.

Since "Tank1" button is already linked to the first Tank-End Module, choose either "Tank2" or "Tank3" for linking to the additional Tank-End Module.

The Display Module will remain in this status for approximately four minutes.

Step Five - Linking an additional Tank-End to the Display Module.(optional)

Confirm the additional Tank-End Module is wired correctly before applying power. Now turn on the power to the Tank-End Module.

The single LED on the Tank-End Module should be blinking very rapidly. If not see Module Initialization section.

Using the magnet supplied with your modules briefly tap (less than a second) it to the RED dot on the side of the Tank-End Module. The LED will change from very rapid

blinking to blinking slowly.

All four LEDs on the Display Module will blink very rapidly and then go out, as well.

This indicates the Tank-End Module and the Display Module have linked properly.

Now two of the "Tank" buttons should give tank level readings.

To add a third Tank-End Module repeat steps four and five.

Nowire Module Initialization

Nowire modules may be cleared/initialized of all links. If a module is not linking or working correctly the first step is to power cycle (off and on) the module(s) to return them to a known state. Try the operation again.

If it is still unsuccessful you may initialize the module(s) by holding the magnet on the defined area for that module for approximately five seconds. The LED(s) will turn off

and then will blink slowly five times. Remove the magnet during the slow blinking. Once the magnet is removed the LED(s) will start blinking very rapidly. This indicates all previous link data has been cleared. This allows you to start the link process over.

NOTE: In the case of the Display Module all "Tank" button data is cleared.