

TROUBLE SHOOTING GUIDE

Problem	Cause
No Power	Wire connections, missing or blown fuse, reversed wires, or defective unit.
Immediate Alarm When Turned On	Connecting Wire disconnected or broken Sensor assembly, check sensor assembly red light
No Audible Alarm	Return unit for repair or replacement.
No Alarm During Supervision Tests	Return unit for repair or replacement.
Red LED On Sensor Assembly Is Off	Unit is off, Cable disconnected or broken..
Continuous Alarm	Float Sensor installed upside down.

NOTE: To order a SA-1000XL call 1-800-383-0269

SPECIFICATIONS

- Operating Temp -22^o F - 158^o F
 - Power 12 VAC, operational range 7-28 volts.
 - Alarm triggers before maximum bilge water level is reached.
 - Display Panel Size: 3-1/4"W x 2-3/4"H x 3/4"D.
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- Float Switch does not contain Mercury.
 - 10 mA (.01 amp.) current draw
 - Loud 100 decibel alarm
 - Meets ABYC H-22 section 22.7.3 effective 7/31/2006.

LIMITED PRODUCTS WARRANTY

MTI INDUSTRIES, INC. warrants to the original retail purchaser that its products will be free from defects of material or workmanship for a period of One (1) year from the date of retail purchase. If proven to have been defective in original materials or workmanship and returned, delivery costs prepaid, MTI INDUSTRIES, INC. will replace this product free of charge.

LIMITS OF WARRANTY

Replacement is your exclusive remedy under this limited warranty or any other warranty (including any implied warranty of merchantability for a particular purpose). Any and all implied warranties or merchantability or fitness for a particular purpose shall be limited to the warranty period from the original date of retail purchase. MTI INDUSTRIES, INC., its dealers and distributors shall in no case be responsible or in any way liable for any incidental or consequential damages for any reason. Some states do not allow the limitation or exclusion of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty gives you specific rights, and you may also have other rights, which may vary, from state to state.

PRODUCT NOT WARRANTED

NOTE- There are no user serviceable parts inside the case. Opening any SAFE-T-ALERT™ product for any reason voids the warranty. This warranty does not cover damage or failure resulting from acts of God, abuse, misuse, neglect, or faulty installation.

WARRANTY RETURN PROCEDURES

It is MTI's experience that an alarm is sounding for a reason. Call, ask your dealer to call, or e-mail our Customer Service Department (as listed below) to trouble shoot the situation.

Customer Service Phone No. - 800-383-0269

Fax No. 847-546-9007

E-mail Service@mtiindustries.com

Web Site: www.mtiindustries.com If Customer Service determines that the unit is defective, a Replacement Authorization (RA) number will be issued. **No product will be accepted for service or replacement without first obtaining a RA number.**

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MTI FORM NO: SA1000-1

MARINE TECHNOLOGIES, INC.



SA-1000XL MARINE HIGH BILGE WATER ALARM USER'S MANUAL

IMPORTANT

PLEASE READ CAREFULLY AND SAVE

ATTENTION: This user's manual contains important alarm installation, operation, trouble shooting and warranty information. Read, follow, and keep this manual for future reference.

NOTE: If you install or purchase this alarm for another person, give this manual to that person.

⚠ WARNING

WHY EVERY BOAT NEEDS A HIGH BILGE WATER ALARM

Every year, injuries, deaths and insurance losses can be attributed to boats sinking. Studies show that 80% of boats sink at the dock while the other 20% sink in open water. Installing a bilge alarm is an important safety measure. The ABYC has required a Bilge Alarm be installed on all new boats with an enclosed accommodation compartment since July 1, 2006.

The **SAFE-T-ALERT™ SA-1000** High Bilge Water Alarm is exclusively designed and tested for use in the harsh marine environment. The unit is an early warning alarm that monitors for high bilge water.

⚠ WARNING

LIMITATIONS OF HIGH BILGE WATER ALARMS

Alarms will not work without power. Some reasons your alarm may not have power include an open circuit breaker, a blown or missing fuse, a broken wire or improper wire crimp connection.

This alarm may not be heard. The alarm's loudness is designed to meet or exceed regulatory standards; however, the alarm may not be heard if units are remotely located. Individuals who are hard-of-hearing, have consumed alcoholic beverages, have taken prescription, non-prescription or illegal drugs may not hear the alarm. If your boat has many sleeping areas, consider installing additional alarms in each area. Neighboring boaters or Marina personal may not hear the alarm.

This alarm will only indicate the presence of high water at the float sensor. The float sensor cannot monitor a compartment that is separated by a bulkhead. High water may be present in other areas of the boat. MTI recommends that additional High water alarms be installed in areas where water may accumulate.

A High Water Bilge Alarm is not a replacement for an insurance policy on your boat. Always fully insure your boat and make sure it covers sinking and other water damage coverage.

INSTALLATION INSTRUCTIONS

Assemble the following supplies: An electric drill, 1/4" and 3/8" drill bits, screwdrivers (Phillips and slotted), stainless-steel screws, 18 gauge wire, inline fuse holder, 1A fuse, wire stripper, crimping tool, crimp connectors, cable ties.

When you have the supplies on hand, take the following steps:

Installing the Control Panel

1. Locate the control panel at the helm or in the cabin where it can be easily seen and heard. Check first to be sure that there is at least 3 inches of clearance behind the location to allow for mounting and wiring. Mark and drill holes for mounting screws and wires. **DO NOT CONNECT POWER UNTIL THE INSTALLATION IS COMPLETE.**
2. Connect the wire assembly to the control panel and run it to the bilge compartment. Secure the run every 18 inches with plastic wire supports.

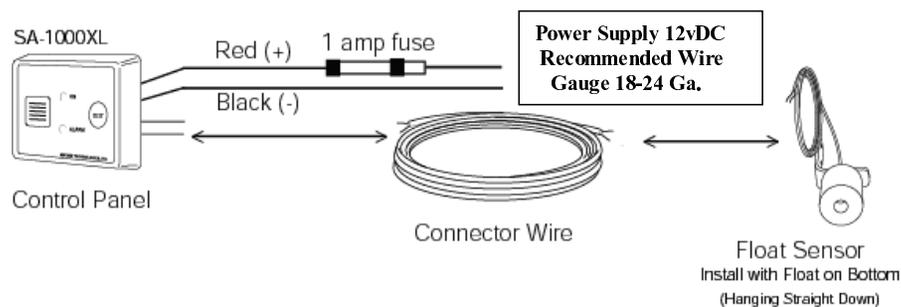
Installing the Float Sensor

3. Using the two screws mount the water sensor about 4" above the automatic bilge pump switch or below the MAXIMUM BILGE WATER LEVEL, as defined by ABYC H-22. Connect one wire lead to a water sensor wire and the second lead to the other water sensor wire. **Do not mount the sensor where it will get submerged in water during normal boat operation. Mount the float sensor so the float hangs straight down from the mounting bracket. The wires should enter the float sensor from the top. Leave extra wire so they can travel up and down with the float and not interfere with its movement. If necessary attach wires to the wall near the float sensor - do not pierce the wires.**

The assembled system should look similar to the following:

ADDITIONAL INSTALLATION TIPS

- DO NOT mount the control panel under a cowling, or glass or plastic panel where it may not be seen or heard.
- DO NOT locate the float switch within 12 inches of any heat or exhaust source. High heat may damage the float sensor.



OPERATION

1. Press the control panel's Test/Mute Pad. The ALARM (RED light should light. Press the TEST pad to check the operation of the alarm sounder and alarm light. This also temporarily silences the alarm. In about five minutes the ON (GREEN) light will light and the ALARM (RED) light will turn off. The unit is now operational and is monitoring for high bilge water conditions.

2. When the sensor detects bilge water above the alarm threshold levels, the alarm will sound and the RED alarm light will activate. The alarm will continue until the water level returns to safe levels. See **PROCEDURES TO TAKE DURING AN ALARM.**

The SA-1000XL has supervision circuits to warn of a missing float sensor, malfunction, and disconnected or broken wires.

TESTING

⚠ WARNING - TEST THIS ALARM'S OPERATION AFTER THE BOAT HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE.

Note: The SA-1000XL is designed to fail safe, but will only notify you of problems if power is supplied to the Control panel of the alarm.

To Test the Control Panel:

1. When the GREEN normal operation light is lit on the control panel, the sensor assembly can be tested.
2. Press and hold in the Test / Reset button area on the control panel until the alarm sounds and RED Led flashes.
3. Note: Pressing the Test/Reset Button will silence the alarm for 5 minutes. Wait 5 minutes before continuing other tests.

To Test the Float Sensor Operation:

4. **FLOAT SENSOR:** Hold the float sensor up as high as it will travel for at least 10 seconds. The alarm should sound and the RED alarm light on the control panel should be flashing. Press Mute button to silence.

IF THE UNIT DID NOT TEST PROPERLY, REFER TO THE TROUBLE SHOOTING GUIDE

MAINTENANCE

1. Keep the Float sensor free of debris at all times, make sure float travels freely and inspect wire connections.
2. Clean the Control Panel by wiping with a damp cloth. Do not spray liquids into the sounder openings.

PROCEDURES TO TAKE DURING AN ALARM

⚠ WARNING—ACTIVATION OF THIS ALARM INDICATES RISING WATER IN YOUR BOAT. NEVER IGNORE A SOUNDING ALARM. TAKE THESE STEPS IF AN ALARM SOUNDS:

- Do not panic.
- Continue safe navigation and operation of your vessel.
- Check if the bilge pump is running and make sure water is discharging overboard.
- If it is not running, manually start bilge pump.
- Open the hatch or compartment and try to determine the cause of the water leak.
If water is entering the boat faster than the pump can discharge, put on life jackets and head for safe harbor. Safe navigation and operation always applies.
- Radio the Coast Guard and inform them of your situation.

