

PROCEDURES TO TAKE DURING AN ALARM

⚠ WARNING: THE ACTUATION OF THIS DETECTOR INDICATES THE PRESENCE OF DANGEROUS LEVELS OF GASOLINE FUMES/VAPORS THAT COULD CAUSE AN EXPLOSION OR FIRE IF NO ACTION IS TAKEN:

- 1) Turn off all electrical equipment, generator, extinguish all open flames (oven, cook top, smoking materials etc.).
- 2) Turn off the engine(s) if safe navigation conditions exist.
- 3) Open the engine compartment, ports, hatches and doors and ventilate the area.
- 4) If you are at shore evacuate the boat. Do not return until the area is ventilated and the detector has returned to normal standby condition.
- 5) Proceed with caution and locate and repair the cause of the leak. Seek a qualified technician if necessary.
- 6) Do not start or use the boat until the necessary repairs were made.

TROUBLE SHOOTING GUIDE

YELLOW LED Won't Turn ON/OFF when pressed	Wire connections, missing or blown fuse, reversed wires, or defective unit
Locked in WAIT (more than 4-5 minutes)	Replace Sensor Block SA-186-SB
No Beep and WARNING (RED) Lights Blink When TEST/MUTE is Pressed	Return for repair or replacement
Alternate Blink on RED GREEN Lights	No communication with sensor block, check for RED LED light ON at Sensor block, if on return for repair or replacement.

SPECIFICATIONS

Power Supply: 12 VDC Operational Voltage: 8 to 15 VDC Power Draw: 100mA amps @ 1VDC
Operating Temp: -22° F - 160° F Alarm Threshold: < 20% LEL of Gasoline Fumes / Vapor
Other Gases Detected: Alcohol, Acetone, Hydrogen and most other Hydrocarbon gases

Certified by IMANNA Laboratory Inc.:

The MGD-1XL and MGD-1 gas detector and indicators meet the test requirements as specified in
ABYC A-14 and Conforms to UL1110.

LIMITED PRODUCTS WARRANTY

MTI INDUSTRIES, INC. Warrants to the original purchaser that this detector will be free from defects of material or workmanship for a period of Two (2) years. If proven to have been defective in original materials or workmanship and returned, delivery costs prepaid, MTI INDUSTRIES, INC. will repair or replace this product free of charge.

LIMITS OF WARRANTY

Repair or 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 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.

WARRANTY RETURN POLICY

Warning- opening this product for any reason voids the warranty. There are no user serviceable parts in the cases. No product will be accepted for repair or replacement without an authorization number (RA). RA numbers may only be issued by MTI or authorized distributors. Include an explanation of the problem, the original dated sales receipt, and your return address. Send, shipping prepaid, to MTI Industries, Inc. 206C Tequesta, FL 32541 E-mail sales@mtiindustries.com www.mtiindustries.com

MARINE TECHNOLOGIES, INC.

SAFE-T-ALERT™ MGD-1 and MGD-1XL

MARINE GASOLINE FUME DETECTOR

USER'S MANUAL

IMPORTANT

PLEASE READ CAREFULLY AND SAVE

This manual contains important information. Purchasers who install this detector for use by others must leave this manual with the user.

ALL RIGHTS RESERVED

REV: MGD1XL 02142019-1

⚠ WARNING: LIMITATIONS OF FUME DETECTORS

Gasoline Fume detectors will not work without power. Examples causing no detector power are an open circuit breaker, blown or missing fuse, broken wire or improper wire crimp connection.

CAUTION - This detector will only indicate the presence of gasoline fumes at the sensor. The sensor cannot monitor a compartment that is separated by a bulkhead. Gasoline fumes may be present in other areas. MTI recommends that sensors be installed in compartments where gasoline fumes may accumulate.

Gasoline fume detectors may not be heard. The alarm loudness is designed to meet or exceed regulatory standards; however, the alarm may not be heard if detectors are installed in remote locations. The alarm may not be heard by persons who are hard of hearing.

⚠ WARNING: WHY EVERY BOAT NEEDS A FUME DETECTOR

Gasoline vapors can develop in fuel pumps, fuel tanks, fuel lines, carburetors and fuel systems. The SAFE-T-ALERT™ MGD-1 and MGD-1XL detectors are for Marine Use. They are an early warning monitor, designed to notify the user when 20% or less of the lower explosive limit of gasoline fumes are present in the monitored area.

Power Supply: 12 vDC

Recommended Wire Gauge: 18 Ga.

Wire Color Code: Red (+) Black (-) Fuse: In-Line 1 amp to the Red lead of the panel

WHERE TO INSTALL THE PANEL AND SENSOR

- Locate the control panel in the helm area where it can easily be seen and heard.
- Locate the sensor block on a forward bulkhead wall about starter height.

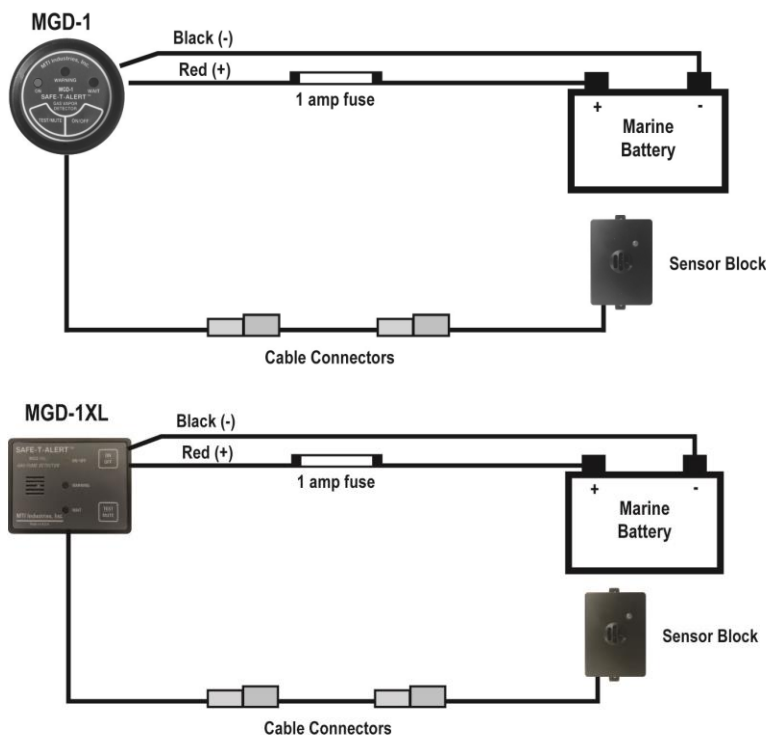
WHERE NOT TO INSTALL THE PANEL AND SENSOR

- 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 sensor block above batteries. Hydrogen from the batteries may cause nuisance alarms.
- DO NOT locate the sensor block behind any obstruction that will prevent air flow to the sensor.
- DO NOT locate the sensor block on the aft bulkhead. Water in the sensor block could cause permanent damage to the sensor block.
- DO NOT locate the sensor within 12 inches (304.8 mm) of exhaust lines. High heat may cause false alarms.

INSTALLATION INSTRUCTIONS

CAUTION: Gasoline is heavier than air. Mount the Sensor Block below the engine starter height.

1. After referring to the “Where to Install the Panel and Sensor” and Where NOT TO Install the Panel and Sensor Block” select an area at the helm with at least 3” (76.2 mm) of clearance for the housing. Drill a 2 1/8” (53.975 mm) mounting hole and install the housing using the hardware supplied. DO NOT CONNECT POWER UNTIL THE INSTALLATION IS COMPLETE.
2. Connect one end of the 20-foot (6096 mm) cable assembly to the control panel and run the cable to the engine compartment location of the sensor block.
3. Mount the sensor block below starter height on the forward bulkhead wall with the cable down toward the bilge. **Do not mount the sensor block where it can get wet or submerged in water. Do not mount with the cable entering from the top as water can run into the sensor block and damage the sensor block.** Connect the 20-foot (6096 mm) cable.
4. Use a 1 amp in-line fuse and connect the RED power lead to the 12 vDC battery positive (+). Connect the BLACK lead to the battery ground (-).



OPERATION

The MGD-1 and MGD-1XL units have supervisory circuits to warn of various sensor block malfunctions and a disconnected or broken cable connector.

1. Press the ON pad on the control panel. The WAIT (YELLOW) light will turn on. In about two minutes the WAIT (YELLOW) light will turn off and the ON (GREEN) light will turn on. The detector is now operational and monitoring for gasoline fumes/vapors. During the

two-minute warm-up time you may press the TEST/MUTE pad to check the alarm sounder and the WARNING (RED) light, as described in the TESTING section below.

2. When the sensor detects gasoline vapor above the alarm threshold, the sounder will beep and the WARNING (RED) light will blink. The alarm will continue until the air in the monitored area has cleared.
3. Press the TEST/MUTE pad will mute the alarm sounder for 5 minutes. The WARNING (RED) light will continue to blink. After about 5 minutes, if the air in the monitored area has not cleared, the alarm sounder will resume beeping.

NEVER ENTER THE ENGINE COMPARTMENT WITH AN OPEN FLAME OR LIT SMOKING MATERIALS. OPEN FLAMES AND SMOKING MATERIALS CAN CAUSE AN EXPLOSION AND OR FIRE.

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.

1. With the unit on, press and hold the TEST/MUTE pad. Verify that the WARNING (RED) light blinks and the alarm sounder beeps. Release the TEST/MUTE pad. A brief press of the TEST/MUTE pad will run the test for 3 seconds. If the WARNING (RED) light does not blink and/or the alarm sounder does not beep, the unit is defective and must be replaced. This test step verifies a good connection between the control panel and the sensor block.
2. When the ON (GREEN) operation light is lit, the sensor block can be tested with hydrocarbon vapor.



WARNING

USE ONLY A BUTANE LIGHTER TO PERFORM THIS TEST. NEVER USE GASOLINE SOAKED MATERIAL.

3. **SENSOR BLOCK TEST:** Direct the butane lighter towards the sensor block and depress the lever to release butane (only) into the sensor block. The alarm should sound and the WARNING (RED) light on the control panel should blink. It will take 8 to 10 seconds for the unit to respond. DO NOT hold the lever on the butane lighter for more than 15 seconds.
4. **SUPERVISORY CIRCUIT TEST:** Disconnect one end of the 20-foot (6096 mm) connector cable. The alarm should beep every 30 seconds and the WARNING (RED) and ON (GREEN) lights on the control panel will blink alternately to indicate a malfunction.

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

MAINTENANCE

1. Keep the sensor block free of dust and debris.
2. Remove or cover the sensor block whenever the bilge compartment or engine compartment equipment is being cleaned, painted, power washed etc. Direct contact with chemicals, WD-40, water, oil, etc. can cause permanent damage to the sensor.