

## 6-WAY ALARM SYSTEM

# AQUALARM<sup>T.M.</sup>

PROTECTS  
YOUR CRAFT  
FROM  
FIRE \* FLOODING  
WHILE MOORED

... FROM  
FIRE \* FLOODING \* ENGINE OVERHEATING  
LOW OIL PRESSURE  
WHILE UNDERWAY

## INSTRUCTIONS

### FULL 6 MONTH WARRANTY

Your new Aqualarm is fully warranted for a period of 6 months from the date of delivery, provided that proof of purchase is shown.

Seller will repair or replace product without charge to Buyer if Buyer has correctly installed product as per accompanying installation instructions and the defect, malfunction or failure was not caused by damage (not resulting from defect or malfunction) or unreasonable use including failure to provide reasonable and necessary maintenance. Buyer must mail or ship prepaid or present product to Aqualarm, Inc., 544 W. 182nd Street, Gardena, CA 90248. Product will be repaired or replaced and mailed or shipped out to Buyer within 30 days of receipt by Seller.

Any controversy or claim relating to this product shall be settled by arbitration in Los Angeles, CA, in accordance with the Rules of the American Arbitration Association, and judgment upon the award rendered by the Arbitrators may be entered in any court having jurisdiction thereof.

**NO WARRANTY IS INCLUDED AGAINST ANY EXPENSE FOR REMOVAL, REINSTALLATION OR OTHER CONSEQUENTIAL DAMAGES ARISING FROM ANY DEFECT IN THIS PRODUCT.**

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

**AQUALARM<sup>T.M.</sup>, Inc.**

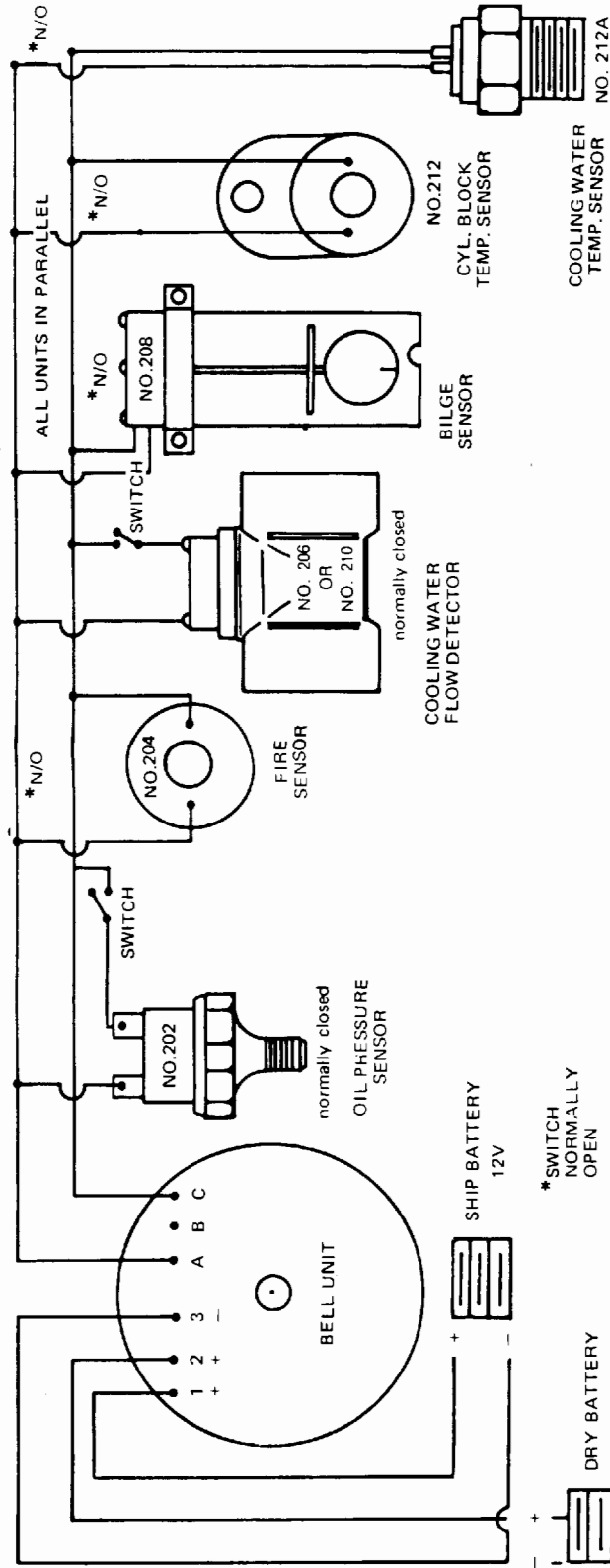
544 W. 182 ST. / Gardena, Cal. 90248

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## STEP BY STEP PROCEDURE FOR INSTALLING AQUALARM

1. Remove center nut from bell. Take bell cover off base.
2. Fasten bell base where desired (cool, dry place) using screws or bolts. Toggle switch above center bolt.
3. Run dry cell or ship power wires in a practical manner from power source to Aqualarm Bell. No. 18 stranded, insulated wires are recommended for this purpose.
4. For dry cells only, attach negative battery wire to screw below grommet No. 3. (Decal Schematic for wiring is on under side of Bellcover.) If ship power, attach negative wire to screw below No. 3. For both dry cell and ship power, attach both negative wires to screw below grommet No. 3.
5. For dry cell battery, attach positive wire to screw below grommet No. 2. If ship power, to grommet No. 1.
6. Install Aqualarm No. 208 plastic Detector Unit in compartment to be protected, as nearly over keel as possible. (For complete protection of vessel, one Detector Unit must be installed in each water tight compartment. Multiple units must be wired in parallel.) To install, screw or bolt Detector Unit in a vertical position to a suitable surface, so that the center of the float-ball coincides with the flood-danger level of your vessel.
7. Run Detector Unit lead wire up and out of contact with bilge water. **DO NOT DAMAGE DETECTOR UNIT LEAD CABLE.**
8. The Detector Unit lead wire should now be connected to holes screws A and C of Aqualarm Bell Base. If extra wire is required to connect Detector Unit to Bell Base, use No. 18 gauge stranded insulated wire.
9. Screw Cover back on Bell Base carefully, so that Bell doesn't interfere with the operation of the toggle switch. **YOUR AQUALARM SYSTEM IS NOW IN OPERATION. WARNING . . . TO WORK EFFECTIVELY ALL ACCESSORIES MUST BE CIRCUITED THROUGH THE BELL UNIT.**

**NO. 202 LOW OIL OR WATER PRESSURE DETECTOR** / One required per engine. Screw in oil line and wire in parallel to terminals A and C. A single pole, single throw switch must be installed in Detector No. 202 line. Preset to 10 lbs. Normally closed.



**NO. 204 REMOTE FIRE DETECTOR** / As many of these units may be installed as the owner deems necessary. **Must be located as near to FIRE DANGER as possible . . .** Stoves, Batteries, Engine Room and Berths, etc. Mount above fire hazard on ceilings or on Engine Compartment below deck. Unit set for 135° F., resets at 100°.

**NO. 206 COOLING WATER FLOW DETECTOR / Operation:** The sensing vane is at right angles to Detector body when no water is flowing and the hermetically sealed magnetic switch energizes alarm bell circuit. The vane is opened when engine is running and 5 gals. or more of water per minute is flowing through Detector. For use on smaller engines with 3/4" inlet water lines an adjustable baffle constricts the flow to create enough velocity to deflect the sensing vane. On larger engines using 1 to 1-1/2" inlet lines the baffle is partly or fully opened.

**Installation:** Cut seawater hose between strainer and pump; remove enough to make space for the Detector; use reducers between 1-1/2" pipe threaded inlet and outlet of Detector if seawater line is smaller than 1-1/2". Detector may be in any position between horizontal or vertical. **NOTE:** When installing, flow arrow on Detector cap should be pointing downstream. Can also be inserted between pump and engine block or heat exchanger, . . . or in seawater line where it exits from manifold before going into wet exhaust line or overboard on dry exhaust systems. Connect 2 wires from Detector to terminals A & C on the Aqualarm or to a 12V alarm buzzer not drawing more than 1 amp. A single pole, single throw switch must be installed so alarm will not sound when engine is stopped. No current is drawn except when alarm is ringing.

**Adjustment:** None needed on engines with 3/4" sea-water lines. On engines with larger lines; loosen baffle adjustment lock-nut on side of Detector body and rotate black baffle shaft from vertical position to horizontal; tighten lock-nut only to a snug tightness (do not overtighten); start engine and run for 1 minute at higher than idle speed to open flow-sensing vane, then reduce throttle to idle. If alarm sounds at idle speed, stop engine; adjust baffle to close it partially (nearer to vertical position); start engine, run 1 minute at higher than idle speed, then reduce throttle to idle; if alarm rings, repeat the closing of baffle until alarm does not sound when idling. Do not adjust when engine is running.

**To clean:** Close sea-cock; remove six screws on top of Detector and lift sensing vane/switch assembly from body.

**WARNING:** Fluid temperature not to exceed 180°.

(See Other Side)

**NO. 210 COOLING WATER FLOW DETECTOR** — Operation: the sensing vane is at right angles to Detector body when no water is flowing and the hermetically sealed magnetic switch energizes the alarm bell circuit. The vane is opened when engine is running and 5 gals. or more of water per minute is flowing through the Detector. For use on smaller engines with 1/2" inlet water lines an adjustable baffle constricts the flow to create enough velocity to reflect the sensing vane. On larger hoses using 1" inlet lines the baffle is partly or fully open.

**Installation:** Cut sea-water hose between strainer and pump; remove enough to make space for the Detector; use reducers between 1" pipe threaded inlet and outlet of Detector if sea-water line is smaller than 1". Detector may be in any position between horizontal or vertical. **NOTE:** When installing, **flow arrow** on Detector cap must be pointing downstream. Can also be inserted between pump and engine block or heat exchanger; or in sea-water line where it exits from the manifold before going into the wet exhaust line. Connect 2 wires from Detector to terminals A & C on the Aqualarm or to a 12V alarm buzzer not drawing more than 1 amp. A single pole, single throw switch must be installed so the alarm will not sound when the engine is stopped. No current is drawn except when alarm is ringing.

**ADJUSTMENT:** None needed on engines with 1/2" sea-water lines. On engines with larger lines: loosen baffle adjustment lock-nut on side of Detector body and rotate black baffle shaft from vertical position to horizontal; tighten lock-nut to a snug tightness (do not overtighten) start engine and run for a few seconds at higher than idle speed to open flow-sensing vane, then reduce throttle to idle. If alarm sounds at idle speed stop engine; adjust baffle to close it partially (nearer to vertical position): start engine, run a few seconds at higher than idle speed, then reduce throttle to idle; if alarm rings, repeat the closing of baffle until alarm does not sound when idling.

Do not adjust when engine is running.

**To Clean:** Close sea-cock; remove six screws on top of Detector and lift sensing-vane/switch assembly from body.

**WARNING:** Fluid temperature not to exceed 180 degrees.

**NO. 212 ENGINE OVERHEAT DETECTOR** / This unit is installed by bolting to the engine block so base lies flat on cylinder head or manifold. Circuited in parallel. Unit set for 200°F, resets at 160°F.

**NO. 212A OVERHEAT DETECTOR** / This unit is installed by placing in the water discharge end of the Manifold or Engine Block 1/2" std. pipe thread. Unit set for 200°F resets at 160°F.

**ALL DETECTORS ARE IGNITION PROTECTED TESTED PER SECTION 183-410 OF FEDERAL REGISTER VOL. 42 - NO. 20.**

### GENERAL INFORMATION

The basic Aqualarm System consists of two parts — the AQUALARM BELL, with the 2-way power switch, and the AQUALARM DETECTOR UNIT. It is designed for all pleasure and commercial craft up to 500 tons. The Bell is provided with a red-light signal that is set off simultaneously with the audible alarm.

**TREAT YOUR AQUALARM WITH CARE.** Aqualarm is a durably built product, however, to serve its purpose it is necessarily a precision-designed instrument. Reasonable care should be given to the units when handled for installation or testing. The chrome-plated bell is attractively fashioned making it suitable for the cabin or pilot house of the most luxurious pleasure craft.



# aqualarm<sup>®</sup>

1151 D Bay Blvd.  
Chula Vista California 91911  
Tel: (619) 575-4011  
FAX: (619) 575-4012

## INSTALLATION AND TROUBLE-SHOOTING GUIDE FOR AQUALARM STANDARD SYSTEM

### INSTALLATION

Remove the bell dome and inspect the unit. It should be mounted with the two double three terminal strips up (12 o'clock position). In this position, the lefthand strip is the power inlet strip, and designated 1, 2 and 3 from the left. Terminal #1 is the input for 12 volts + from your boat battery. #2 is available for 12 volts + from an optional dry cell battery. This is not necessary, but is provided for those who wish to disconnect the main batteries completely, yet still have bilge flooding protection. (Note: The alarm system draws zero power while monitoring. It only draws power when ringing). Terminal #3 is the negative or ground terminal. It must be connected to battery negative. The other terminal strip, on the right, is arbitrarily assigned letters A, B and C, from left to right. Terminal A is the 12 volt output to the detector switches, terminal B is unused, and terminal C is the return from the detectors. Run a pair of 16 gauge wires to each detector and connect to A & C. (no polarity).

As an initial test, take a short length of wire or the points of a long nosed pliers and short across A to C. (This simulates a detector alarm). This should cause the bell to buzz loudly and the light to light. If it does not, switch the black selector switch in the center of the bell to the other position and try again. If it still does not buzz, use a voltmeter or test light across terminals 1 and 3 or 2 and 3 to see if you have 12 volt power. If you do, remove the fuse and inspect it. The bell uses a 3 amp 3AG automotive fuse. Replace the fuse if it is bad and try again. If the light lights, but the bell does not buzz, the bell points may be out of adjustment. These points are near the center post, on the back of the bell clapper drive. You may inspect their action by pulling out on the brass plunger rod (which strikes the bell dome to ring) and looking to see if these points open when the rod is pulled to the limit of its travel. There should be a gap of about 1/32" when the plunger is fully extended.

If jumping between A and C produces a strong buzzing action, you may assume the bell is okay.