

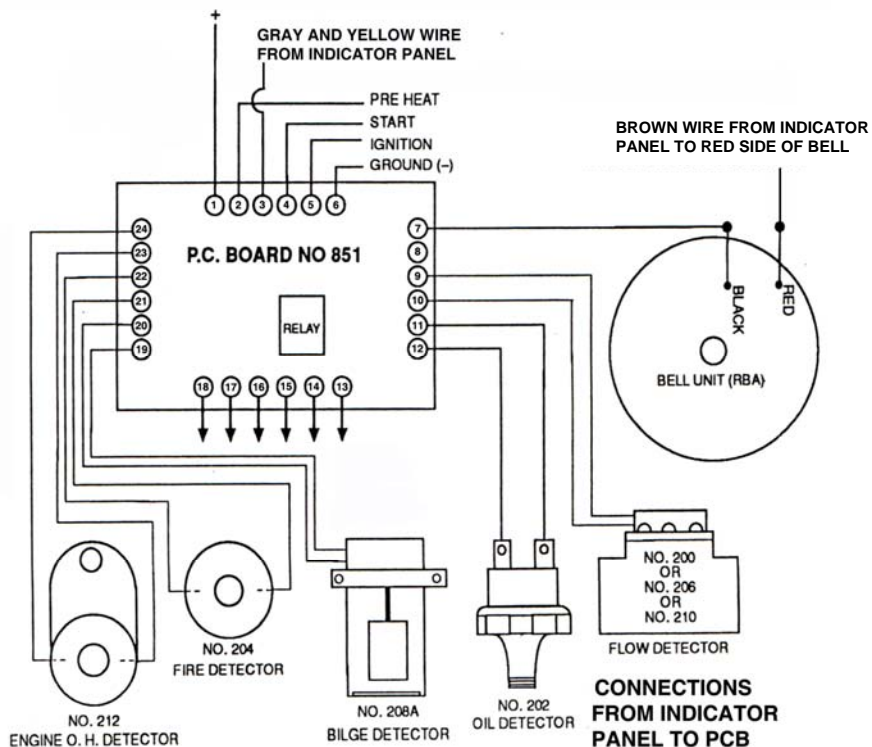
- The nine conductor cable which was supplied wired to the #852 Visual Panel connects along the bottom of the PCB. The black wire is ground and must connect to terminal 15. The red wire connects to terminal 13, the blue wire to 14, the white to 16, the orange wire to 17 and the green to 18. The grey and yellow to terminal 3.

NOTE: TO CONNECT TWO 851 PC BOARDS FOR TWIN ENGINE INSTALLATIONS:

Mount boards side by side 3" or so apart and connect terminals 1 to each other, 3 to one another and 6 to one another. All other connections are to be made as usual, keeping the port engine detectors to the port board and vice-versa. Connect the forward fire and bilge detectors to port PCB and aft fire and bilge to the starboard PCB.

BELL INSTALLATION AND TEST PROCEDURE

- Remove the red dome from the base plate.
- Screw the bell base plate to the bulkhead using #12 round head screws or 3/16" bolts.
- Connect the brown wire from the indicator panel to the red side on the bell. Connect the black side of the bell to ground or to 7 on the PCB.
- Replace the dome on the bell and test as suggested below.
- After making all the PCB connections, you should test the system by using a short piece of wire and jumping between terminal 23 and 24, 21 and 22, and 19 and 20. Each of these should cause the bell to ring and the appropriate indicator light to light.
- Start the engine. The bell should ring briefly after you release the starter button and until the oil pressure comes up and the raw water flow is flowing. You may now test the flow and oil pressure detectors by jumping between 12 and 11 and 10 and 9.



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INSTRUCTIONS

Automatic Systems Monitor with MUTE

ONE YEAR LIMITED WARRANTY

Aqualarm products are warranted for a period of one year 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 instruction and the defect, malfunction or failure was not caused by damage (not result from defect or malfunction) or unreasonable use including failure to provide reasonable and necessary maintenance. Buyer must ship the product prepaid to: Aqualarm 1151 Bay Blvd Ste D, Chula Vista CA 91911. Product will be repaired and returned to Buyer within 30 days of receipt by Seller.

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

No warranty is included against and expense for removal, reinstallation or other consequential damages arising from any defect in this product.

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

DETECTOR INSTALLATION

1. **#202 LOW OIL PRESSURE DETECTOR:** Screw the detector switch into the oil galley of your engine. If there is no spare 1/8" MPT tapped hole, you may remove the existing oil pressure sender and install a 1/8 x 1/8 x 1/8 tee pipe fitting on a short 1/8" pipe nipple in its place. Mount the sender and the #202 detector on the tee. Do not install the tee on a long nipple. Vibration can cause it to break. If space does not permit a short nipple, then install a length of 1/4" soft copper tubing into the oil hole using appropriate fittings and connect the other end of the tubing to the tee with the detectors. Clamp the tee to the engine to prevent vibration. Connect two wires, 18 AWG or 20 AWG, from the detector to terminals 11 and 12 on the #851 PCB.
2. **#204A REMOTE FIRE DETECTOR:** Screw to overhead or high on bulkhead in engine room. Do not install within 12" of the engine. Connect two wires, 18 AWG or 20 AWG, from the detector to terminals 21 and 22 on the #851 PCB.
3. **#212A ENGINE OVERHEAT DETECTOR:** Install the detector into a 1/2" pipe plugged or tapped hole in the heat exchanger or engine block where it will be in contact with the circulating internal cooling water. Connect two wires, 18 AWG or 20 AWG, from the detector to terminals 23 and 24 on the PCB.
4. **#212 ENGINE OVERHEAT DETECTOR:** ***This is an alternative to the #212A:*** Bolt the detector to the engine block, engine head or heat exchanger. Locate an available bolt and remove it and place the #212 over the stud and rebolt. The entire metal plate need not touch the engine, but the portion near the bolt must rest on some flat surface under the bolt head. Remove the black cover and solder two wires to the heat sensors inside. Connect the two wires, 18 AWG or 20 AWG, to terminals 23 and 24 on the PCB.
5. **#208 BILGE WATER LEVEL DETECTOR:** The detector should be fastened to a bulkhead as near centerline as possible and several inches out of the bilge. If you have an automatic bilge pump, be sure the #208 detector is several inches higher than the switch-on point of the bilge switch. Connect two wires, 18 AWG or 20 AWG, to terminals 19 and 20 on the PCB.
6. **#200 (2" FPT) #206 (1-1/2" FPT) #210-306 (1" FPT) COOLING WATER FLOW DETECTORS:** You will need two hose to barb adapters corresponding to the flow detector size and your hose size. Install the flow detectors in the engine raw water circuit anywhere convenient by removing a section of the correct length to allow insertion of the flow detector with proper size hose adapters screwed into it. The ideal location is between the raw water strainer and the engine pump. It can be placed after the engine just before the raw water discharge into the exhaust. Be sure to observe the flow direction arrow. Connect two wires, 18 AWG or 20 AWG to terminals 9 and 10 on the PCB.
The #200 and #206 are adjusted at the factory and do not need further adjustment.

ADJUSTING THE #210-306 (1" FPT). In order to accommodate smaller engines the #210-306 has been re-designed to adjust to varying engine idle speeds. It can be used on 1/2", 3/4", 1", 1 1/4", 1-1/2" applications **NOTE: Identified by the HI/LO label on the flow detector.**
If there is no label, it is not adjustable

AFTER INSTALLATION OF THE FLOW DETECTOR AND AFTER COMPLETION OF ALL PCB, BELL, AND INDICATOR PANEL WIRING:

1. Loosen set screw and move the flow detector's adjustable collar to the **LO** position.
2. Start the engine and let it run at idle RPM
3. Slowly slide the adjustable collar back in the direction of the **HI** position until the alarm sounds and the red light comes on.
4. Slowly slide the adjustable collar back in the direction of the **LO** position until the alarm stops and the light goes out.
5. Tighten set screw - avoid over tightening

1. BELL ALARM UNIT

Choose a dry protected location out of the bilge area, yet accessible

Powerboat

- a. Under the main steering wheel.
- b. In instrument locker near battery switches and breakers
- c. On a bulkhead in the pilot house

Sailing Yacht:

- a. Under companionway ladder
- b. In or near switch panel.
- c. On a bulkhead

2. #851 P.C. CONTROL BOARD (PCB)

Choose an accessible location in or near the engine room, high out of the bilge.

Remember, all detectors wire to this PC Board.

Powerboat

- a. High on the forward engine room bulkhead.
- b. Inside access hatch under main steering column.
- c. Behind instrument panel if access permits.

Sailing Yacht:

- a. High in engine room on a bulkhead
- b. Inside cockpit seat locker near instrument panel. PROTECT FROM SPRAY.
- c. Behind instrument panel if access permits

3. # 852 VISUAL INDICATOR PANEL

Mount where it is visible to the helmsman. It is weatherproof.

Powerboat

- a. On the face of the instrument panel.
- b. On the bulkhead of steering station inside the wheel radius.
- c. On the console of steering station.

Sailing Yacht:

- a. In cockpit of vertical face of seat locker, as high as possible.
- b. On rear face of cabin bulkhead in cockpit.
- c. On steering console if appropriate.

#851 PC BOARD (PCB) INSTALLATION:

1. Orient the board by noticing the position of the relay (black cube). This should be in the lower right portion of the board. With the board so oriented, the upper left terminal will be #1 and the numbers progress clockwise from 1 to 24.
2. Mount the PCB in a high and dry location, usually in the engine room underneath or near the instrument panel.
3. Run two wires from each detector to the PCB (18 AWG or 20 AWG). Connect them as indicated on the schematic.
4. Next, connect the nine wires of the nine conductor cable from the indicator panel. These wires connect to terminals 13 through 18 across the bottom of the PCB. You must observe the color coding. Black must connect to 15 (ground), and others as indicated.
5. The top row of terminals (1-6) are very important. 12 volt power enters the system on terminal #1. Connect as follows.

- | | |
|----------|--|
| Terminal | 1: 12 volt |
| | 2: To preheat switch (if used). |
| | 3: Gray and yellow wire from indicator panel |
| | 4: Start switch (or starter) |
| | 5: Ignition or key switch |
| | 6: Ship's ground (battery -) |

IF YOU HAVE NOT ALREADY INSTALLED THE FIVE DETECTORS, DO SO NOW FOLLOWING THE INSTRUCTIONS ON PAGE TWO.

6. The five detectors each are wired to the PCB with 18 AWG or 20 AWG wire. Each detector wire pair connects to the PCB along either side as specified in the diagram. There is no polarity to observe.