acu·gage

MONITOR SYSTEM

INSTALLATION & OPERATION INSTRUCTIONS FOR

BILGE BUDDY

2 SENSOR, SOLID-STATE BILGE PUMP CONTROL SYSTEM

Pat. Pending.

Congratulations on your purchase!

You have selected the best bilge pump control system available. With proper installation you will enjoy years of reliable and trouble free operation.

SNAKE RIVER ELECTRONICS

1850 North Arthur
Pocatello, ID 83204
1-208-233-7290

You are a valued customer and we look forward to answering any questions you may have regarding the installation or operation of this system.

This manual covers installation, adjustment and usage of our solid state bilge pump control.

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SNAKE RIVER ELECTRONICS
SOLID-STATE BILGE CONTROL SYSTEM

FEATURES/IMPROVEMENTS

This device features a number of improvements over other bilge pump control systems, such as:

- Sensors are solid-state (i.e. They have no moving parts) to prevent debris in the bilge from interferring with proper operation.

- By positioning the 2 sensors within the bilge, the user can set turn on and turn off points for a more complete pump out of bilge contents..

- Pump continues to pump for 5 seconds after bottom or “off” sensor registers dry also for a more complete pump out of bilge.

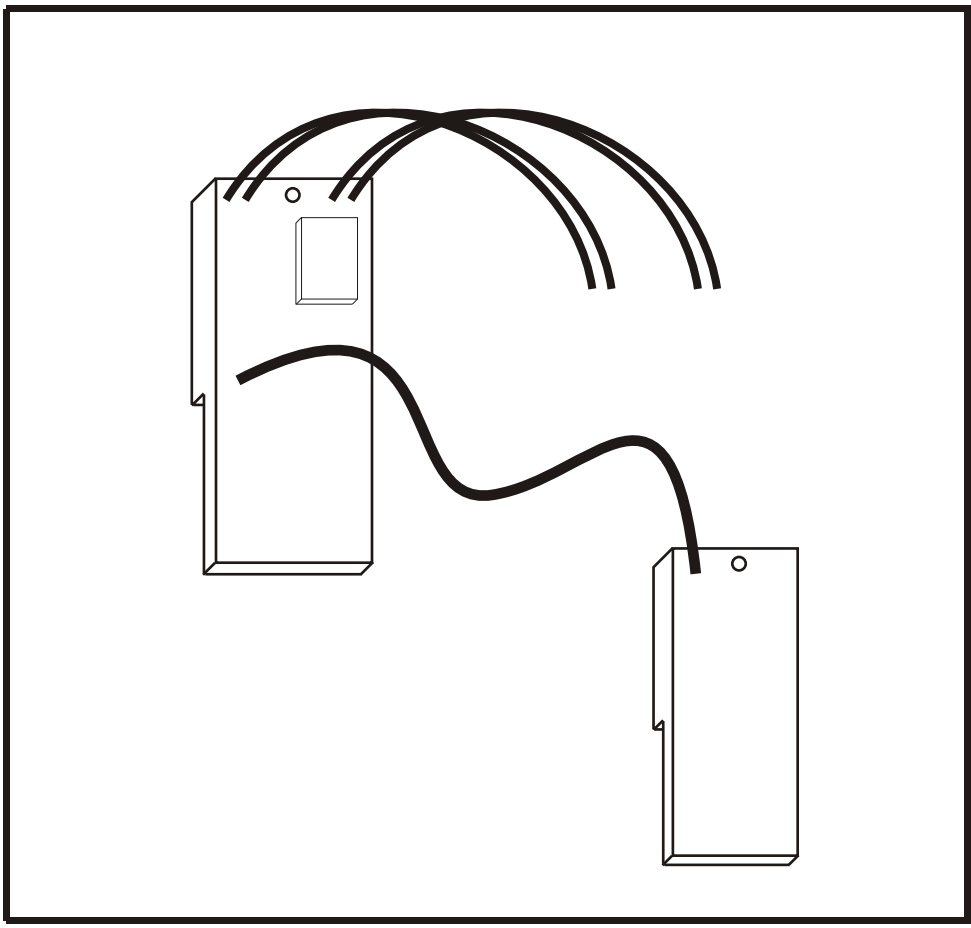
- Separate sensors and pump out delay also prevent pump cycling due to draining of plumbing back into the bilge.

- A pair of LEDs on the control module indicates status and proper operation to user

- Simple installation or retrofit into existing systems.

INSTALLATION GUIDE

This kit contains a 2 part solid-state bilge control system.



2 Part Bilge Pump Control System

YOU WILL NEED TO PROVIDE:

A. Wire nuts to attach to switches or bilge pump.
B. 2 screws to secure control module and sensor.
C. Additional wire may also be required to attach control To switches or pump.

STEP ONE:
Location and Installation of Control and Sensor Modules

NOTE: READ CAREFULLY

This bilge pump control system is a 2 part device. The larger of the 2 parts is the control module which contains the relay, power supply, top sensor, and controller which makes the system operate. This modules sensor is used to determine when the bilge is full and to activate the bilge pump. The smaller part is the bottom sensor which is used to determine when the bilge is empty and to de-activate the pump.

The larger part is to be installed such that the desired top water line comes about halfway up on the thinner section of the module; the smaller device is to be installed such that the desired bottom water line comes about halfway up on the thinner section of the module. It is these thinner sections of each module which contain the sensor elements which detect the presence of water.

Position each part against a suitable surface with the wires facing outward and secure in place with a screw through the hole in the top of the module. Orient each module with the wires at the top of each module (i.e. Thin sensor section of each will face downward).

Refer to Figure 1:

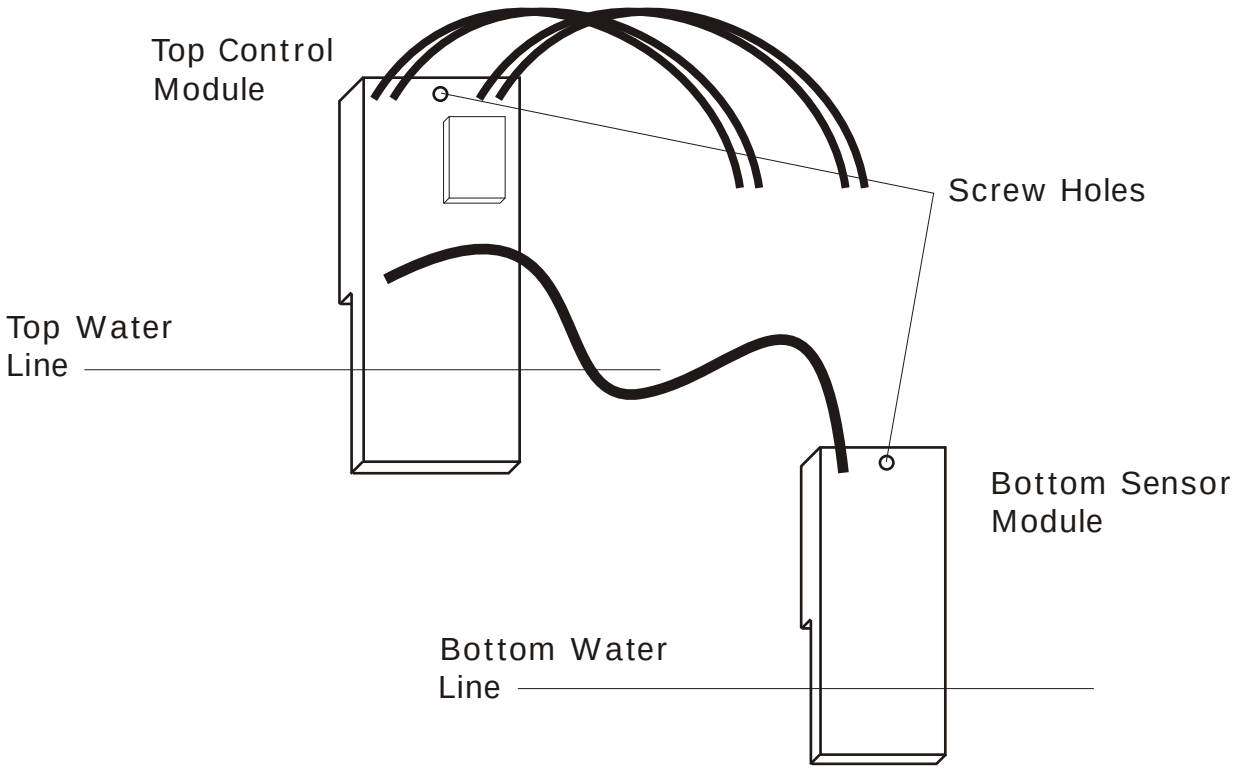


Figure 1

STEP TWO:
Control and Pump Wiring

NOTE: READ CAREFULLY. DO NOT use staples or nails to secure wiring. Route wires so they do not interfere with storage areas and are away from potential sources of heat (oven, exhaust pipes, etc.). Due to the vast range of application possibilities it is not practical for us to include hookup wire in the kit. It is, however, commonly available and inexpensive. Use 14 gauge stranded wire for making pump connections.

The hookup wire is used to make connections to a 12 volt DC power source, for connecting the controller to the bilge pump, and making connections between the controller and control switch (if used, not supplied with this device). After studying the wiring installation procedures, cut the hookup wires to required lengths, strip the insulation off all wire ends approximately 1/4" and use appropriately sized wire nuts to join wires.

Figure #2 below shows the electrical connections required for fully automatic operation of your bilge controller.

See following page for selector switch wiring and high current pump switching modifications.

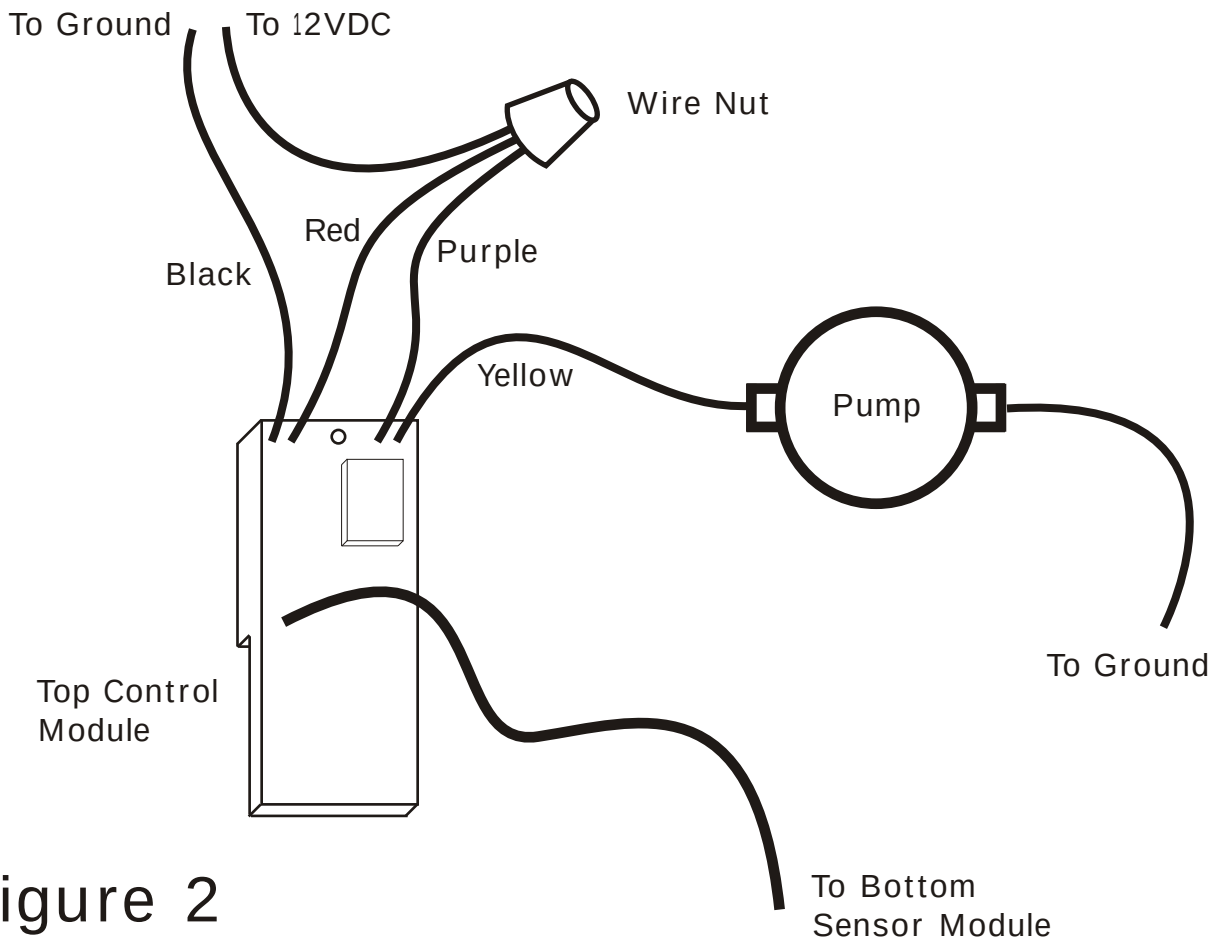


Figure 2

Higher Current Modifications
& Switch Installation Instructions

The relay installed on our controller module is rated for a load of 7A. If your bilge pump requires greater than 7A you can use a 30A external relay to switch the pump on and off. Refer to Figure 3 below, it is a diagram for hooking up this external relay. These relays are available at many automotive parts stores and are commonly used for auxiliary lighting.

If you wish to install an on/off switch you can do so by switching the power wire used to power the control module. The relay on the control board defaults to "off" when no power is applied.

If you are attaching this to an off/on/auto selector switch you can do so by installing this switch on the yellow wire leading to the pump or to the external high current relay. Refer to instructions you get with your switch for further proper installation guidelines.

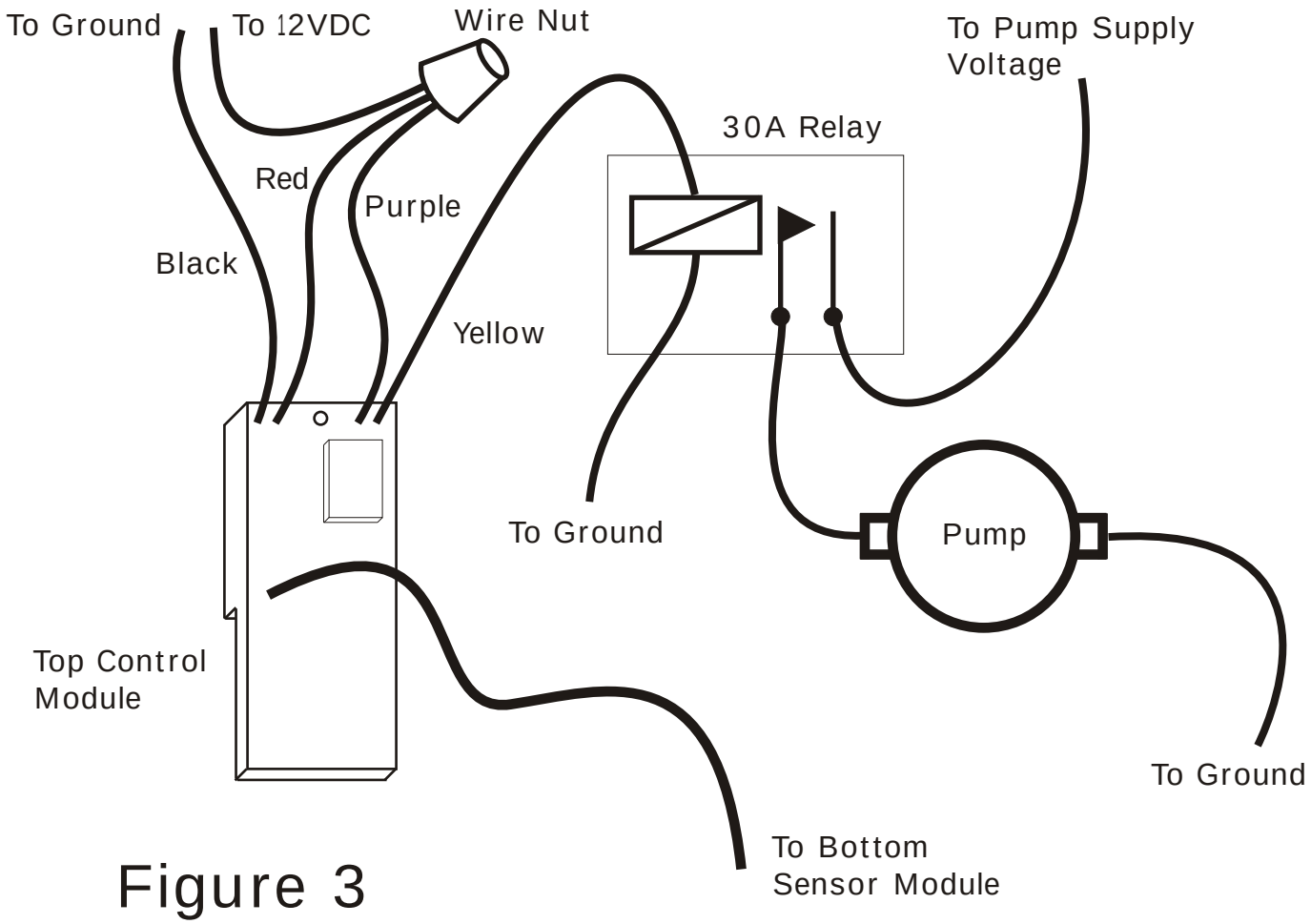


Figure 3

Operation

This device will activate the bilge pump when the top sensor detects water. It continues pumping until the bottom sensor returns a dry reading; at that time it begins a 5 second timer after which time it turns the pump off.

You will observe 2 LEDs on the top controller portion of the device. The Top LED flashes at a regular interval. Each time this LED blinks the microcontroller has read both sensors. The bottom LED indicates the status of the pump; when the LED is lit the controller has detected water on the top sensor and has turned on the pump. When the system registers a dry bottom sensor the bottom LED will blink for about 5 seconds. This is the delay which further drains out the bilge below the bottom sensor. During this time the top LED does not blink as the sensors are not being updated.

After a pump out cycle has completed the top LED will begin to blink again indicating that the sensors are updating again.

When the system is first turned on it will begin a pump out cycle if water is detected on the bottom sensor. After this initial cycle the system will not pump out until water is detected on the top sensor.

LIMITED WARRANTY

Snake River Electronics warrants this product to be free from defects in material and workmanship under normal use for a period of one year from the date of purchase. This includes the replacement of parts and the labor involved to repair or replace the part.

This warranty is valid for the original retail purchaser and is NOT TRANSFERABLE. Keep original sales receipt and validate warranty by filling out and returning the enclosed warranty registration card. Proof of purchase is required to obtain warranty.

This warranty does not cover damages resulting from accident, misuse, abuse, improper installation, or lack of reasonable care. If the product was damaged in transit, file a claim with the carrier.

Snake River Electronics is not responsible for incidental or consequential damages resulting from installation or use of product.

Except as provided above, no warranty or affirmation of fact, expressed or implied, is made or authorized by Snake River Electronics and Snake River Electronics' liability in all events is limited to the purchase price.

This warranty gives purchasers specific legal rights. Purchasers may also have rights which vary from state to state. Certain aspects of disclaimers are not applicable to consumer products; e.g. (A) Some states do not allow the exclusion of limitation of accidental or consequential damages, so the above limitation or exclusion may not apply to you, (B) Also, some states do not allow the exclusion or limitations on how long an implied warranty lasts, consequently the above limitation may not apply to you; and copyright by law, during the period of this warranty, any implied warranties or merchantability of fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION: Snake River Electronics will make a good faith effort for prompt correction or other adjustments with respect to any Acugage Monitor System which proves to be defective within warranty.

WARRANTY PROCEDURE: Should you discover a defect in the Acugage Monitor System during the warranty period, YOU MUST FIRST CONTACT SNAKE RIVER ELECTRONICS AT 208-233-7290. At our discretion we will request the part be sent to us or we may direct you to the nearest authorized service center for repair. Parts returned to Snake River Electronics must be postage paid, and include check or money order for $7.00 to cover the cost of return shipping and handling. RETURN TO: Snake River Electronics, 1850 North Arthur Pocatello, ID 83204.