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Patent Pending GB2445790A

## Whale Watermaster System

We have the pleasure of introducing a completely new self-calibrating pressure switch designed to control the submersible water pumps fitted to most caravans and some motor homes.

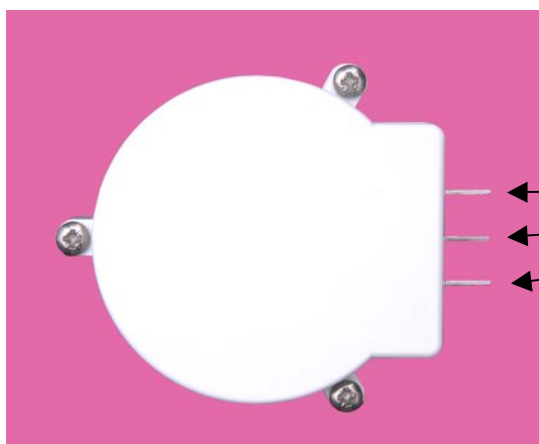
The new unit is an in line adaptive system which measures the performance of the pump and constantly adjusts the start and stop pressures to suit the pump and battery voltage. Furthermore if the water container runs dry the pump is stopped after a short time, and the unit locks out to prevent damage to the pump until the water is refilled. There are no adjustments to be made.

All the old problems of existing pressure switches have been overcome and there are no cases of “pump chatter” or “pump run on” due to incorrect adjustment or low voltage. The unit switches the pump on and off without fuss and almost silently.

Electrical connections need to be made to the + 12 volt pump feed and - volts.



Units are normally supplied with 12 mm push in pipe fittings plus 12 mm hose tails for use where flexible hoses are to be used. 15 mm push in pipe fittings can be supplied as an alternative but hose tails of this size must be purchased separately if required.



+12 Volt supply  
+12 Volt feed to pump(orange wire supplied)  
— (black wire supplied)

## Installation

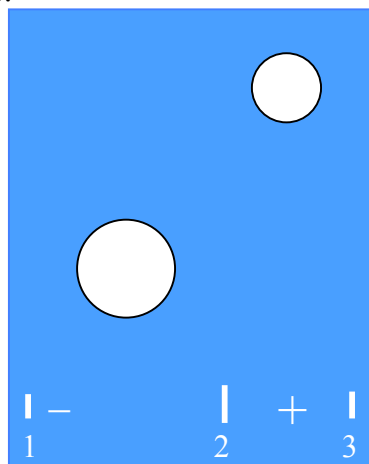
Switch off power to the water pump, then drain the water system. Choose a suitable position to site the unit as close to the water inlet as practical. If 12 mm pipework has been used cut the plastic water feed pipe using a sharp Stanley knife or a similar tool, taking care to cut the ends of the pipe reasonably square. Now push the pipe ends into the “T” piece which is part of the new unit making sure the pipes are pushed fully home. (The pipe should push approximately 24mm into the `T`) If 3/8” flexible hoses have been used push the plain end of the supplied hose tails into the “T” and fit the hoses using a retaining clip. The flow direction does not matter.

- 1) Screw the pressure adjusting nut fully clockwise but do not force. This now has no function, but it will prevent the unit clicking as the pump is being controlled by the new switch.
- 2) Remove the female connector from terminal 2 on the pump housing and connect to the spare male spade connector on the new pressure switch. (12 volt supply)
- 3) Remove the female connector from terminal 1 on the pump housing and connect to the male spade on the end of the new black wire. Connect the adjacent female connector to terminal 1.
- 4) Remove the female connector from terminal 3 on the pump housing and connect to the male spade on the end of the long orange wire. Connect the adjacent female connector to terminal 3

The wiring is now complete.

### **NOTE**

As with all plumbing products water must not remain in the unit at temperatures below freezing. Depending on pipe runs, experience has shown that water sometimes becomes trapped when the system is drained, so we would always recommend that the product is removed to a warm place for winter storage. If it is not possible to stand the switch up as in the picture on page 1 operation will not be affected but water **WILL** enter the sensor and may freeze in winter causing damage. In this case it is imperative that the unit is removed for winter storage.



Watermaster viewed from inside caravan

### **Commissioning**

Now this is the easy bit. Switch the water pump on, then prime the system as usual by opening the hot water tap until all the air is expelled. Now close the tap and leave the unit to adjust itself to your water system. The pump should not run for more than a further 30 seconds but probably less. In normal use the pump will run for approximately seven seconds after the tap is shut. Finally if the pump starts and stops repeatedly it is probably due to a leak, or a faulty non-return valve on the inlet housing. If the latter the valve should be cleaned .

Should the unit lock out due to running out of water refill the Aquaroll then using the pump switch break power to the pump for approximately three seconds before switching on again

### **PLEASE NOTE**

The dry run protection (water container empty) only becomes operative three minutes after the unit has been switched on so please ensure the Aquaroll contains water before switching on or resetting the system. From then on the pump will be stopped if pressure is too low for a period of ten seconds. If the supply voltage to the unit falls suddenly (for example if the mains charger is disconnected) the pump may run for thirty seconds after running a tap before adjusting to the new lower pressure.