

THE PROBLEM:

Recent interest in damage done to boats due to the 230V shore mains has highlighted the need to fit a galvanic isolator to your boat. In order for modern boat builders to comply with modern CE standards such as EN ISO 13297 they must fit the shore earth wire to your boats bonding system which is also connected to the hull / anodes / fuel tanks / engine blocks / shafts / propellers / stern tubes / rudders / rudder glands / water intakes / etc. This ensures that any 230V mains faults will operate the R.C.D on the boat in order to save your life.

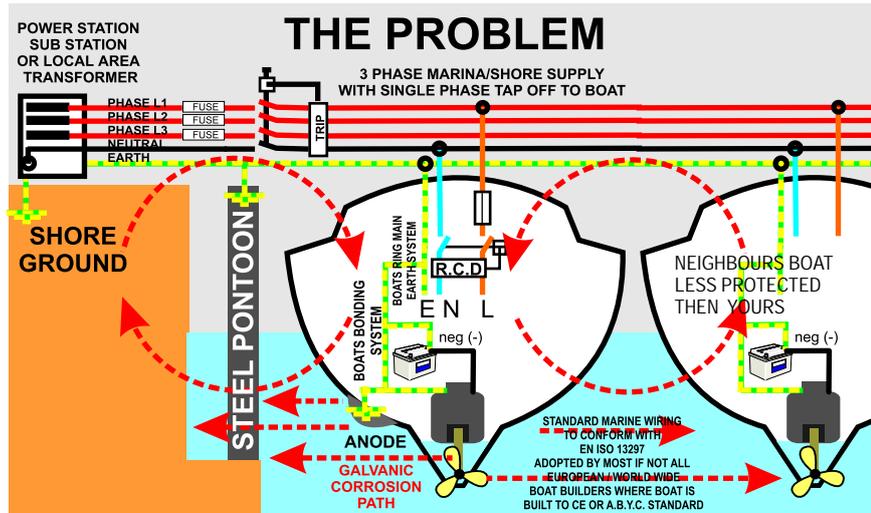
The down side of these standards is that electrically speaking your boat is now connected to the rest of the boats in the marina and any other metal structures in the area. Electrically speaking they become one and the same. If you follow the earth line you can see everything bonded to the earth, this includes your boat, the one next to you, metal work etc.

This results in two main problems.

1) Any earth problem on any boat or shore earth will increase the voltage in the common earth cable and dissolve - adversely affecting your boat by dissolving your anodes at an alarming rate (this could result in the total loss of all the metal on the boat below the waterline)

2) Because all the boats are now one, if you have a zinc anode on your boat, but the boat beside you does not or even worse, the marina has not put anodes on its structures (metal pontoons etc) then your boat's zinc (or aluminium / magnesium) will protect all the structures and boats around you, resulting in dramatic zinc loss and expensive lift-outs to replace the zinc. For boats on inland waterways, if you have a magnesium anode and everyone else has zinc or no anodes at all, your magnesium anode will protect all.

ProSave



THE SOLUTION:

The trick is to maintain the continuity with the earth to ensure the safety of your life but remove the continuity with the shore power for the safety of your boat. The solution is very simple. By installing a Galvanic Isolator / Zinc Saver we maintain a good earth link with the shore, but prevent any stray currents coming up the earth line and damaging the boat. The isolator is in theory a simple device but it has to be built to a stringent specification and tested by an independent test house to ensure they comply with the relevant standards, be it the less stringent CE standard or the more stringent American Boating and Yachting Council standard. This means in a major fault condition it can carry its rated current for 24 hours without exceeding 90 deg C on the heat sink.

The Galvanic Isolator has the following extra features:

TOTAL PROTECTION:

Recent upgrades in the new A.B.Y.C. have removed the need for a monitoring system on the zinc saver as long as, if the unit was to fail (which in the excess of 500,000 of the older version sold with 0% failure rate), the internal devices must fail in such a way as to continue to ensure the safe connection of the earth circuit. Having spent a lot of money on a new mono silicon block to ensure the unit will perform as per the new specification and many hrs testing by UL laboratories, the new Pro Save FS (see next page) is now fully certified as a fail safe device and as such no longer needs any monitoring system. This ensures a simpler and lower installation cost for this new product.

ProSave A

By far the most common used device in Europe, complies with all the requirements, and is also low cost and very effective.

16-30-50 amp (European) 16 amp version

Galvanic Isolators / zinc savers Standard euro version			
Amps	Size mm	Weight kg	Part nos
16	120 x 100 x 90	1.0	ZS16A
30	220 x 120 x 100	1.5	ZS30A
50	220 x 165 x 100	1.8	ZS50A

Suitable for use in Europe and the rest of the world except the U.S.A if ABYC compliance is required.

ProSave C

Looks the same as the Pro Save A except has an internal 25,000 uF 2.5 V capacitor to raise the performance of the unit in extreme A/C leakage conditions.

30-50 amp (European)

INTERNALLY INSTALLED
25,000 uF
2.5v

Galvanic Isolators / zinc savers standard euro version with Cap			
Amps	Size mm	Weight kg	Part nos
30	220 x 120 x 100	1.5	ZS30C
50	220 x 165 x 100	1.8	ZS50C

