



## DC-POWERCONVERSION

### ISOLATION TRANSFORMER

The Isolation transformer is meant to eliminate any electrical continuity between AC shore power and the boat. It is very essential for your safety and eliminates the need for galvanic isolation and polarity alarms.

Safety is a must on your boat and that will result in the CE standard (ENISO 13297) which has to be met to get your installation safe by using the isolation transformer you are on the right track.

Galvanic corrosion occurs when two dissimilar metals in electrical contact are simultaneously exposed to an electrically conducting fluid. Seawater and, to a lesser extent, fresh water are such fluids. Generally speaking, the more active alloy of the couple corrodes preferentially while the less active (more noble) material is cathodically protected. The rate of galvanic corrosion is a function of several variables including area ratios, conductivity of the fluid, temperature nature of materials etc.

It is a fairy-tale that galvanic corrosion only occurs in metal and aluminium hulls. In fact it can occur on any boat as soon as a metal part (shaft and propeller) is in contact with water. The corrosion will quickly dissolve your zinc anodes and attack the shaft, propeller, and other metal parts in contact with the water as soon as the boat is connected to the AC shore.

It will not be a good idea to disconnect the ground conductor, as a matter of fact it will be dangerous to do that because the Ground Fault Current Interrupter (GFCI) will not work nor will a fuse blow in case of a short circuit to a metal part of the boat.

To keep you away from all these problems, it will be wise to install an isolation transformer on your boat; it will avoid galvanic corrosion and at the same time it will prevent any unsafe situation on board.

The isolation transformer eliminates any electrical continuity between the AC shore power and the boat. The shore power is fed to the primary side of the transformer and the ship is connected to the secondary. The isolation transformer completely isolates the boat from the shore ground. By connecting all metal parts to the neutral output of the secondary side of the transformer, a GFCI will trip or a fuse will blow in case of short circuit.

Soft start is standard on the Unitek IT 3600. It will prevent that the fuse of the AC shore power will be blown due to the inrush current of the transformer which could happen.

Attention. For optimal safety it will be wise to connect the secondary neutral of the transformer to ground when the boat is out of the water.

Input Voltage	230/115 Vac
Output Voltage	230/115 Vac
Frequency	50/60HZ
Softstart	Yes
Transformer Type	Ring Core
Build in fuse	No
On/Off Switch	Yes
Dimensions	155x310x385 mm (LxWxH)
Weight	29 Kgs



UNITEK® Isolation transformer