

# ENERGY SOLUTIONS

## ES TANK MAPPING INTERFACE



Image courtesy of Fairline Boats Limited

ES TANK MAPPING INTERFACE - consistently accurate readings

The ES Tank Mapping Interface allows clients to gain accurate data about the level of liquid left in their tanks irrespective of angle, tilt or stability of the vessel or vehicle.

POWER AT YOUR CONTROL

# ES TANK MAPPING INTERFACE

The ES Tank Mapping Interface allows clients to gain accurate data about the level of fuel left in their tank irrespective of angle, tilt or stability of the vessel or vehicle.

By giving an accurate fuel reading it allows owners to make clear judgements on re-fuelling, speeds and economy, meaning less time returning to harbour to refuel and increased cruising/driving time due to better knowledge of fuel consumption.

**It can be used in any onboard tank and the software not only computes variations in angle and tilt, it can also calculate for unusual tank shapes ie. tapered tanks.**

The Tank Interface incorporates a 3 axis interface chip that allows the device to monitor the attitude of the vessel. A 0-10 volt signal from a standard Energy Solutions Tank Sender feeds tank level information into the interface box. The interface box then calculates the precise tank contents based upon tank shape, liquid level and angle.

The information in the Tank Interface is calculated from specialised 3D modelling for each fuel tank design. Using Computational Fluid Dynamics (CFD), Energy Solutions map the tank contents which then provide the basis for the reading from each tank design.

### Outputs from the ES Tank Mapping Interface

The Tank Interface takes an input from an Energy Solutions' 0-10 volt tank sender and outputs 3 data outputs:

1. An uncorrected output direct from the tank sender, this will principally be used for calibrating the sender.

2. A corrected 0-10 volt output that accurately details tank contents, with 0 volt being empty and 10 volt being full. This output can be displayed on a simple analogue or digital metre or used as an input into a PLC.
3. RS232 data stream with the corrected tank contents data allowing information to be fed into PC based systems.

### In Practice..

The fuel tank on a powerboat may be level when the boat is at rest, but inclined up at the front when the boat is on the plane, it may also be an unusual shape. To avoid fuel starvation the fuel take off point is generally at the rear of the tank. A sender located at the take off point will over read when the tank is inclined as the fuel level at the rear of the tank increases. A fuel sender placed elsewhere in the tank may minimise this problem but records an empty tank prematurely.

By placing the Tank Sender in this example at the rear of the tank (the fuel take off point), and monitoring the angle of the tank, the system can correctly calculate the true tank contents. The tank angle is calculated in full 3D by an integral 3-axis sensor chip.

### Tank Design Charges

There is a one off charge for each fuel tank design. After this the ES Tank Mapping Interfaces can be manufactured in any volume at a unit cost.

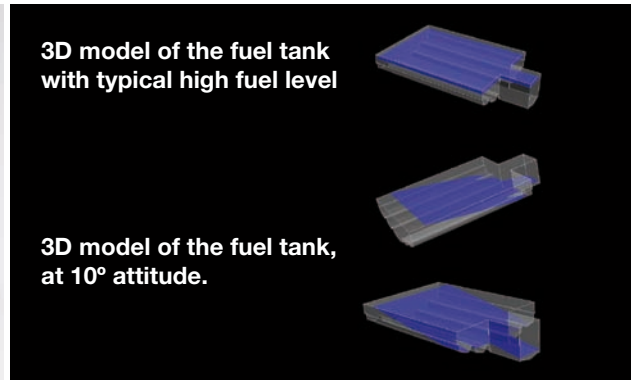
ES Tank Sender



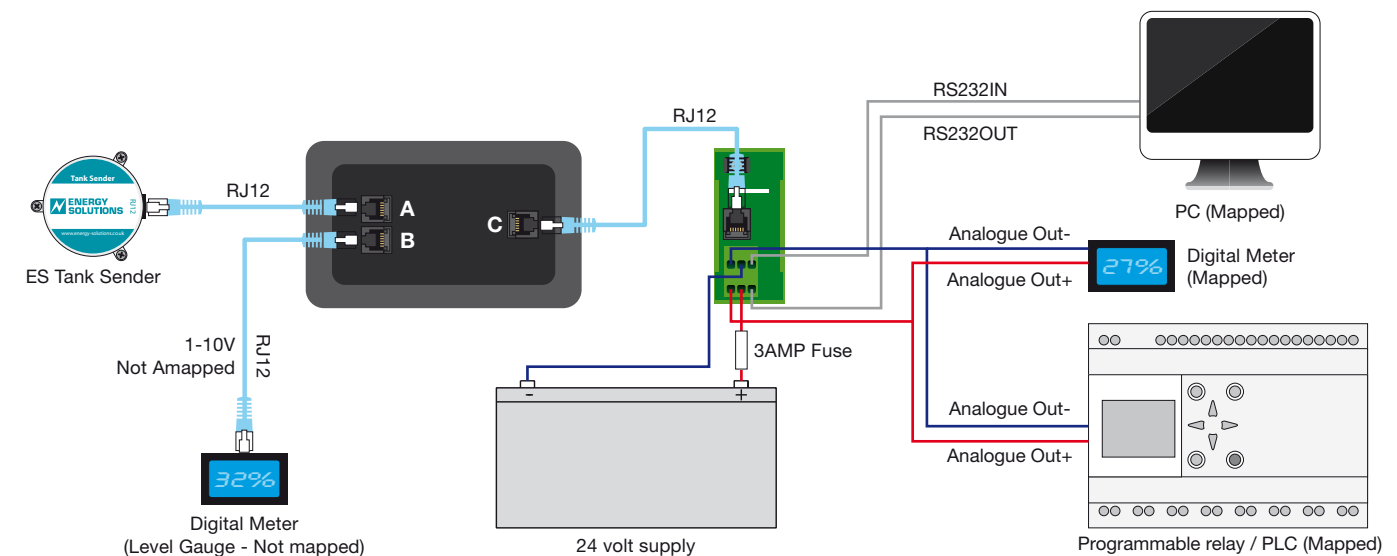
ES Tank Mapper



Tank Modelling



ES Tank Mapping Interface System



Please contact Energy Solutions for further information and order details.