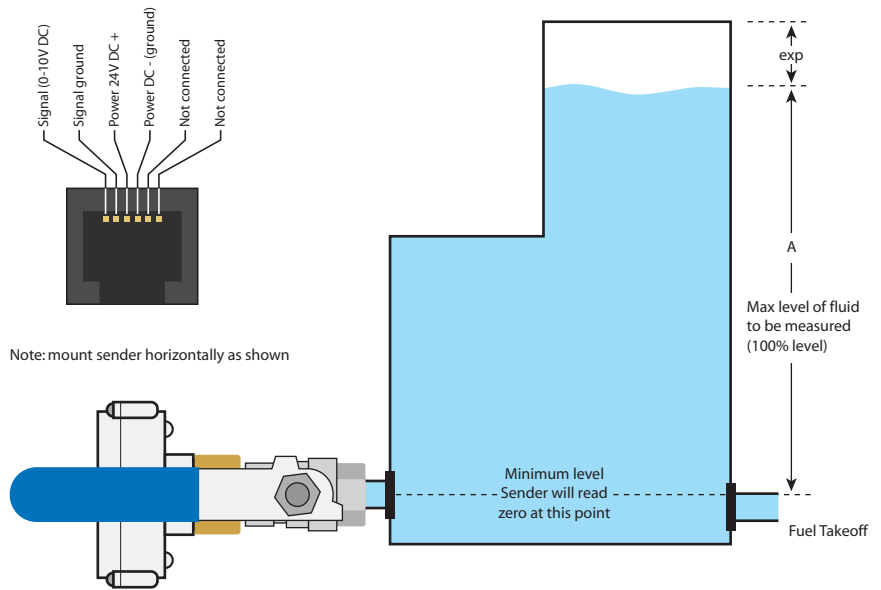
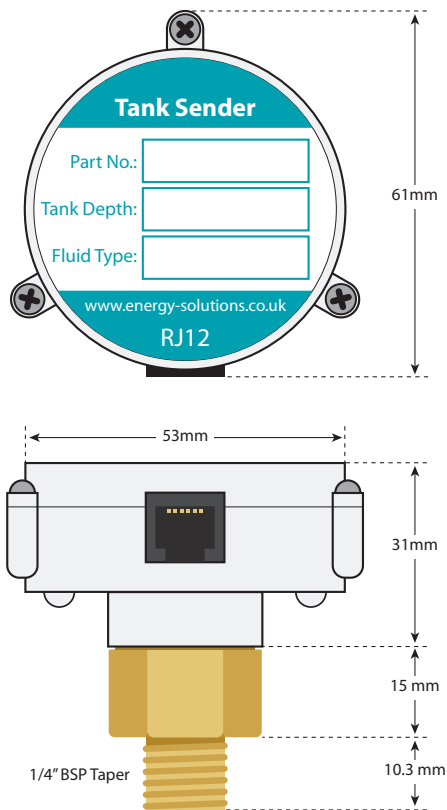


## ORDER FORM FOR FUEL SENDERS - BOTTOM



Note: mount sender horizontally as shown

Fuel sender should be mounted horizontally and located at same level as fuel takeoff (or slightly higher to allow a reserve). We suggest fitting the sender into a suitable ball valve so the sender can be removed for service.

**Expansion:**  
Allow at least 50mm at the top of tank for expansion and to prevent over filling.

**Breather:**  
Avoid "U" bend in the breather as any trapped diesel will affect reading. (See next page)

## GENERAL INFORMATION

These senders are suitable for measuring diesel tanks. They use a precision pressure transducer to generate a 0 - 10V DC output that is proportional to tank contents. This output can be used to drive a digital or analogue tank contents gauge directly, feed a PLC or computer or drive a 4 - 20 mA gauge via an interface unit. The sender requires a 24V DC nominal power supply. A 12V DC version is available as special order.

## TO ORDER - Please complete the form below using one order sheet for each size of sender required.

Name:	<input type="text"/>	Company:	<input type="text"/>	Quantity:	<input type="text"/>
Address:	<input type="text"/>			Dim A:	<input type="text"/>
Tel:	<input type="text"/>	Fax:	<input type="text"/>	Exp:	<input type="text"/>
				Customer part number (if known)	<input type="text"/>

# INSTALLATION INSTRUCTIONS - FOR FUEL SENDERS - BOTTOM

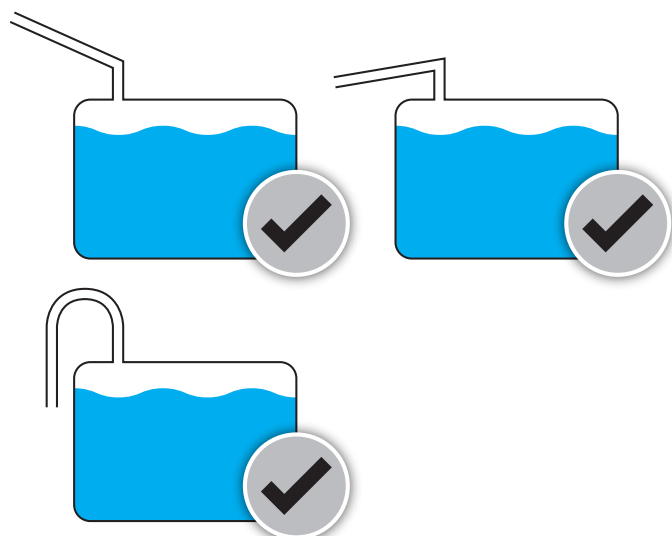
## TANK BREATHERS

The Energy Solutions Tank Sensor uses a sensitive pressure transducer to measure the depth of fluid. It will measure empty when the fluid reaches the bottom of the sender.

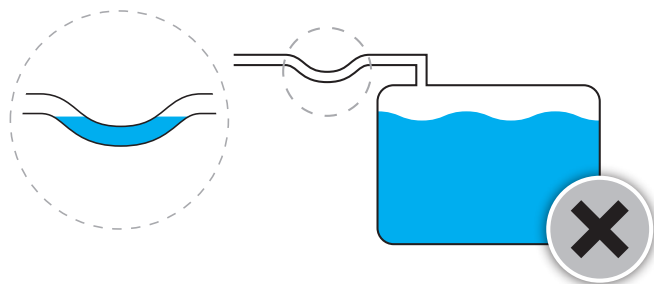
The tank must have a correctly installed breather to allow the tank sender to work correctly. Any water trap in the breather pipe will allow a pressure build up or a vacuum build up when filling or emptying. This will effect the reading of the sender and introduce an inaccuracy.

If the tank can be filled or emptied at high speed the breather pipe must be sized to suit.

**Correctly installed breather** - no water trap in the breather pipe



**Incorrectly installed breather** - water trap in the breather pipe



## MECHANICAL FITTING OF SENDER

Ideally it should be fitted at least 50mm above the bottom of the tank. This unit **MUST** only be fitted to a threaded 1/4" BSP female bush. It is important that a shut off valve is fitted in-line to the unit to facilitate removal, should this become necessary in the future.

Before assembly ensure all threads are clean and free of grease then assemble using a good quality jointing compound.

**Ensure that the shut off valve is open before FINALLY tightening the unit into the shut off valve, so as not to damage the sensor due to overpressure.**

## CALIBRATION PROCEDURE

This section should not be needed unless the tank depth has been wrongly specified. Please consult us if in doubt.

### Procedure - fine tuning

With the fuel tank full proceed as follows. Please note the main scale of the gauge is heavily damped, causing it to only move slowly, so changes need to be made gradually.

Turn the 'Adjust full' control slowly anti-clockwise until it goes below 100% (or 10v DC if measuring with a volt meter).

Then turn slowly clockwise until it just shows 100%.

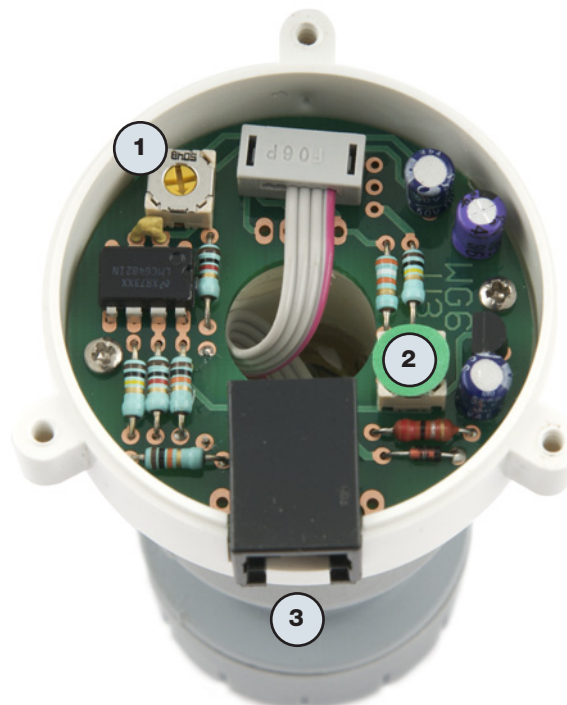
### Significant adjustments

If a significant adjustment has been made on the full reading then the zero **may** need to be calibrated as well.

This is a factory adjustment only. Please contact Energy Solutions if your sender needs re-calibration.

### Finally

Fit the lid using the three screws provided. Your unit is now fully operational.



- 1 Adjust full control
- 2 Adjust zero control
- 3 RJ12 connector