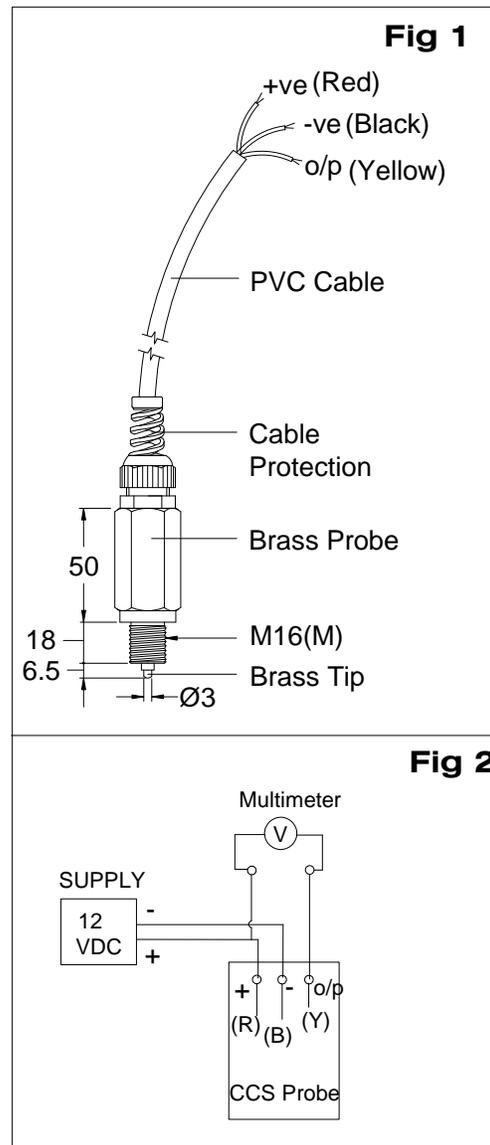


## Techtrol Conductivity Contamination Sensor 'CCS'

The sensor consists of a brass probe, housing integral electronics that generates an ac voltage at its brass tip. On detecting the presence of water or any other conductive liquid, the circuit is completed, to initiate a change in the condition of transistor output.

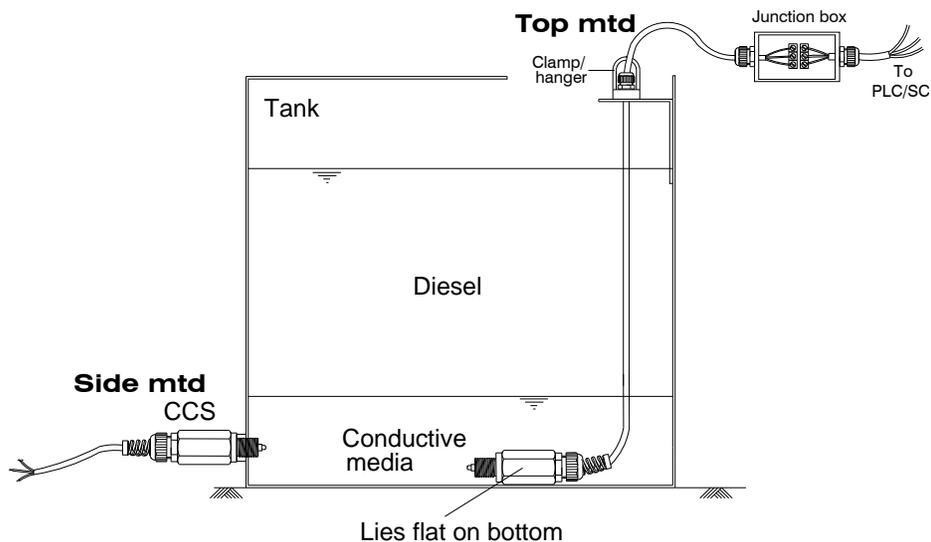
### Pre Installation Check :

1. Visually examine the sensor for any physical damage or breakage of cable.
2. Colour code of cable wires -  
+ve= Red , -ve = Black & O/P =Yellow.
3. Connect 12 VDC supply between +ve and -ve wires.
4. Take diesel in a container and add water to it.
5. Water will settle at the bottom (high density) with diesel (low density) floating on it
6. Set multimeter on 'voltage' range & connect it across +ve and o/p wires (fig 2).
7. Dip probe in diesel & observe that o/p voltage = 0. Lower the sensor further such that its tip along with partial probe dips in water and observe the voltage between 10.5 to 11.5VDC on multimeter. This establishes that sensor is performing as required and has detected the presence of conductive liquid in diesel.
8. Now probe is ready for installation.



**Installation : (Fig 3)**

CCS can be 1) Top installed 2) Side installed on the tank .



**Fig 3**

**1. Top installation:**

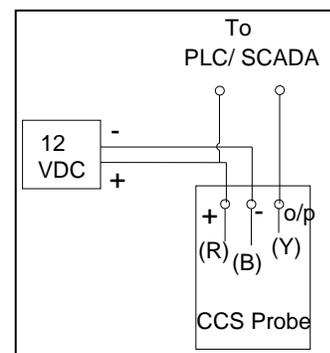
- a) Lower the sensor probe inside the tank and submerge it in the liquid such that its probe body lies flat at the bottom.
- b) Suspend a probe through a cable gland fitted on clamp and terminate its wire at an appropriate junction box for further connections to PLC/SCADA.

**2. Side installation:**

- a) Locate mounting position of the probe where the conductive liquid is likely to be present.
- b) Probe is provided with screwed connection and is fitted on side of the tank.

**Termination and Wiring :**

1. While wiring, ensure power supply of sensor is OFF.
2. 12VDC supply (individual or thru PLC) is connected to +ve & -ve terminals of sensor and o/p can be connected to PLC or SCADA.



**Fig 4**

### Precautions:

1. Ensure that wire is not sharply bent any point during installation.
2. Ensure mounting of the probe is such that its tip along with partial probe comes in contact with conductive liquid.
3. Before switching on the supply, ensure wiring is correct.
4. Ensure that operating temperature and pressure does not exceed the specified limits.

### Preventive Maintenance:

1. During maintenance, switch off the supply to the sensor.
2. Check for loose terminations and tighten if necessary.
3. Swipe the probe tip periodically with soft cloth/brush. Do not use hard wire brush.

### Troubleshooting:

SL	Fault	Cause	Remedy
1.	No output	1. Incorrect polarity. 2. Loose connections 3. Wrong installation	1. Correct wiring polarity (fig 4) 2. Tighten them. 3. Correct installation to ensure that probe & its tip comes in contact with conductive liquid
2.	Incorrect output	1. Incorrect supply 2. Sensor failure	1. Ensure supply is 12VDC 2. Replace sensor.

MAN/CCS/REV 00/12-14