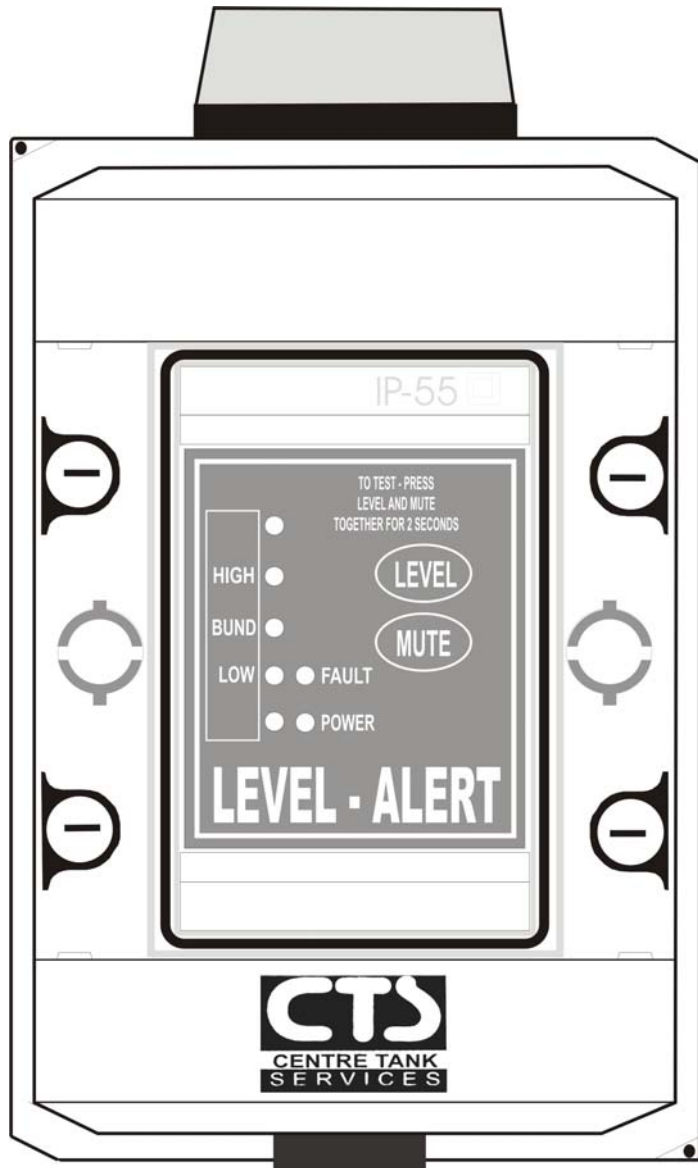


# Mains Operated Alarm



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**⚠ WARNING: Electricity Can Kill**

Before connecting the alarm  
**always** disconnect the supply at the consumer unit.  
 If in **any** doubt consult a qualified electrician.

## Technical Specifications

<b>Enclosure</b>	
Dimensions (L x H x D)	145 x 242 x 110 (mm)
Colour	Light Grey RAL 7035
IP Rating	IP 55
Material	Polycarbonate
<b>Float</b>	
Material	Nylon
Specific Gravity	0.70
Operating Temperature	-30° C to +70° C
Cap Mounting Thread	1.5" BSP
Cable Length	5 metres
<b>Sounder</b>	
Frequency	2600 Hz
Sound Output @12V	90 dB
Supply Voltage (A.C.)	240v or 110v
Supply Voltage (D.C.)	24v or 12v



Centre Tank Services Ltd, Unit 41, Minworth Industrial Park,  
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## Mounting and Basic Installation

**This alarm is designed to be installed in exposed locations. Care must be taken at all times to ensure that the front panel integral seal is not damaged resulting in water ingress.**

1. Remove the Perspex door. Open the door by turning the white tab 90° anticlockwise.
2. Remove the front panel by turning the four plastic screws anticlockwise half a turn.
3. When all four screw slots are vertical the front panel can be lifted free from its base. **(N.B. Do not allow the front panel to hang unsupported on its cables.)**
4. Carefully drill out the four mounting holes in the base.
5. Use the holes as a template to mark the mounting surface.
6. Cable entry grommets must be positioned at the bottom.
7. Screw the base to the mounting surface and insert the four sealing caps into the screw recesses to prevent water ingress. **(N.B. When mounting ensure the base is flat and not distorted as this may result in water ingress.)**
8. Pass the sensor probe cable through the grommet and connect to the probe screw terminal. Repeat the procedure for the second probe. (See page 10 for more detail.)
9. Ensure the power supply is not live then connect the power cable. (See page 9 for more detail.)
10. Refit the front panel and door, ensuring that all integral seals are undamaged.

## Setting Up The Alarm

### Preliminary Checks

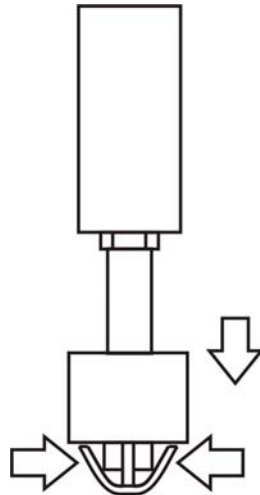
Now the alarm has been successfully mounted it is worth doing a few preliminary checks to ensure that the installation will run smoothly. It is particularly important to check the probe as errors found after installation are much more time-consuming.

#### Checking the probe

Before installing the probe sensors in the tank, manually move the float.

On the Overfill and Bund probes the alarm should sound and the correct lamp illuminate when the float is moved to the top of its shaft.

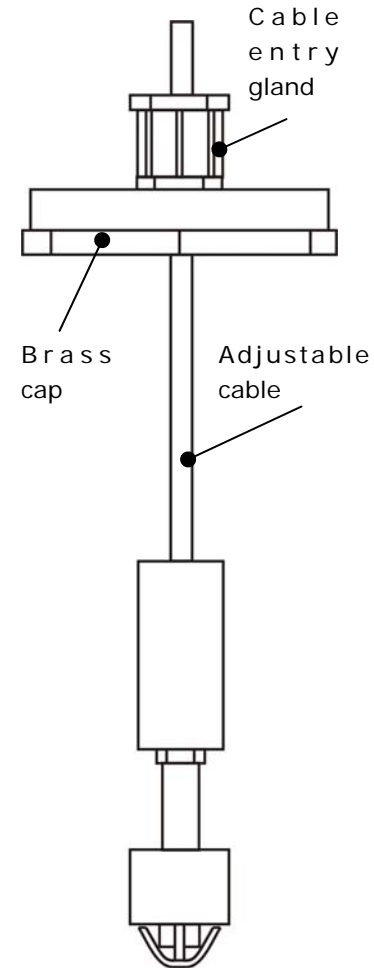
The Low level probe should sound when the float is positioned at the bottom of the shaft.



If on the Overfill or Bund the alarm sounds when the float moves to the bottom of the shaft or if the low level float sounds at the top of the shaft then remove the float by pushing in the sides of the float stop (see diagram). Next rotate the float through 180° and simply push it back onto the shaft.

## Setting Up The Alarm

### Probe Positioning



The position of the float can be adjusted to the required height by loosening the cable entry gland on the brass cap.

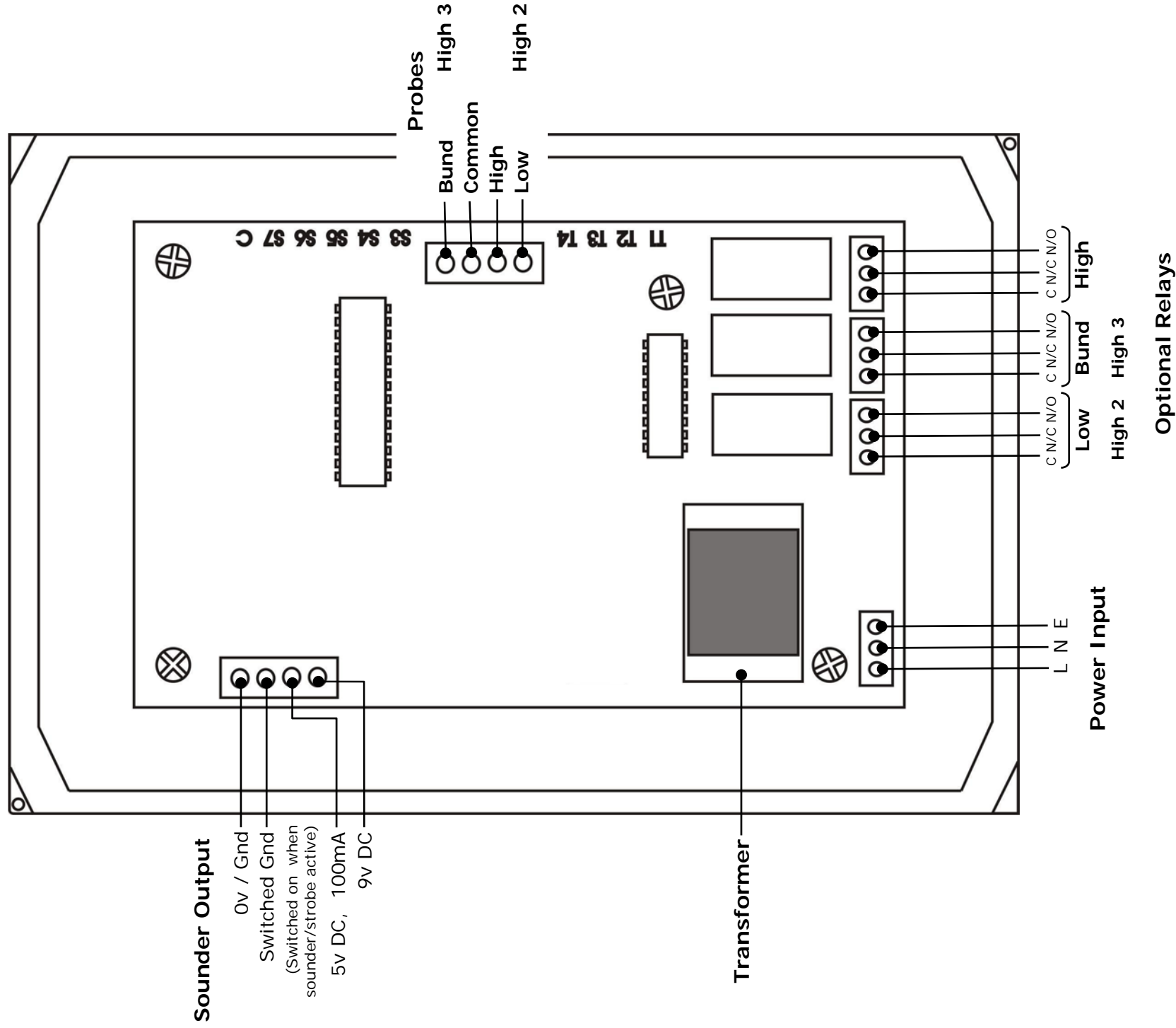
The cap can then be moved up or down the cable until the required height is achieved (see page 10: 'Probe connections' for more detail on positioning the probes in the tanks).

Retighten the cable entry gland and secure the cap to the tank.

To test the alarm press level and mute buttons simultaneously whilst the buttons are pressed all the active zones, fault, strobe and sounder will activate. All lights and sounders will stop when the buttons are released.

Periodically, and specifically before each filling, press the 'mute' and 'level' buttons simultaneously until zones illuminate and sounder and strobe are active to ensure unit has power and is operating correctly.

# Internal Layout Diagram



For more detail of each of the highlighted areas please see the following pages:

**Power Input:** page 9, **Probe Connections:** page 10, **Optional Relays:** page 11

## Installation Diagrams

### Power Input

The unit is manufactured with a supply voltage of either 240v AC, 110v AC, 24v DC or 12v DC.

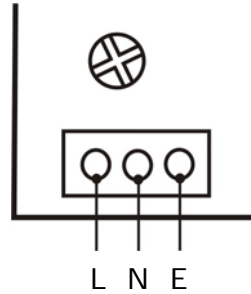
**Before connecting external power source confirm that the unit is correct for your application.**

You will find an internal label which indicates the required supply voltage.

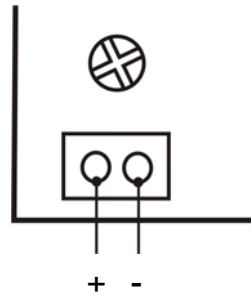
The bottom left of the board is marked with L, N and E, which stands for Live, Neutral and Earth or + - which stands for positive and negative. With L,N and E marked internally the brown wire goes to the far left (live), blue (neutral) goes to the middle and the yellow/green or bare wire (earth) goes to the right. On the DC model red should go to positive (+) and black to negative (-). It is important to take basic safety precautions and ensure the **power is off** during wiring.

If in **any** doubt consult a qualified electrician.

240v AC or  
110v AC Input



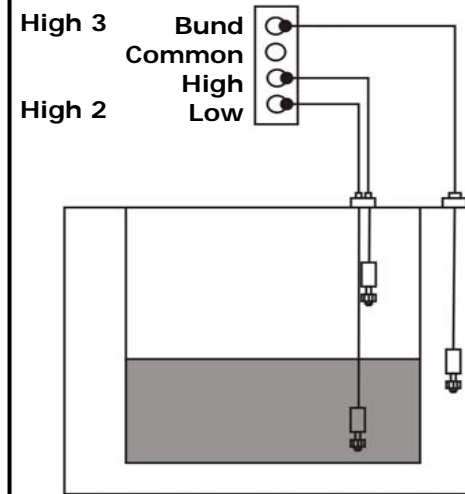
12v DC or  
24v DC Input



## Installation Diagrams

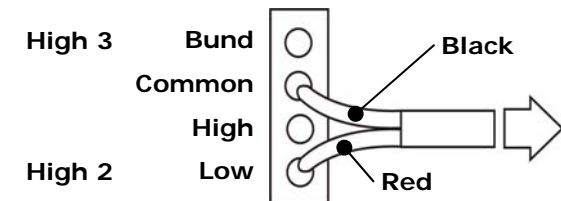
### Probe Connections

There are four probe connections, which are located as shown here. The probe wired to the 'High' connection is positioned topmost in the tank, and is used to alert that an overflow has occurred, whereas the probe in the 'Low' connection should be placed near the bottom of the tank, to indicate a low level. The 'Bund' probe is between the two tank 'skins' and is a precaution so situations such as leakage and overflow can quickly be identified.



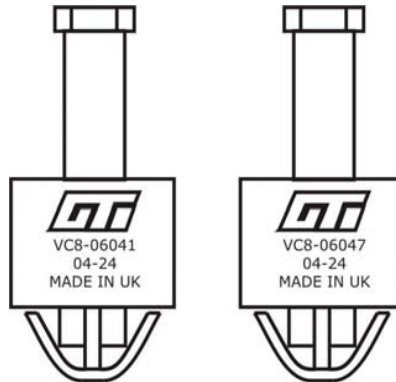
### Common Probe Connection

You will notice that in the probe cable there are two wires, one red and one black. One of these wires for **each** of the three probes should be wired to the 'Common' connection. The colour is actually irrelevant but it is suggested for simplicity all wires to the 'Common' connection are kept the same.



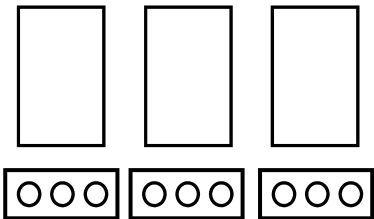
## Monitored Probes (Optional)

The alarm can operate with either standard probes (type VC8-06041 see right) or monitored probes (type VC8-06047). If you have purchased the alarm with monitored probes, the alarm will indicate a fault if the probe is cut or a short circuit occurs. If the fault LED is illuminated and a dual tone is heard from the sounder, press the level button to display which probe is faulty.



Test/replace probe where appropriate.

## Relay Outputs (Optional)



C N/C N/O C N/C N/O C N/C N/O  
**LOW BUND HIGH**  
**HIGH 2 HIGH 3**

### RELAYS

It is important to note the **maximum switched voltage** is **250V AC** and the maximum switched current is **10 Amps**.

The relay outputs are optional and must be specified at time of order. They allow switching to external equipment when either the High, Bund or Low alert is triggered. For example, a pump is activated in the event of an overfill. 'C', 'N/O' and 'N/C' are printed on the boards for 'Common' and 'Normally Open/Closed'.

## Troubleshooting

1. If the **power indicator** does not illuminate or sounder fails to react, check the power input to the unit (page 9).
2. If the **alarm activates signalling an overfill condition when the tank is not being filled**, this indicates a probe fault. Check cables and the probe assembly, make sure that the probe is in the correct position and not lying horizontal on the bottom of the tank.
3. If the **probe does not register as supplied**, then repeat sequence shown on page 4 (checking the probes).

## Troubleshooting (Alarm Conditions)

1. The unit is designed so that all the zones emit a different sound, enabling you to distinguish the alarm zone without having to visualize it - the top zone is the most rapid (or urgent) on the sounder and the bottom is the least.
2. The Overfill Alarm will only activate when the tank has partially emptied and then been refilled.
3. The Bund Alarm indicates leakage from the tank. The outer cavity should be checked and drained if containing fluid.
4. The Low Level Alarm will only activate when the tank has partially filled and then the fuel drained below the low position.