

## Technical Specifications

Supply Voltage (A.C.)	230v / 115v, 50Hz-60Hz, 1.0A
Supply Voltage (D.C.)	DC 12-24v, 1.0A
Installation environment	Pollution Degree 3
	Installation Category II
Operating Temperature	-20° C to +50° C
Ambient Temperature Storage	-30° C to +60° C
Maximum Altitude	2000 Metres
Humidity (Operating)	5 to 100% RH, Non-condensing
<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>Sounder</b>	
Frequency	2600 Hz
Sound Output @12V	90 dB
<b>Float</b>	
Material	Nylon Stem, NBR Float, PVC Cable, S/S clip
Specific Gravity	0.70
Cap Mounting Thread	1.5" BSP
Cable Length	5 metres

**CTS**

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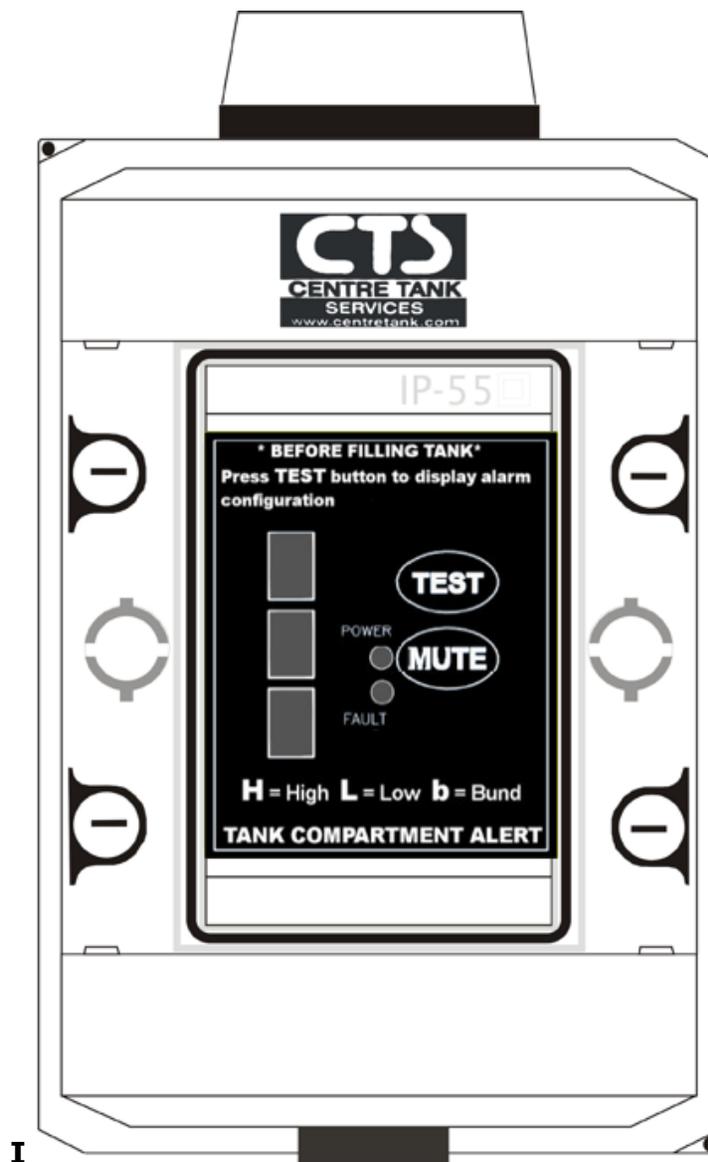


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## Mains Operated Alarm v3



**Model: SWS1008 Series - Alert**

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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.

## Extended Configuration

Switch No	Status	Function	Example
1	OFF	Standard Switched BUNA probes	
1	ON	Resistive Type Probes 1-2KΩ (2K resistors required on non used zones)	
2	OFF	Normal	
2	ON	Sounder OFF on Zone-1 & Zone-3 If SW2 = ON then SW3 must be OFF	
3	OFF	Normal	
3	ON	Sounder OFF on Zone-3 only If SW3 = ON then SW2 must be OFF	
4	OFF	Normal	
4	ON	Pump Controller on Zone-1 & Zone-3  Set Zone-3 to LOW Set Zone-1 to HIGH Connect Pump switching through ZONE-3 Relay  When Zone-3 (LOW) is activated, Zone-3 relay will stay switched on until Zone-1 (HIGH) is activated - system will automatically reset ready for Zone-3 (LOW) activation again.  N.B. Wire in a separate EMERGENCY stop button into pump circuit.	
5	OFF	Normal	
5	ON	Single Tank Mode (Fault Testing)  If Zone-1 (HIGH) and Zone-3 (LOW) activate together then fault condition occurs - (single tank mode only).	
6	OFF	N/A	
6	ON	N/A	

### **Normal Condition :**

Whenever a Zone is activated, the seven segment display of the active Zone will display the status 'H' for High, 'b' for Bund and 'L' for Low. Strobe will activate and the relay for the active zone will switch.

Pressing MUTE will turn OFF the Strobe & Sounder.  
The Seven Segment Display and Relay (if fitted) will only turn off once the Zone probe changes state.

## Zone & Option Switches

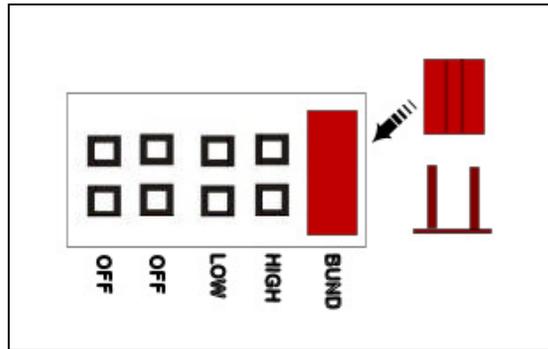
To change the display adjust the Zone Jumpers Z1, Z2 & Z3:

'H' on Display = Jumper set to **HIGH**

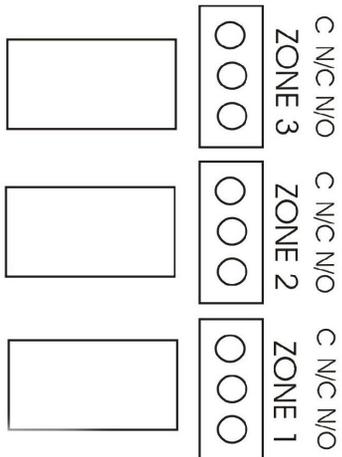
'L' on Display = Jumper set to **LOW**

'b' on Display = Jumper set to **BUND**

**No Display** = Jumper set to **OFF** – **Zone De-activated**



## Relay Outputs (Optional)



The volt free Relay Outputs allow switching of external equipment when either the High, Bund or Low alert is triggered. For example, an external sounder could be activated in the event of an overflow.

'C', 'N/O' and 'N/C' are printed on the boards for 'Common', 'Normally Open' & 'Normally Closed'.

It is important to note the maximum switched voltage is **240V AC** and the maximum switched current is **8 Amps**

## 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 9 for more detail.)
9. Ensure the power supply is isolated then connect the power Cable and select the Voltage Switch. (See page 8 for more detail.)
10. Refit the front panel and door, ensuring that all integral seals are undamaged and the ribbon cable is connected.

## 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 an error found after installation is much more time-consuming.

#### Checking the Power

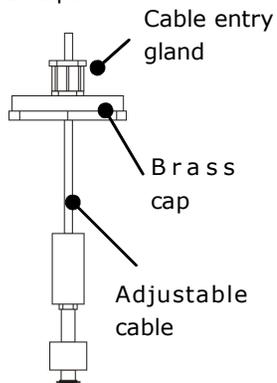
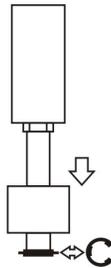
Power LED should be illuminated. Press the 'test' button for 2 seconds to ensure the alarm is operational. If no zones are active all lights and the sounder will stop when the button is released.

#### 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 taking off the cir-clip (see diagram). Next rotate the float through 180°, push it back onto the shaft and reinstate the cir-clip.



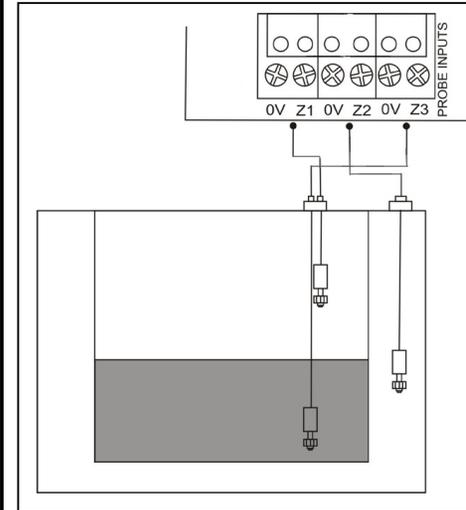
The position of the float can be adjusted to the required height by loosening the cable entry gland on the brass cap.

The cap can then be moved up or down the cable until the required height is achieved (see page 9: 'Probe connections' for more detail on positioning the probes in the tanks).

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

## Installation Diagrams

### Probe Connections



There are six 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.

When shipping a tank by road, ensure that the probes are stored at the top of the tank to prevent swinging damage.

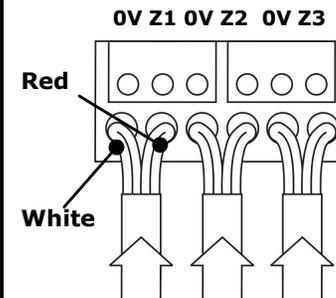
### Common Probe Connection

Typical system setting:

Zone 1 - Overfill / High Probe

Zone 2 - Bund Probe

Zone 3 - Low-Level Probe



You will notice that in the probe cable there are two wires, one red and one white. The red wire should be connected to the Z(x) terminal and the white wire to the corresponding 0V terminal.

If using existing resistive 1-2KΩ probes then a 2KΩ resistor should be wired into any free zone and the option switch for resistive probes configured.

Zone set-up see page 10 & 11.

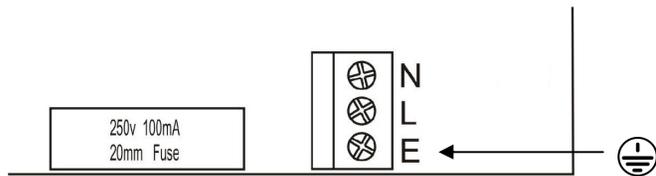
## Installation Diagrams

The unit is manufactured with a supply voltage of either 230v AC, 115v AC, 24v DC or 12v DC.

**Never connect both AC and DC power simultaneously to the power supply as this will damage the unit.**

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

### Power Input – AC 230v or 115v

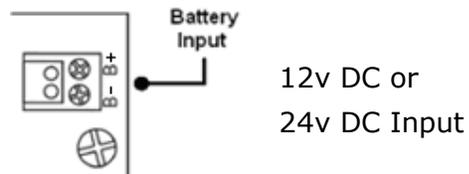


Use 2183Y 0.5mm Round Mains Cable (Overall Diameter 5.6mm)  
Strip back outer sheath 50mm and cut Live and Neutral cables (Blue and brown) so that they measure 30mm (leave earth cable (yellow/green) at 50mm), strip back inner sheath 5mm and wire the bare copper cables into the terminals at the bottom right of the board marked N, L and E , which stands for Live, Neutral and Earth, the brown wire goes to the middle terminal (live), blue (neutral) goes to the top and the yellow/green or bare wire (earth) goes to the bottom terminal.

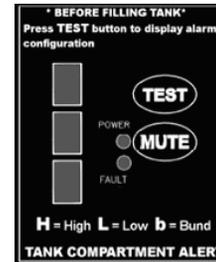
### Power Input - DC

Use 2182Y 0.5mm Round Mains Cable (Overall Diameter 5.4mm)  
The DC supply, Brown wire should go to positive (B+) and Blue to negative (B-).

It is important to take basic safety precautions and ensure the power is off during wiring.



## Setting Up The Alarm Operation



To test the alarm press and hold the 'test' button, whilst the button is pressed all the configured zones, fault, strobe and sounder will activate. If no zones are active all lights and the sounder will stop when the button is released.

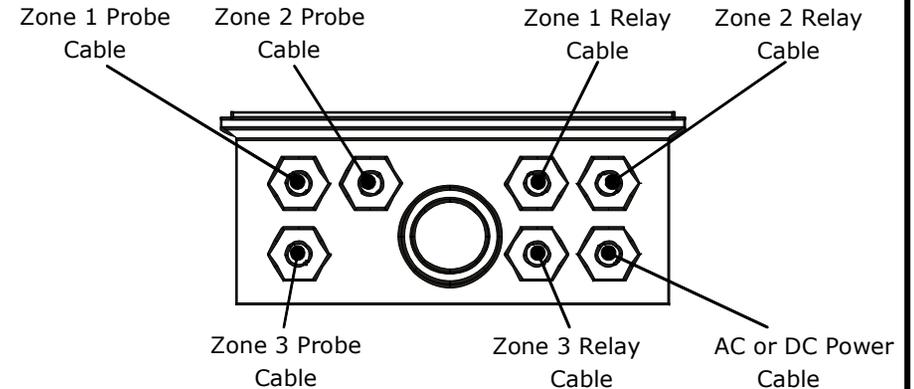
To mute an active alarm press the 'mute' button, the strobe and the sounder will stop but the active zone will remain illuminated until the zone is cleared.

The 3 displays can be configured as any of the follows: High 'H', Bund 'b' or Low-Level 'L'. The alarm configuration is displayed when the test button is pressed and held, to change settings see page 10.

Periodically, and **specifically before each filling** to ensure unit has power and is operating correctly press and hold the 'test' button, all zones and the amber strobe should illuminate and the sounder should activate.

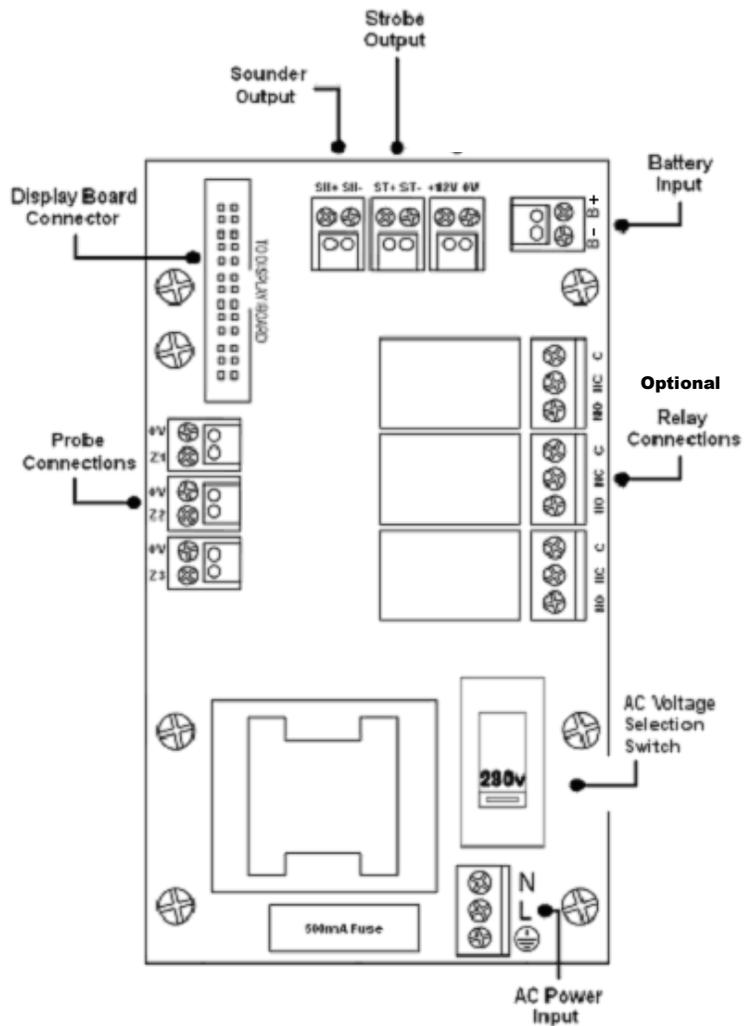
## Cable Entry

If the cable entry point is not used, remove gland and seal hole with blanking cap supplied.



## Internal Layout Diagram

### Power Supply Board

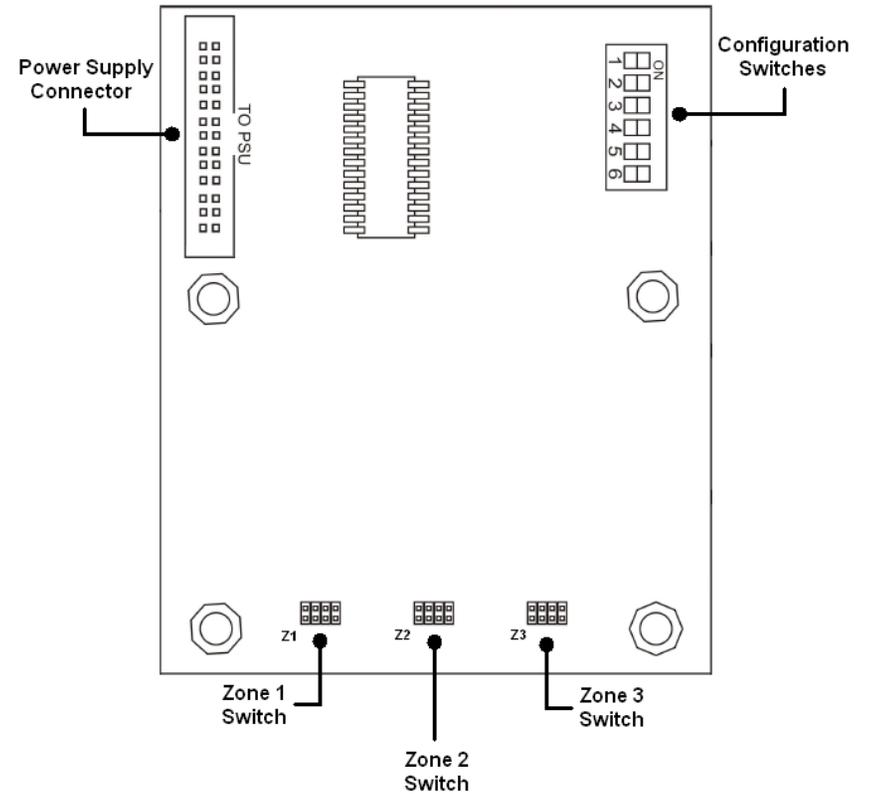


For more detail please see the following pages:

**Power Input:** page 8, **Optional Relays:** page 10

## Internal Layout Diagram

### Display / Control Board



**Included resistors are only required if using non-standard special resistive probes.**

For more detail please see the following pages:

**Probe Connections:** page 9,

**Option & Zone Switches:** page 10 & 11