

# O.L.E. (UK) Ltd

## C2020 INSTRUCTION & INSTALLATION MANUAL



C2020 – 0 (No Alarm)



C2020 – A (With Alarm)

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Date: 19/11/2019  
PD02/0005

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## Introduction

The Purpose of this document is to outline the installation and operational procedures and the operation of the C2020.

## Safety Warnings

To avoid injury please read this manual carefully before installation. Failure to do so could result in injury or failure of the equipment, this will invalidate any warranties given.



CAUTION

The installation and assembly of this product may only be performed by a skilled electrician.



WARNING

This product contains 240V AC and 24V DC, Isolate power to the unit before removing the cover.

## Contact Information



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## Principle of Operation

### Digital Tank Gauge. Accuracy +/- 1%.

This gauge is fitted in a weatherproof rated IP65 enclosure, for outdoor use. Fitted with a backlight that enables easy reading. Litres and % Bar are displayed.

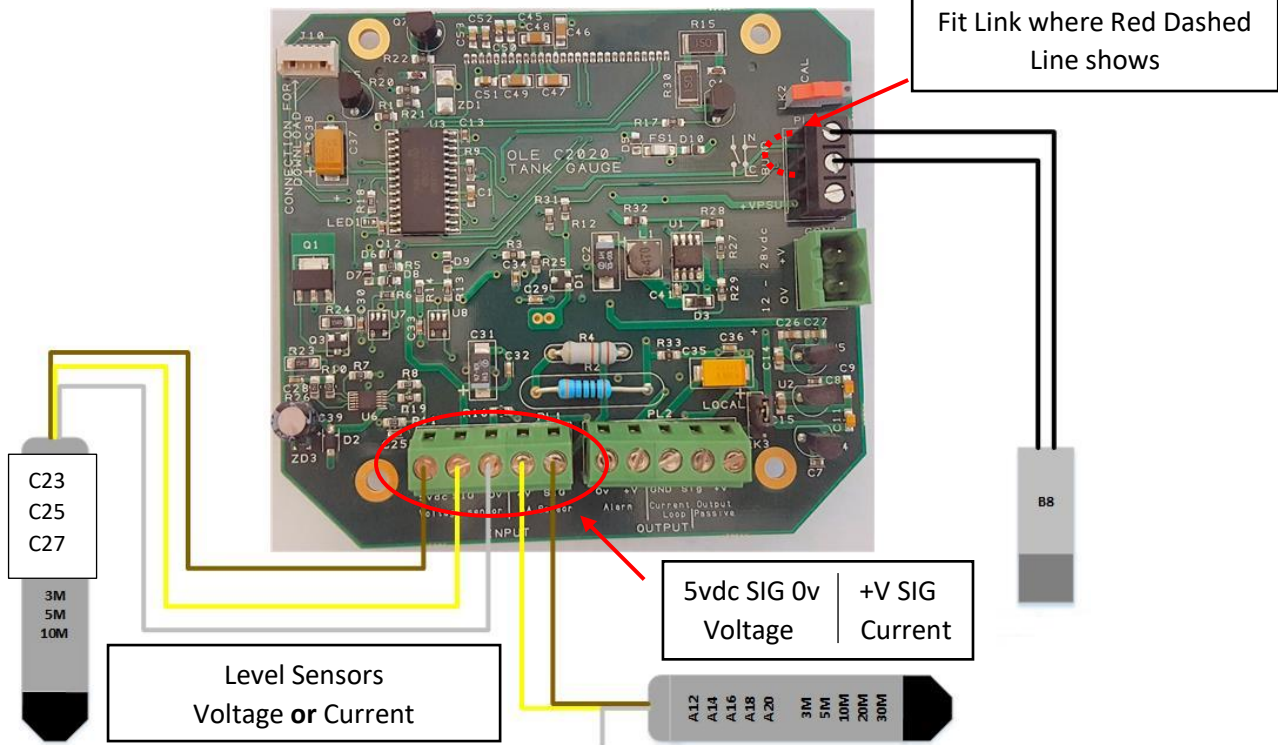
## Installation Instructions

### Mounting Holes

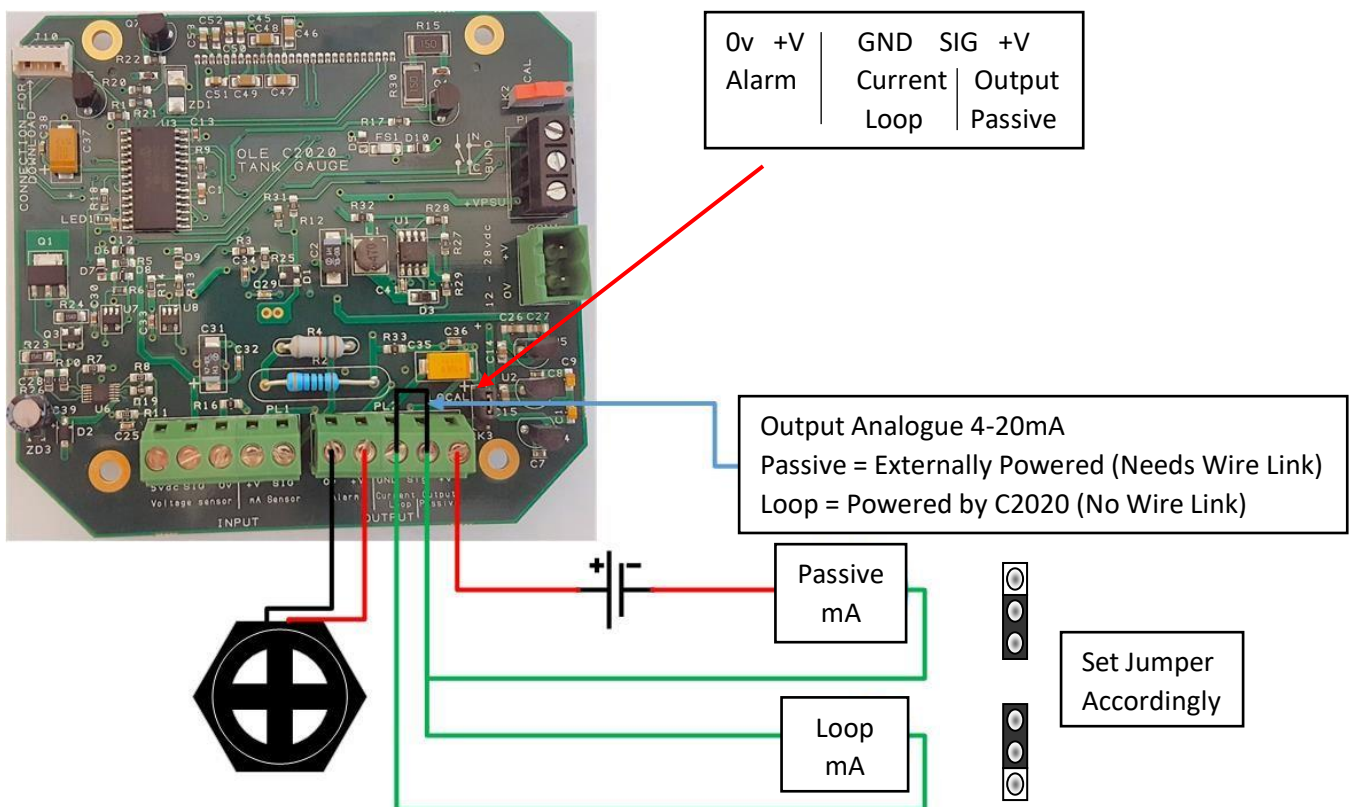
There are 4 mounting holes in the base of the unit (indicated with the Red Circles). These are located behind the front panel screws. The distance between mounting holes is 110mm wide X 160mm high.



# Input Connections



# Output Connections



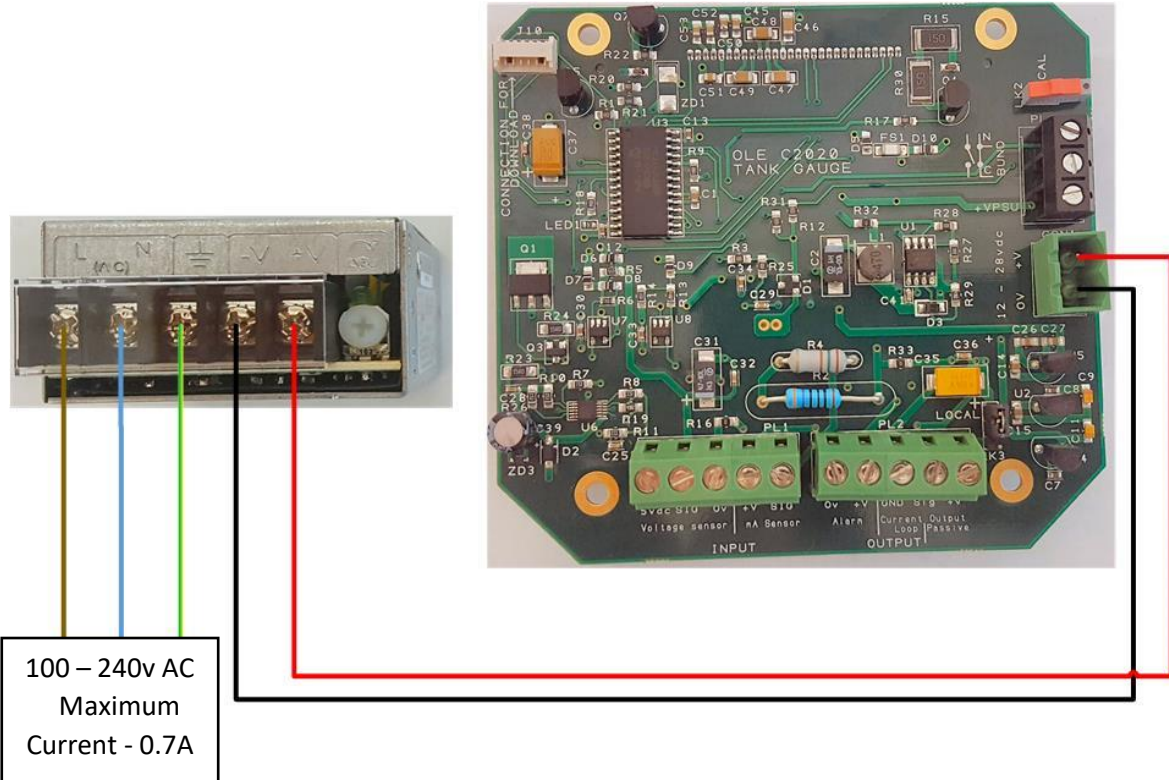


## Power Input / Output Connections



### WARNING

Before applying the power, **DOUBLE CHECK** all the connections to the inputs and outputs.



## Probes



New Probes



Legacy Probes

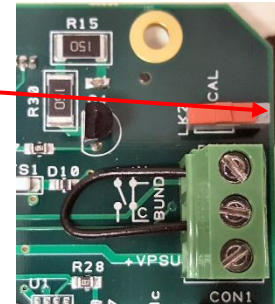
New Probes	Legacy Probes
C23 = 3.0m Range with 10m of cable	C22 = 2.5m Range Sensor
C25 = 5.0m Range with 10m of cable	
C27 = 10.0m Range with 10m of cable	

New Probes – Wire Colours		Legacy Probes – Wire Colours	
Brown	+V	Red	+V
Green	Signal	Yellow	Signal
White	0V	Black	0V

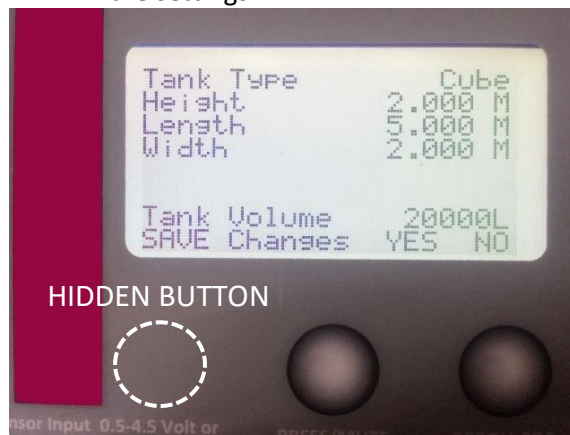
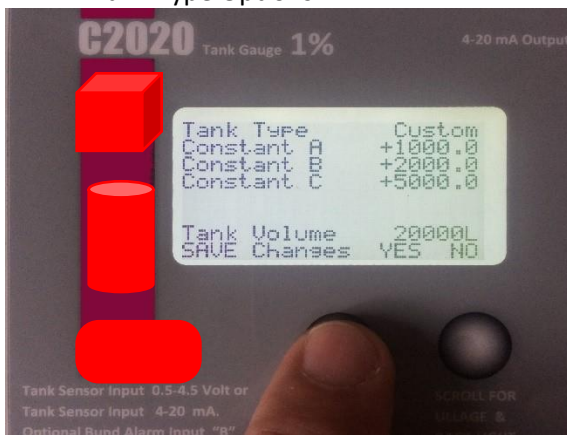
## Gauge Configuration.

To Calibrate the Gauge, Open the front cover 4 screws, Connect the Tank Probe, and Power the unit.

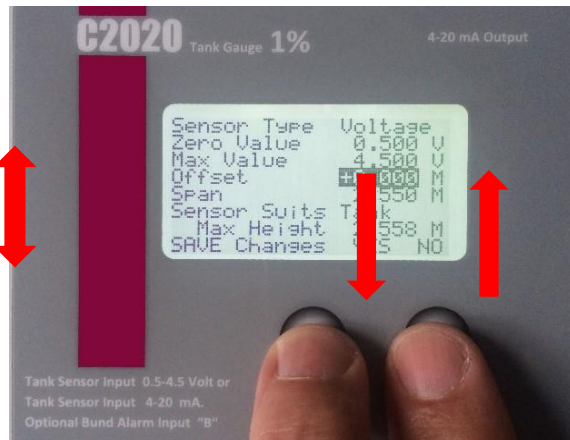
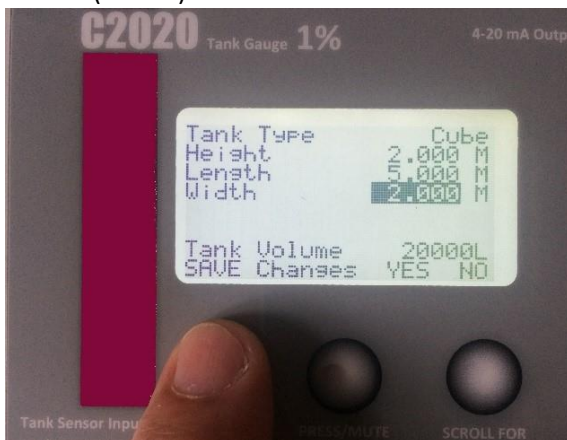
Toggle the Calibration switch, located top right of the C2020 PCB, marked Cal (LK2)



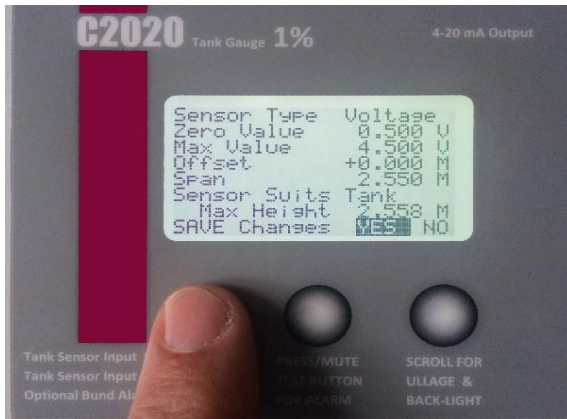
1. First screen to show is a "Cube" Tank. The middle Button scrolls through the Tank Type Options.
2. Use the "Hidden" Button to scroll through the settings.



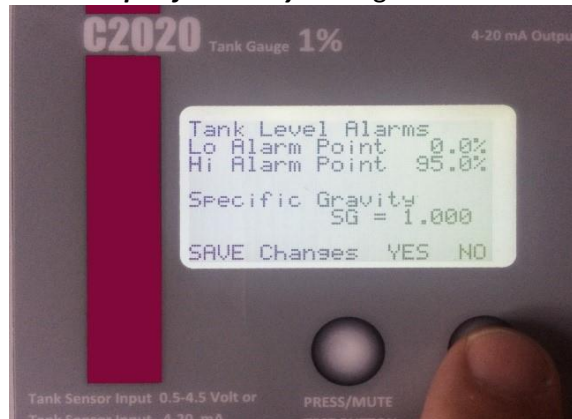
3. Choose the feature you require, then set the values by using the "Hidden" Button to select the value to change, then use the other two buttons to **Decrease (LEFT)** or **Increase (RIGHT)** the value.



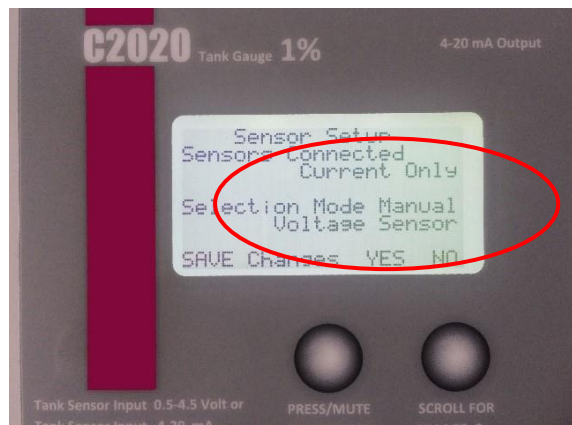
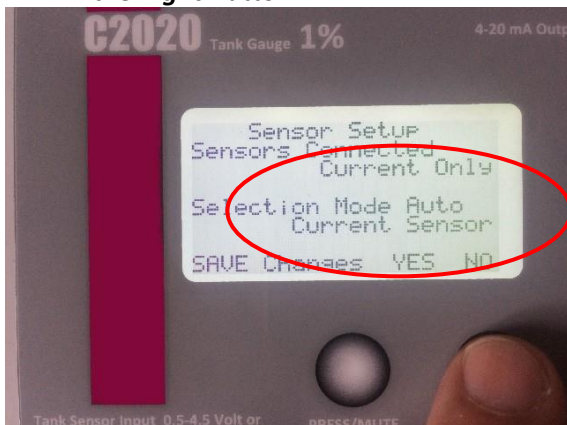
- You **MUST** scroll **YES** and use the "Hidden" Button to confirm **YES** for all screens



- Now use the **Right** Button to scroll across to **Alarm Trigger Points** and **Specific Gravity** settings.

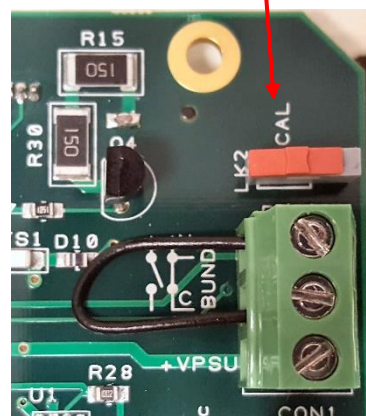
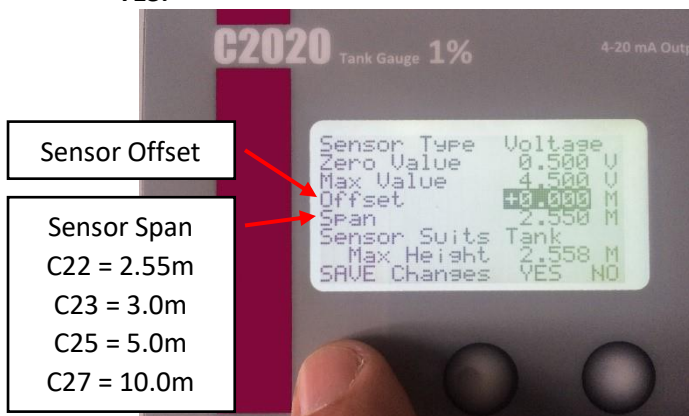


- Now use the **Right** Button to scroll across to the **Sensor Selection**. This should be **Automatic**.  
If the Automatic does not work, scroll to **Mode**, and manually select type of sensor with the **Right** Button.



- Sensor Offset.**  
How far from the bottom of the tank is the sensor positioned? Enter this here. As standard we would recommend **50mm** which is **0.050m**.  
**Sensor Span.** As Standard, this comes set for **2.55m**. Change this to suit the sensor range you have. Cursor Confirm **YES**.

- Toggle the Calibration switch.  
The Gauge returns to Standard Readings.





## High Accuracy Calibration Adjustments.

For fine tune Calibration, the sensor settings can be adjusted to suit the individual user.

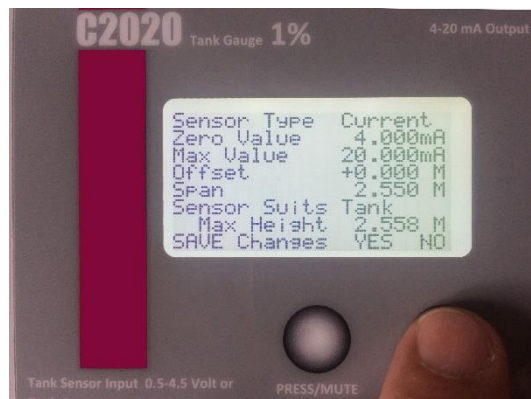


### For Voltage Sensor.

The **Maximum Value** can be adjusted up or down to suit. (Both must be adjusted by the same amount).

If Gauge reads **LOW**, **increase** these values.

If Gauge reads **HIGH**, **decrease** these values



### For Current Sensor.

The **Zero Value** can be adjusted up or down to suit.

(Maximum Self Adjusts).

If Gauge reads **LOW**, **increase** these values.

If Gauge reads **HIGH**, **decrease** these values

## Troubleshooting

- Litres Displayed Incorrectly.  
Usually down to incorrect settings of the Sensor Span. Check Calibration as shown in **Section 7 – Sensor Span**. The Span **should** match the sensor you have.  
C22 = 2.55m (Default), C23 = 3.00m, C25 = 5.00m, C27 = 10.0m
- Display does not read Litres.  
Gauges when powered will either read, No Sensor Connected, if there is not one, or one of the calibration screens may be shown. This can be toggles by switching the Cal switch on the back of the display board.  
If no sensor connected, check that one is connected or check the wiring.

# Operation Instructions

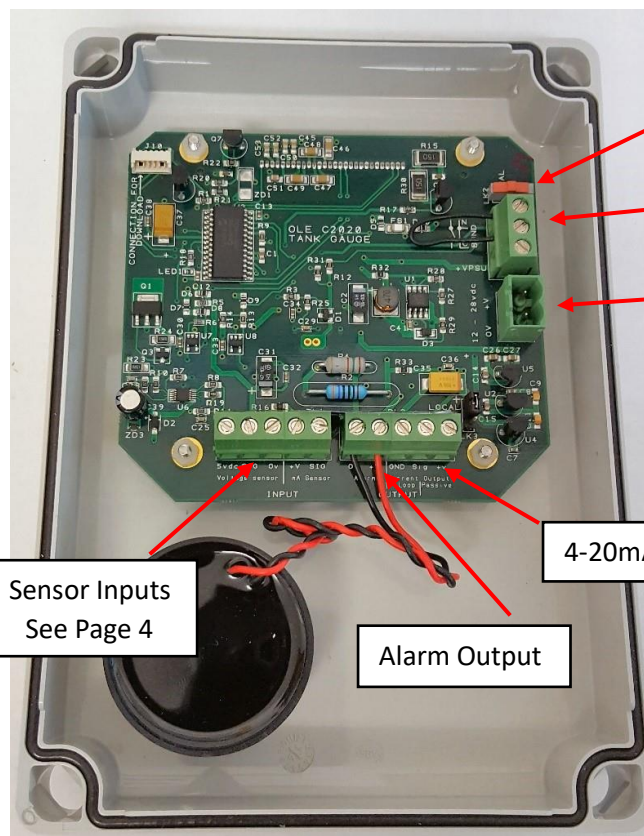
## Overview



Alarm Mute Button

Scroll Button for Ullage and Backlight

Audiable Alarm



Calibration Switch

Bund input

Power Input

Sensor Inputs  
See Page 4

Alarm Output

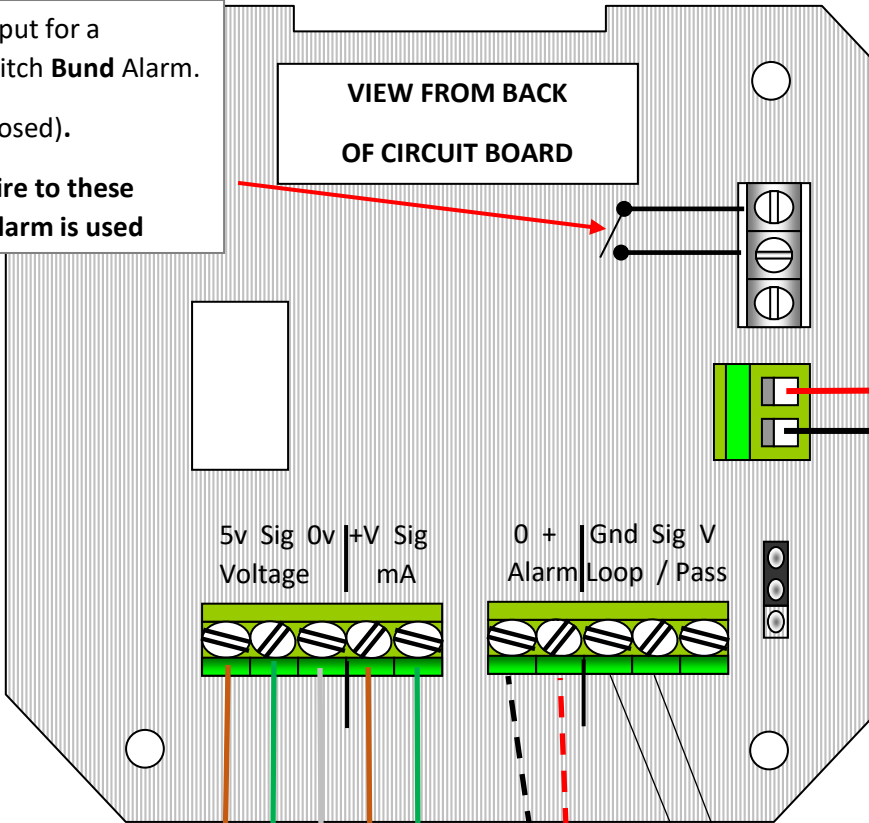
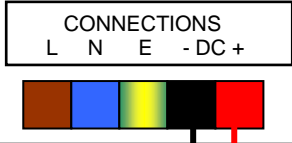
4-20mA Output - Loop / Passive

# Appendix 1 (C2020 Wiring Diagram)

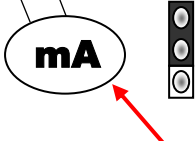
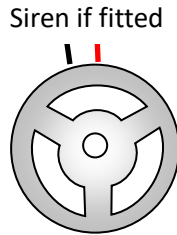
**Bund Alarm** is an input for a mechanical float switch **Bund Alarm**.  
Set NC, (normally closed).  
**Remove link and wire to these terminals if Bund Alarm is used**

**VIEW FROM BACK  
OF CIRCUIT BOARD**

**MAINS POWER SUPPLY.**  
Units are supplied with either 24vdc direct connection, or 100/240 Vac power supply.  
Power supply connections can be made by REMOVING the mounting bracket screws temporarily.  
Power supply Part No T4020-EG



**Optional 12-24VDC  
Client Supplied  
Power Connection**



**For mA Sensor**

... wire like this.

T4020-Axx and Bxx Series

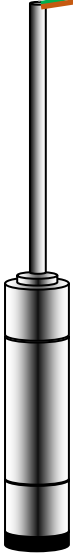
3M, 5M and 10M

**OUTPUT Analog**  
4-20 milliamp.  
Loop = Powered by C2020  
( & Multimeter Check)

**For Standard  
Voltage Sensor**

... wire like this.

C2020-C23/25/27



## Appendix 2 (Accessories)

### B8 – Bund Probe / Level Switch

The Bund Probe has an integral N/C (Normally Closed) level switch.

The Sensor body is made from 304 Stainless Steel and the cap is 316 Stainless Steel. The float is NBR (Nitrile) which is good in Oil, Diesel, Petrol, most spirits and water based products (SG: 0.7 to 1.5).

The standard cable is Polyurethane sheathed and 6.0m in length and supplied with a 1" fitting.

Supplied as standard: N/C (Float Down – Contact Closed).

Supplied on request, reversed float N/O (Float Down – Contact Open, closed on float rise).

Simple 2 wire connection. See **INPUT CONNECTIONS** on **Page 4** to show where to connect.



B8 - Bund Probe



1" Fitting (Also available as a separate item)

### B2 – Water Sensor

The float sinks in less than a Specific Gravity of 0.9 and lifts in water and opens the circuit.

The Sensor body is made from 304 Stainless Steel and the cap is 316 Stainless Steel.

The float is NBR (Nitrile)

Simple 2 wire connection. See **INPUT CONNECTIONS** on **Page 4** to show how where to connect.



B2 – Water Sensor