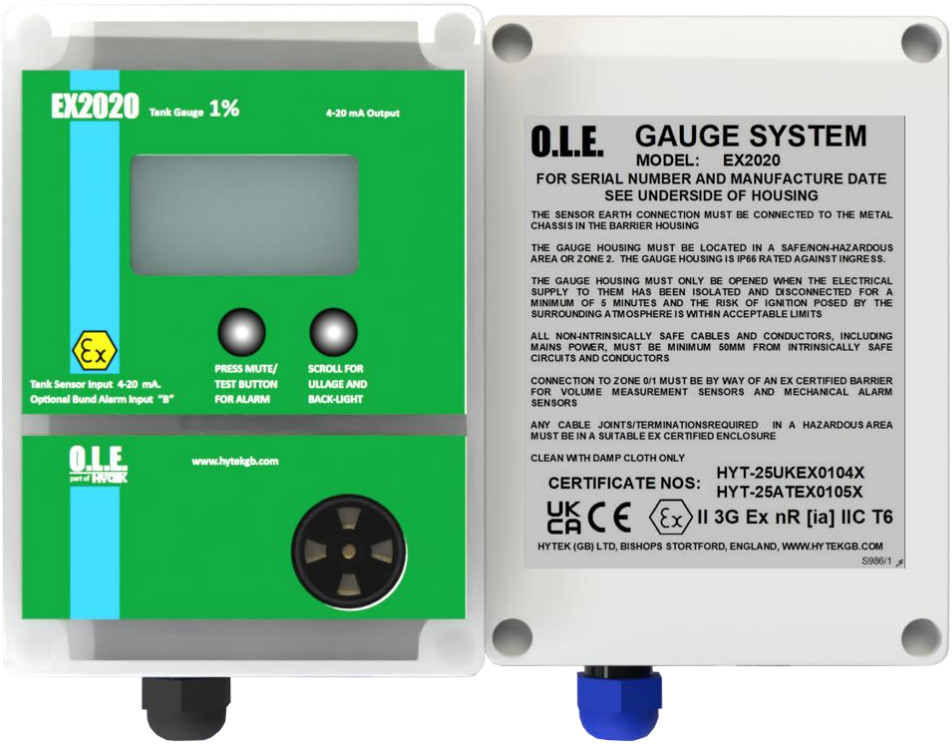
HYTEK EX2020
EX ZONE 2 CERTIFIED
TANK MONITOR



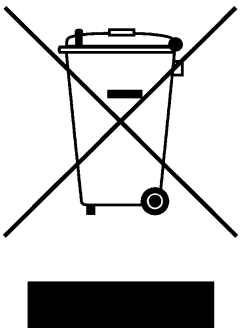
Applies to the following models ONLY:

EX2020-ATEX-Axx

Please read carefully BEFORE commencing installation.

Registered Office: HYTEK (GB) LIMITED,
Delta House, Green Street, Elsenham, Bishop's Stortford,
CM22 6DS UK.
Registered in England No. 1915382
Tel: +44 (0) 1279 815 600
Email: info@hytekgb.com

ENVIRONMENTAL INFORMATION



UK Regulation SI 2013 3113 and EU Directive 2012/19/EU require that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product must be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities.

PRODUCT DESCRIPTION

The Hytek Tank Monitor is a simple, ATEX & UKEX certified electronic gauge for monitoring the fluid level inside fuel storage tanks of any shape or size up to 3m in height. It is designed to be used only for petrol, kerosene, diesel, biodiesel up to B100, AdBlue® and antifreeze with a specific gravity between 0.6 – 1.4. The System uses a precision electronic pressure sensor to give a consistent and accurate reading. Optional ATEX water sensing and bund alarm probes are available. The monitor bears the following marking:

Certificates: HYT-25UKEX0104X, HYT-25ATEX0105X

UK CA CE **II 3G Ex nR [ia] IIC T6**

IMPORTANT WARNING NOTES

1. Display is IP 67 weatherproof, for Zone 2. Intrinsically safe probe sensors must be used for Zone 0/1 installation. Connection to zone 0/1 must be by way of a suitable Ex certified internal barrier for volume measurement sensors and mechanical level alarm sensors.
2. Probe is suitable for use in zone 0/1 but the equipment monitoring/display and control units along with the barrier housings can be in a Zone 2 location.
3. The float switch incorporates an isolated metal part which could become either charged in use or be a discharge point for charged liquids upon filling or emptying. The float switch **shall only be used** in applications where static generated via contact liquids are controlled so as not to be considered an ignition source.
4. Mains power circuits must be 50mm minimum from intrinsically safe circuits.
5. The tank probe must be installed in a vented tank.
6. Any cable junctions in a hazardous zone must be by way of suitable

Ex certified enclosures.

7. Installation of this equipment and its associated tank fittings shall only be carried out by suitably trained and Competent persons as per DSEAR and other regulations and must conform to the latest relevant electrical and national and local regulations and standards.

INSTALLATION INSTRUCTIONS

The tank monitor kit comes supplied with the following items:

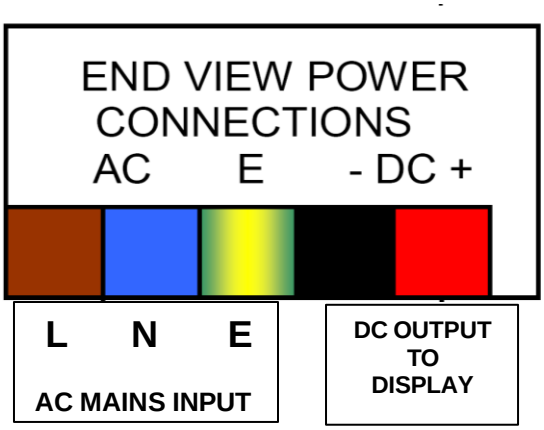
Metal tank connector - 1" BSPT fitting

Junction box for connecting Probe

1. **The gauge enclosure is approved to be installed in a zone 2 location.** The gauge can be mounted outside directly on the tank or in the immediate vicinity. The gauge can be mounted up to 1000m from the tank top if the supplied probe cable is extended using suitable shielded data cable. An ATEX certified tank mount probe junction box is supplied for installing the probe this is required to be used, at no point should the probe be installed directly into the gauge.
2. Remove the casing and mount the gauge onto a suitable surface using the supplied M4 bolts. Mounting hole positions are shown on the rear of the case. See mounting diagram on page 9.
3. Supply the transformer with a suitable mains power supply. **Mains power supply shall be installed in such a way that the Zone 0/1 cable entries and IS Circuit cable and conductors do not come closer than 50 mm to AC Power Cables.** Check model for voltage. See photo and diagram below. The transformer mounting rail can be temporarily removed to allow easier access to the power connection terminals.

TRANSFORMER - 240V UNIT





INSTALLATION INSTRUCTIONS cont...

4. Ensure that there is an opening (with a cap or flange) on the top of the tank wide enough for the probe to go through.
5. The metal tank connector is a 1" BSPT fitting. The optional plastic tank connector is a 30mm compression fitting, which requires a 30mm hole to be cut into the plastic tank.
6. Carefully slide the probe into the tank.
7. **IMPORTANT**: Ensure that the probe is **suspended 50mm** from the bottom of the tank before tightening the gland on the tank top fitting. This will ensure that water or sludge does not affect the probe sensor.
8. If you need to cut the probe cable to a shorter length, then strip back 250 mm of the outer sheathing and use the nylon cords to tie and support the weight of the probe. Cut the vent tube to around 30 mm long and cut the cores to 170 mm long.
9. The supplied Junction box needs to be used, this allows the Probe vent tube to be vented to atmosphere.
10. Using the terminal block provided, connect the conductors to the interconnecting cabling. This should be by twisted screened pairs, back to the display. The Enclosure is airtight to ensure it is Zone 2 approval
11. **IMPORTANT**: Ensure that the breather tube for the probe is not obstructed, sealed, or kinked in any way as this will affect the accuracy of the tank gauge.

    BROWN = Pressure sensor +24vdc
    GREEN = Pressure sensor –ve
    WHITE = Earth/Ground

12. Silica gel packs are fitted to absorb any moisture.
13. **Before fitting the front cover, ensure the gasket is not damaged or dislodged, if any damage is noted do not use and contact Hytek for a replacement. (EX2020.COVKIT)**

    Failure to do so will result in non-compliance and will void the ATEX certification.

14. Energize the gauge and ensure that the reading is accurate. The gauge is supplied pre-configured by Hytek so no further calibration or set up is required on site.

FITTING MECHANICAL BUND ALARM (OPTIONAL)
IMPORTANT: Any bund or water sensing float switches connected MUST be Ex certified and connected via the barrier supplied.

- All additional level probes or bund probes will be prewired during manufacture. Connections on site will be made to the junction box supplied

Failure to do so will result in non-compliance and will void the ATEX certification.

OPERATION

The EX2020 gauge is very simple to operate. There is a Scroll button, which shows Tank Name, Capacity and Ullage space. This will show for 5 seconds before reverting to the standard display. There is an Alarm/Test-Mute button. Press to test the alarm (if fitted). This self-resets in 5 seconds. The backlight will turn off after 1 hour. Pressing any button will turn the backlight back on. If an alarm has been 'Muted' the Alarm symbol shows a crossed-out image. If a Bund Alarm is incorporated, this shows as a 'B' on the screen.

ALARM SETTINGS

The default alarm settings are as follows:

ALARM 1 = 95% High Level Alarm
ALARM 2 = 0% Low Level Alarm

The display will flash when an alarm is activated. L= Low H = HighAlarm settings can be customised in the tank gauge setup menu. See separate calibration set-up sheet.

CALIBRATION

Please refer to the separate calibration set-up sheet supplied in the box. A switch on the PCB needs to be moved into the "CAL" position and then the various settings screens can be adjusted.
- Tank Type
- Tank Height, Length, Width, all in meters.
- Hi and Low-level alarms are set as tank volume percentages.
The default is: Hi = 95%, Low = 0%.
- Specific gravity.

ADVANCE SENSOR SETTINGS:

<u>WARNING</u> - The sensor settings screens are factory set and should not need changing unless advised by one of our engineers.

All settings below based on **A12** type probe.

- Sensor Type: Current
- Zero Value: **4.000 mA** for A series probe.
- Max Value: **20.00 mA** for A series probe.
- Offset: **+0.050 M**. This is the height that the probe sits from the bottom of the tank.
- Span: **3.000 M**. This is the max height the probe **(A12)** can read.

ROUTINE INSPECTION

An annual inspection is required to ensure the unit is in a serviceable condition.

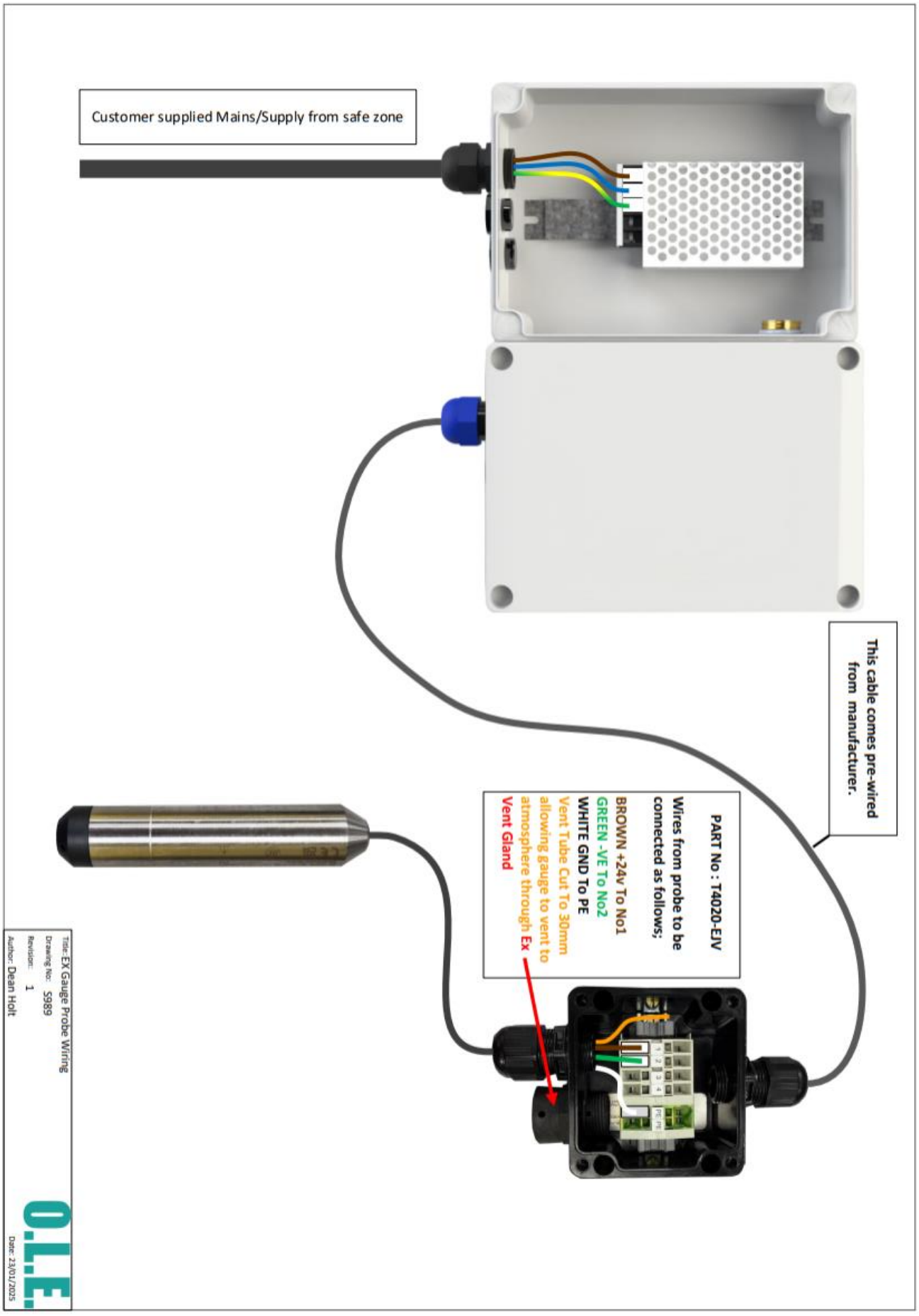
The following items must be inspected:

- Inspect Display Label and Test / Mute Buttons for wear, any break in the label surrounding the buttons requires a replacement front (EX2020.COVKIT)
- Inspect the enclosure for damage, any damage that risks the integrity of the airtight seal must be reported.
- Inspect the glands are tight.
- Clean with a damp cloth only

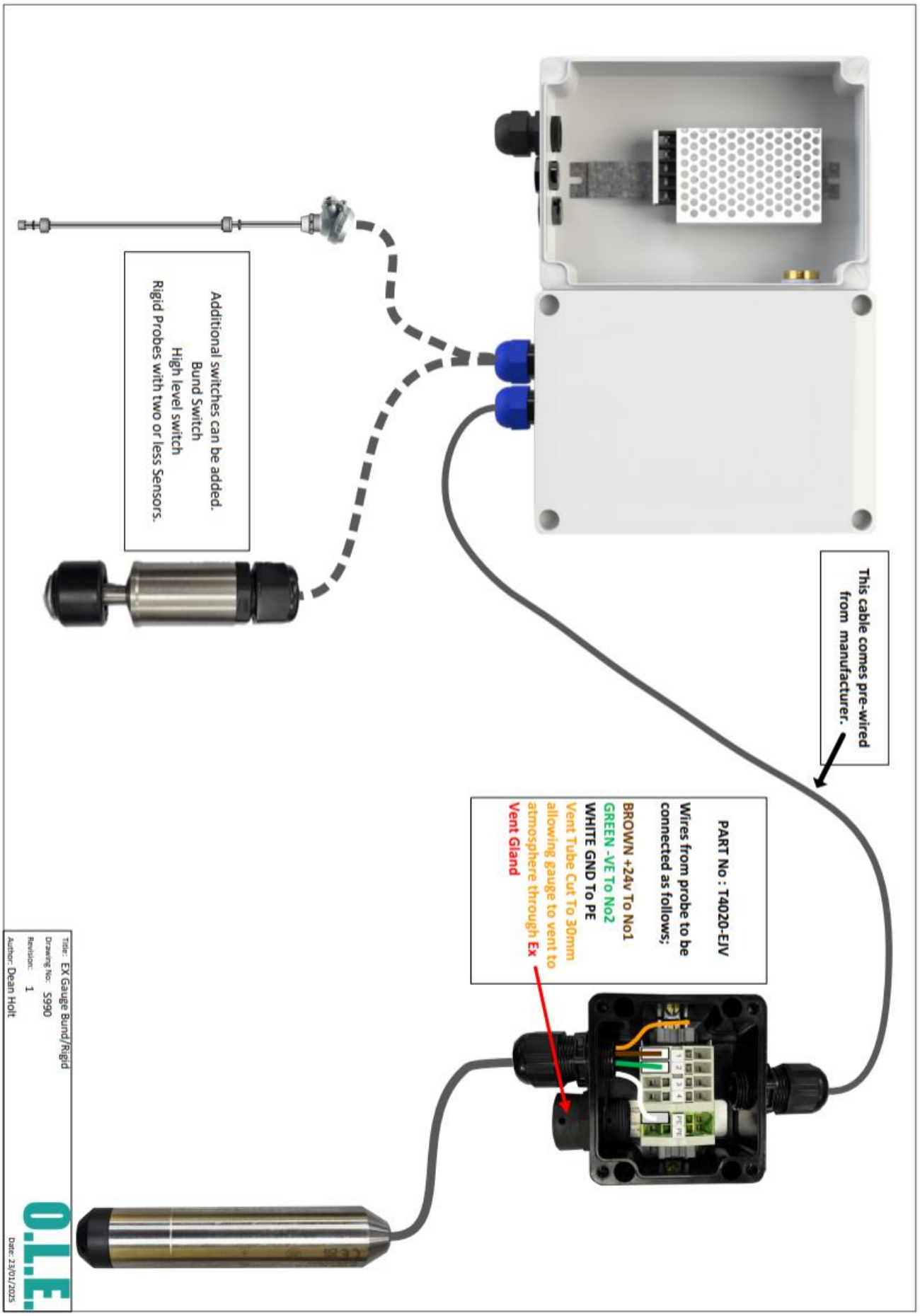
If any of the above inspections reveal a failure in the integrity of the airtight seal. The unit must be removed from operation until the fault is repaired, or the unit is replaced.

Failure to do so will result in non-compliance and will void the ATEX certification.

PROBE WIRING DIAGRAM

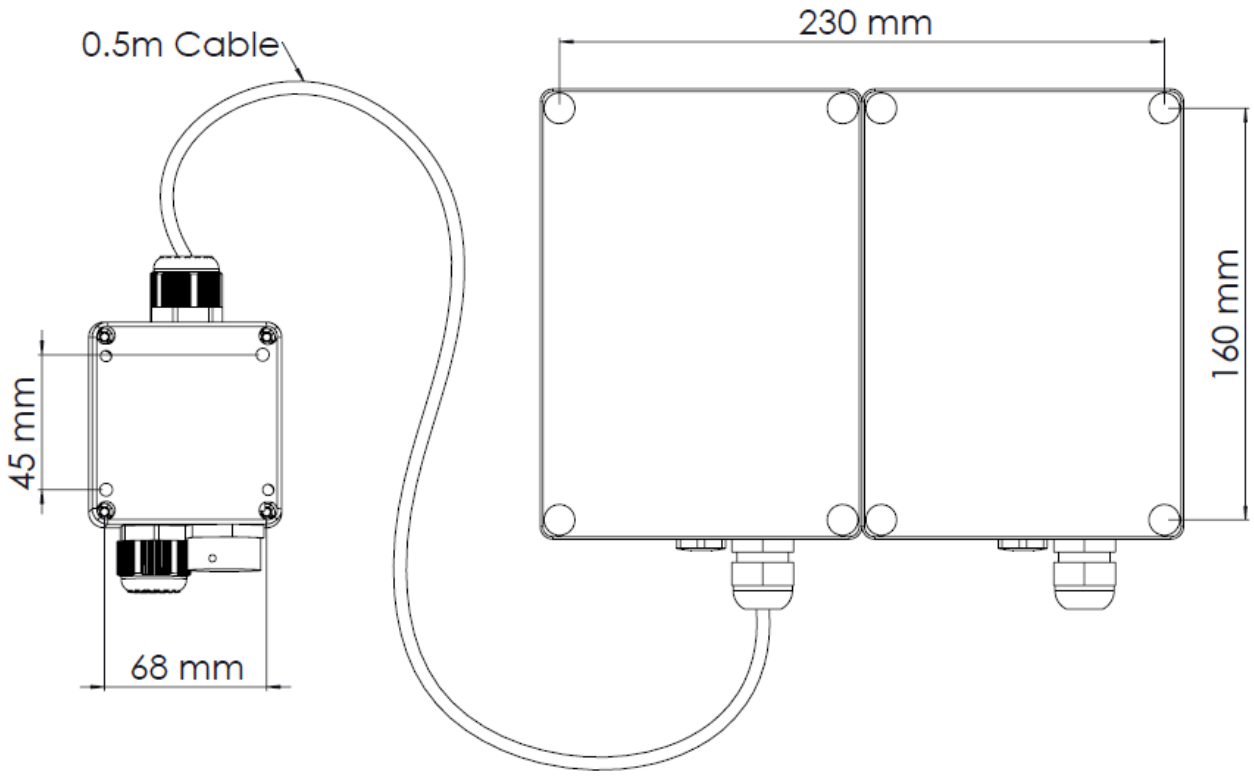


ADDITIONAL ALARM WIRING



DIMENSIONS

The display may be mounted on walls or panels by utilizing the displays own mount holes and using these will retain the IP66 integrity. Allen cap or cross head M4 bolts are ideal for this. The mounting dimensions are shown in the diagram below.



SPECIFICATIONS

- ATEX & UKEX certified.
- Power supply: 110/230V AC 50/60Hz.
- Backlit display (Turns off after 1 hour)
- IP66 Fully weatherproof enclosure.
- Accuracy: +/- 0.1% of Tank Capacity.
- -5 to +50 Degree operating temperature.
- Humidity: 5 to 95%.
- Display enclosure is RoHS and CE compliant.
- 2 x Programmable alarm/ trigger set-point.
- High Level / Low Level Local alarm with acknowledge circuit.
- Weatherproof cable glands provided for power supply and tank sensor input.
- One (1) Control output providing dc supply voltage output to the siren (if fitted) or other external device.
- 4 – 20 mA output for connection to BMS system.

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UK/EU DECLARATION OF CONFORMITY

Company Name: **Hytek (GB) Ltd**

Address: **Delta House, Green Street, Elsenham**
Bishop's Stortford, Hertfordshire, CM22 6DS

Date of Issue: **8th January 2025**

Equipment Details: **EX2020 and EX5020 rand of Tank Gauge Systems**

Applicable Directives: & Standards

S1 2016 1091 Electromagnetic Compatibility Regulations
2014/30/EU EMC Directive

SI 2016 1101 Electrical Equipment Safety Regulations
2014/35/EU Low Voltage Directive

SI 2008 1597 Supply of Machinery Safety Regulations
2006/42/EC Machinery Directive

SI 2013 3113 Waste Electrical & Electronic Equipment Regulations
2012/19/EU Waste Electrical & Electronic Equipment Directive

SI 2012 3032 Restriction of Use of Certain Hazardous Substances Regulations
2011/65/EU Restriction of Hazardous Substances Directive (RoHS2)

SI 2016 No. 1107 Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations
BS EN IEC 60079-0:2018+A11:2024
BS EN IEC 60079-15:2019

UKEX Self Certification Certificate
Number: HYT-25UKEX0104X Issue 1
Issued by: Hytek (GB) Ltd
Delta House, Green Street, Elsenham
Bishops Stortford, Hertfordshire, CM22 6DS

Marking: Ex II 3G Ex nR [ia] IIC T6

2014/34/EU ATEX Directive
BS EN IEC 60079-0:2018+A11:2024
BS EN IEC 60079-15:2019

ATEX Self Certification Certificate
Number: HYT-25ATEX0105X Issue 1
Issued by: Hytek (GB) Ltd
Delta House, Green Street, Elsenham
Bishops Stortford, Hertfordshire, CM22 6DS

Marking: Ex II 3G Ex nR [ia] IIC T6

Declaration Number: **UK173 Issue 1**

On behalf of the above-named company, I declare under our sole responsibility that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

Clive Wellings

Clive Wellings, Process Co-ordinator
8th January 2025, Bishop's Stortford, Herts