





## Declaration of Conformity

### **'TankGuard' 2001 Tank Management System**

This is to certify that the above named product fully complies with the requirements of the normative sections of the following harmonised European Standards.

EN 50081-1 : Electromagnetic Compatibility - Generic Emission Standard.  
Part 1 : Residential, Commercial and Light Industry.

EN 50082-1 : Electromagnetic Compatibility - Generic Immunity Standard.  
Part 1 : Residential, Commercial and Light Industry.

EN 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use.

Signed :

**(J Graham)**

Position : Technical Manager  
Date : 4th April, 2003

This declaration applies to the following Part Number: 2001 00 000



## 1. Application and Operation

The **'TankGuard' 2001** is a purpose built Fillpoint Tank Management System. Originally designed to comply with all Health and Safety Standards relating to Fuel Oil Installations, the system has been extended to incorporate specific requirements of the various Military, Health and Local Authority users as well as Government and modern Industry.

The system is 'CE' marked, complies with M & E III and other related specifications and can be used with any level measuring device powered by a 4-20mA current loop. The unit may also be configured, at Customer request, for use with any other non loop-powered level measuring device which provides a 4-20mA output. This makes **'TankGuard' a universally applicable system** providing the Customer with total flexibility to apply the most reliable type of level sensor element such as capacitance, ultrasonic, pressure, float, intrinsically safe or standard to perform a reliable measuring task.

The **'TankGuard' 2001** features an attractive wall-mounting weatherproof housing to IP65 and requires no other cabinet or housing enclosure. It incorporates an easy to read % analogue dial trend indicator to give 'at-a-glance' information of the level in the tank. The red LED digital display provides the user with accurate contents information. Three separate built in visual and audible alarms can be set to give warnings of low level, high level and bund alarm and the associated relay switching contacts can be used to operate additional alarms in remote locations.

To comply with Safety Regulations, TEST and MUTE buttons are purposely situated for easy operation and the added REFILL button is particularly useful for re-ordering purposes and provides the delivery driver with a check facility to tell him that he can safely discharge the full delivery load into the tank.

## 2. Installation and Wiring

- 2.1 The **'TankGuard' 2001** must be mounted on a flat vertical surface which is not exposed to direct sunlight.
- 2.2 All wiring must be in suitable cable for the application conditions and must comply with the relevant regulations of the electrical supply authority concerned, together with any other statutory requirements which may affect the complete installation.
- 2.3 The 4-20mA signal cables should, if possible, be run separately from any cables carrying mains voltages.
- 2.4 It is recommended that cable with polyethylene or PVC insulation with a conductor size of at least 1.5mm<sup>2</sup> is used.
- 2.5 If the 4-20mA signal cables are to be run through areas of high electrical interference it is recommended that screened cable is used with the screens being terminated to the earth terminal in the **'TankGuard' 2001** unit.



### 3. Commissioning

- 3.1 The **'TankGuard' 2001** has the following Customer supplied information programmed into the Tracker Meter fitted to the front panel of the unit.

Tank Volume and Volumetric Units.  
Low Level (LL) Trip Point.  
The High Level alarm is factory set to 95%.

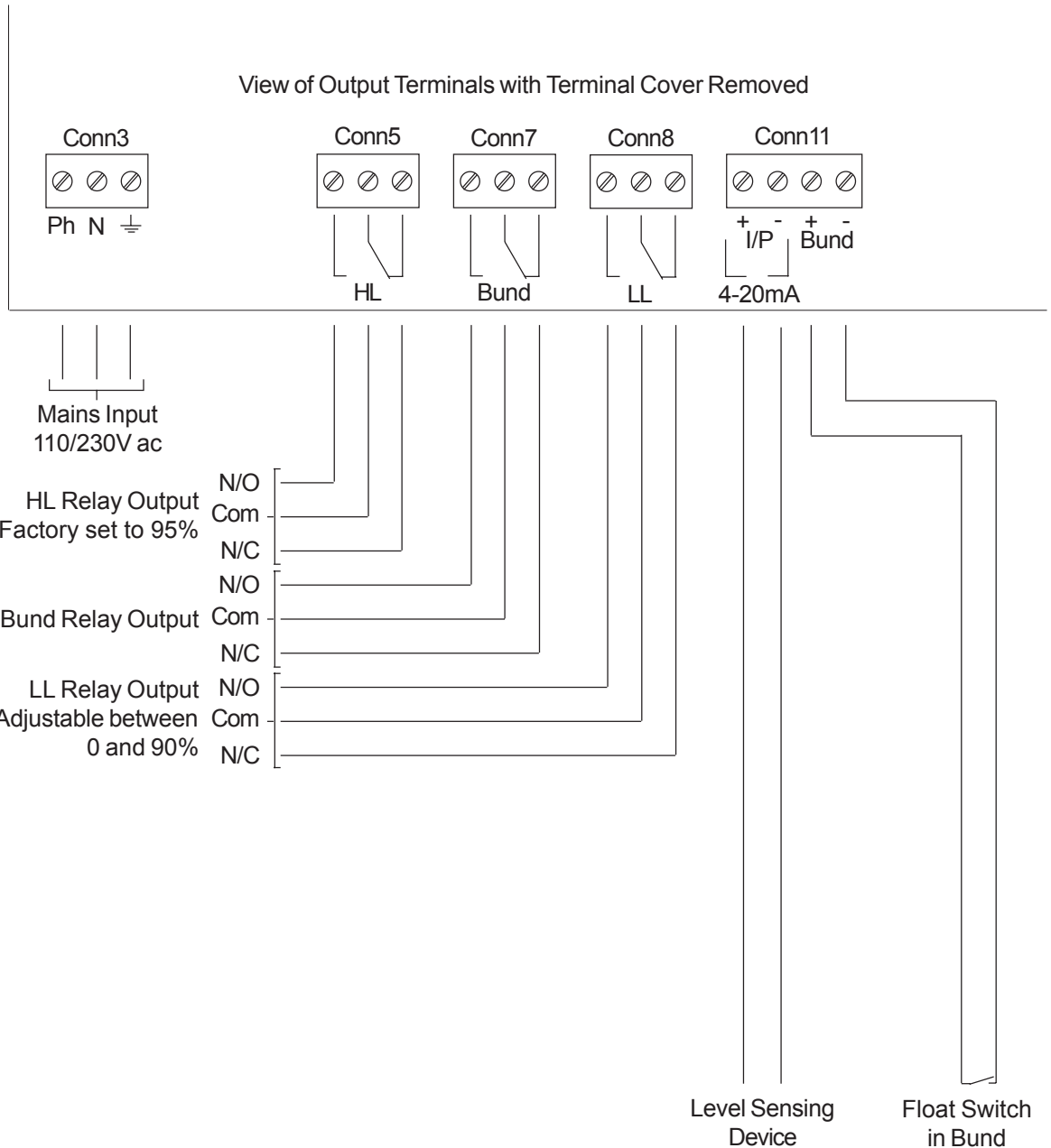
Optional look-up tables, used to linearise the input from the level sensing device, can be programmed into the Tracker Meter at the Customer's request.

The **'TankGuard' 2001** has been set up to regard an input of 4mA from the level sensing device as being equivalent to an 'empty' tank and an input of 20mA as being equivalent to a 'full' tank. When the input from the level sensing device is 20mA the Tracker Meter will display the 'full' tank volume as defined by the Customer.

- 3.2 Check that, depending on the type of sensor used, the **'TankGuard' 2001** is wired up in accordance with the wiring diagram on page 4.
- 3.3 Check, by examination of the label on the side of the unit, that the supply voltage is correct for the installation.
- 3.4 Switch on the supply and allow a few minutes for the unit to stabilise.
- 3.5 The 4-20mA level sensing device should be set up as follows:
- Empty the tank and adjust the level sensing device in accordance with the manufacturers instructions to give a reading of zero on the Tracker Meter. In the event that it is not possible to empty the tank, the level sensing device chosen should be capable of being zeroed outside the tank.
- Fill the tank with a known volume of liquid, ideally slightly less than that required to operate the High Level (HL) trip point, and adjust the level sensing device in accordance with the manufacturers instructions to give a reading on the Tracker Meter equal to the known volume of liquid.
- 3.6 Press the Test Button and check that the Bund, HL and LL LEDs pulse on and off and that the audible alarm and any external alarms connected to the system are activated.
- 3.7 With the Test Button still engaged, press the Mute Button and check that the audible alarm and any external alarms connected to the system are de-activated, and that the Bund, HL and LL LEDs cease pulsing and are continuously on.

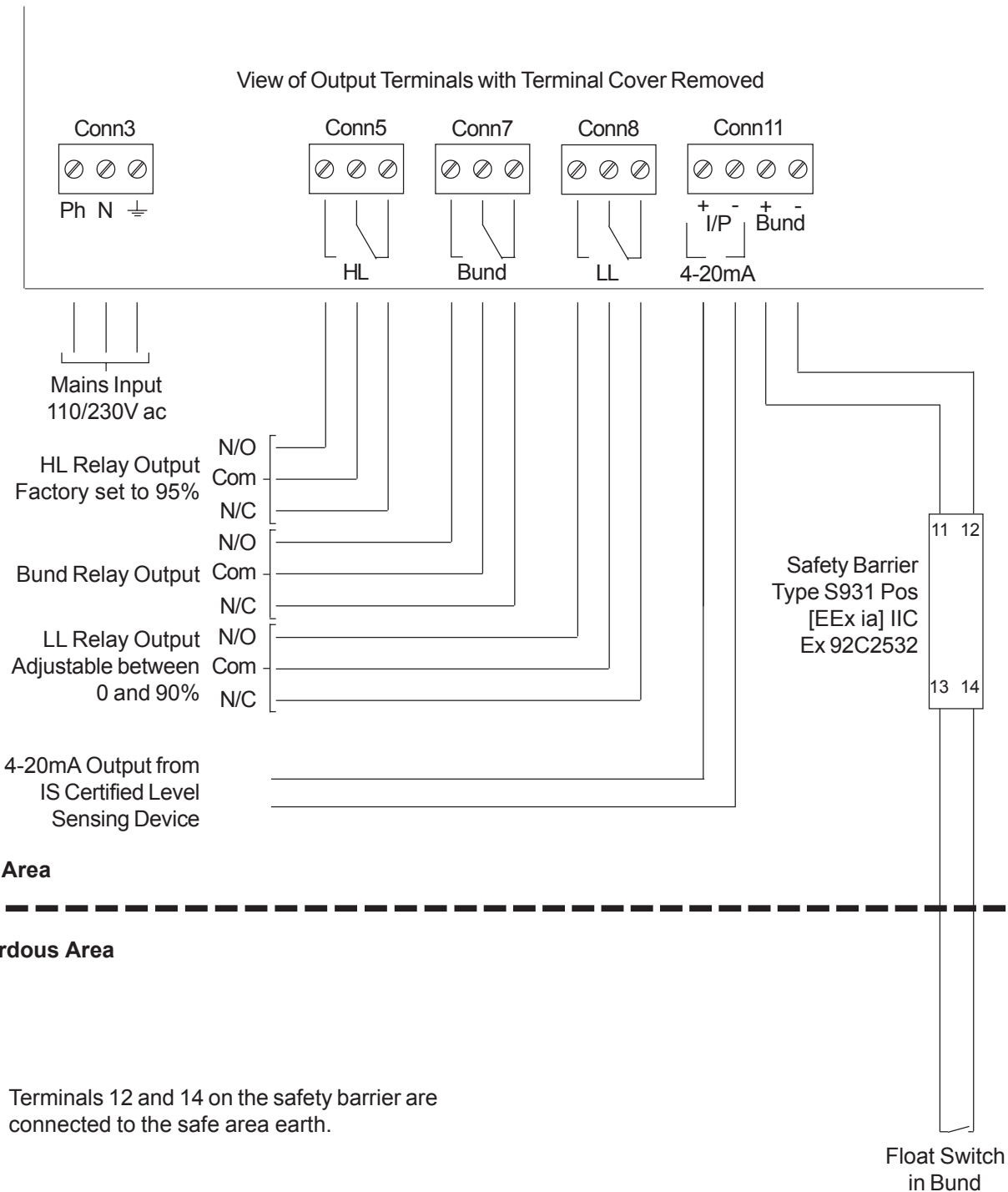


**4.1 Wiring Diagram**





**4.2 Wiring Diagram - For Hazardous Area Systems**





## 5. Specification

Part Number	2001 00 000
Supply	110/230V ac : 50/60Hz : 15VA : Supply Tolerance -15% +10%.
Input	4-20mA.
Display	Tracker 224 5 digit programmable display. (Instruction Manual supplied separately). Tank volume and units, and LL trip point normally factory set to Customer requirements.
Output Meter	4-20mA Analogue Meter (96mm x 96mm).
Relay Trip Points	High Level (HL) Factory set at 95% - non adjustable. Low Level (LL) Factory set to Customer Requirements (0% min.). The LL trip point is programmable between 0% and 90% via the controls on the Tracker Meter - Minimum HL-LL differential 5%. Bund alarm is set by float switch
<b>Note</b>	When the LL alarm is activated the Tracker Meter display will alternate between the tank contents reading and the message 'LOA1'.
Relay Outputs	SPCO :           3A @ 250V ac. 1A @ 24V DC.  Relay outputs are de-energised in non-muted alarm condition and energised in a muted alarm condition.
LED Indicators	Bund (Red) : HL (Red) : LL (Green). LEDs will pulse on and off in non-muted alarm condition and will remain on continuously when Mute Button is operated.
Pushbuttons	Test :       Operates the sounder, pulses the Bund, HL and LL LEDs on and off and de-energises all the relay outputs. Mute :       De-activates the sounder, re-energises the relay outputs. Refill :      Causes the Tracker Meter to display the ullage.
Sounder	Internal piezo-electric sounder (90dB @ 0.6 meters).

**Technical Data Sheet for  
'TankGuard' 2001 Tank Management System  
with Bund Alarm**



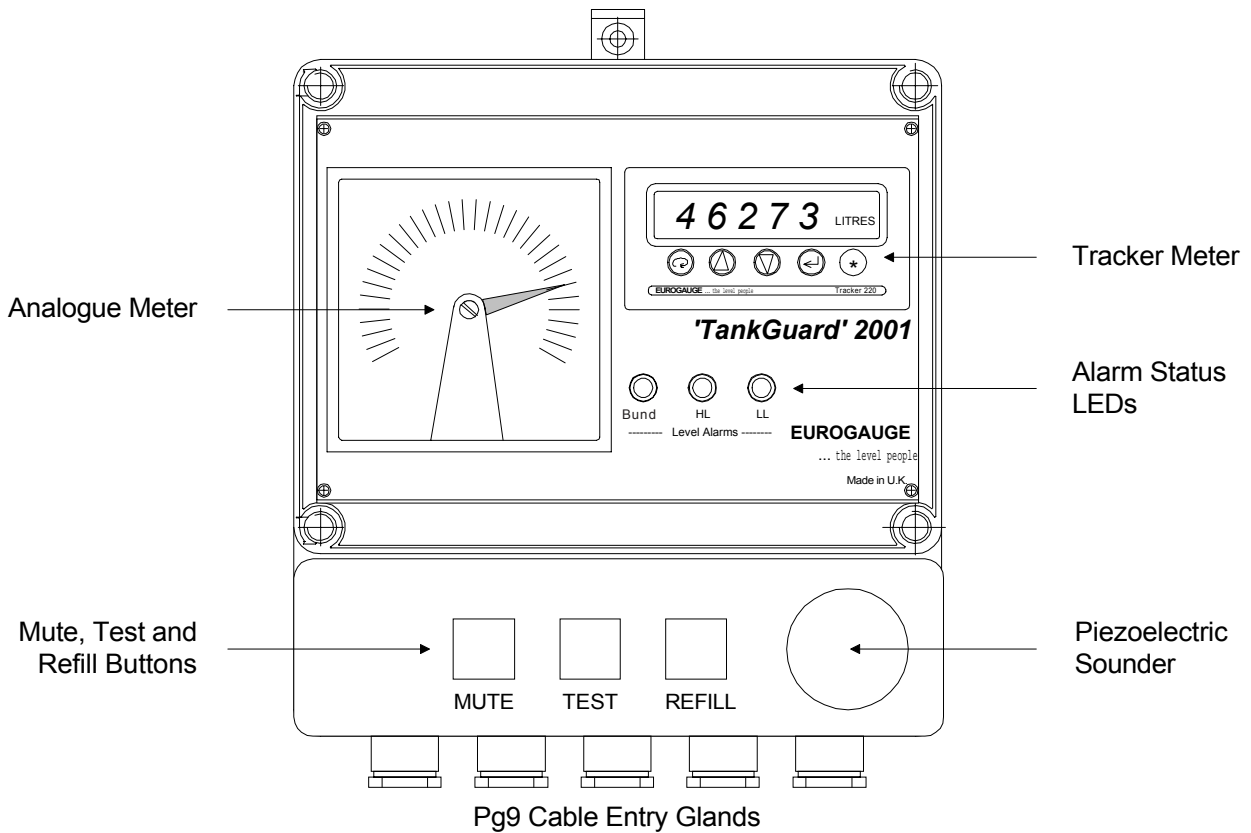
**Part No. 2001 00 000**

Issue No. 2 04/04/2003

Temperature	Operating Range : -5°C to +50°C. Storage : -10°C to +60°C.
Cable Entry	5 off Pg 9 glands in base of unit.
Dimensions	220mm wide x 230mm tall x 202mm deep.
Protection	IP65.
Weight	2.5kg.
CE Standards	EN 50081-1, EN 50082-1, EN 61010-1.

**Note** The Company reserves the right to alter the design or specification of this product without prior notice.

**6. Front Panel Controls**



Afriso Eurogauge Ltd.  
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TDS Reference Number  
**T80 585.1**

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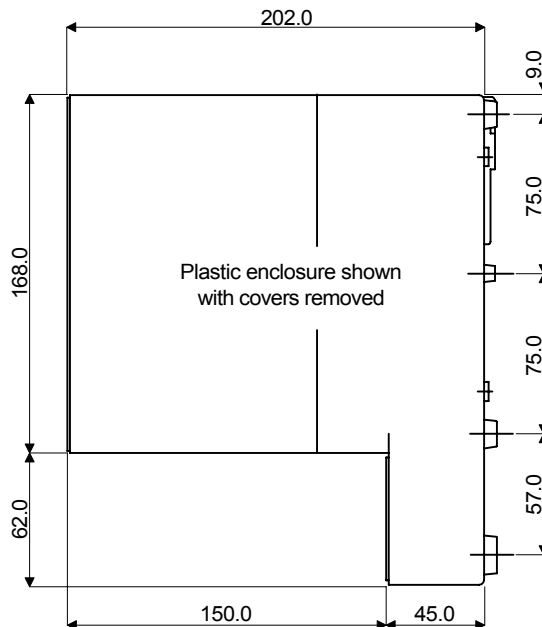
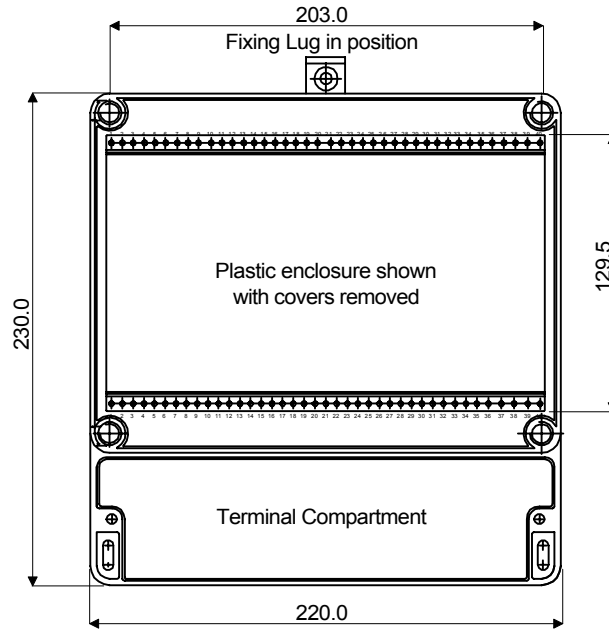
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7. Outline Diagram and Dimensions



Technical Data Sheet for  
*'TankGuard'* 2001 Tank Management System  
with Bund Alarm



Part No. 2001 00 000

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**User Notes**

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The Quality System of  
 Afriso Eurogauge Ltd  
 meets the requirements of  
 BS EN ISO 9001 : 1994  
 Certificate No. Q1017.