



Declaration of Conformity

ELT80 Conductivity Level Switch

This is to certify that the above named product fully complies with the Electromagnetic Compatability Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC of the European Union and with the requirements of the normative sections of the following harmonised European Standards.

EN50081-1 : Electromagnetic Compatibility - Generic Emission Standard.
Part 1 : Residential, Commercial and Light Industry.

EN50082-2 : Electromagnetic Compatibility - Generic Immunity Standard.
Part 2 : Heavy Industry.

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

Signed : 

(D C Ward)

Position : Technical Services Manager
Date : 04/01/2005

This declaration applies to the following Part Numbers:

568830100H-1 : 230V ac. 568823000H-4 : 24V DC.
568830100H-2 : 110V ac.
568830121H-3 : 24V ac.
568830121H-5 : 48V ac.



Application

The ELT 80 is a low cost DIN-rail mounting conductivity level switch designed for use with electrically conducting liquids such as water, sewage etc. The unit can be used with either one sensing probe as a single point level switch to operate high or low level alarms etc, or with two sensing probes for the automatic starting and stopping of pumps, etc.

The setting of the unit can be adjusted with the sensitivity (Δ) control to ensure that the unit switches at the correct level and is not affected by foam etc. on the liquid surface.

Operation

A partly insulated single or multi-rod electrode is selected from the Eurogauge range of sensing probes and installed in the container or pipe.

When the electrode is in contact with the conducting liquid, an ac circuit is completed through the liquid to either the metal container wall or to an earth electrode. Completing this circuit operates the output relay.

Installation

1. General

- 1.1 The unit is intended for control panel mounting.
- 1.2 Check that the supply voltage, as indicated on the side label of the instrument, is correct for the application.

2. Mounting

- 2.1 The ELT 80 is designed for mounting to symmetrical DIN rails, fitted into a suitable enclosure.
- 2.2 A weatherproof enclosure, with DIN-rail mounting plate, is available on request for applications where the instrument has to be mounted outdoors, or in a hostile environment. The enclosure has a transparent cover enabling the indicator lamp to be easily observed.

3. Wiring

- 3.1 All wiring must be in suitable cable for the application conditions. The installation must comply with the relevant regulations of the electrical supply authority concerned, together with any other statutory requirements which may affect the complete installation.
- 3.2 The probe circuits (terminals E1 and E2) must not be wired using mineral insulated wire (MICC) as erratic operation and loss of signal may occur. It is recommended that cable with polyethylene or PVC insulation is used for all signal circuits, recommended conductor size is 1.5mm².
- 3.3 Multi-core cable may be used for signal circuits provided that supply voltage cables are not included. Multi-core cables must be of the twisted pair type. Earth returns must not be commoned.

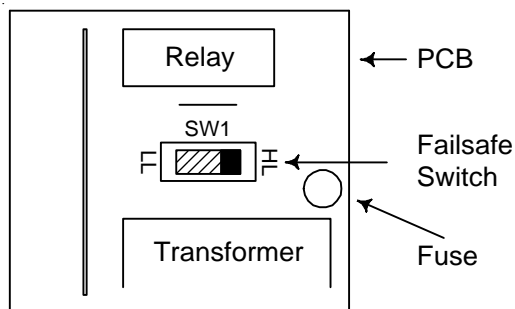


- 3.4 Run signal cables (terminals E1 and E2) separate from power supply cables or use screened cables to ensure optimum performance.
- 3.5 The container must be earthed or if of non-metallic construction, or internally lined, a separate earth electrode must be installed.
- 3.6 In single probe installations the electrode must always be connected to E1.

4. Commissioning

4.1 **Before switching on supply voltage, check that the instrument is wired up in accordance with the wiring diagram and that the supply voltage, as indicated on the side label of the unit, is correct for the installation.**

4.2 **Failsafe :** The unit is fitted with an internal failsafe switch which works preset to high level failsafe. The purpose of the failsafe feature is to ensure that the output relay de-energises, as indicated by the LED going out, when the alarm condition is reached. For high level (HL) failsafe the relay will de-energise when the probe is covered. For low level (LL) failsafe the relay will de-energise when the probe is uncovered.



Note : The failsafe setting should only be altered by qualified and authorised personnel.

- 4.3 Switch on the supply and allow a few minutes for the instrument to stabilise.
- 4.4 With the probe uncovered, turn the sensitivity (Δ) control fully clockwise. For units set to HL failsafe the LED should be on, for units set to LL failsafe the LED should be off.

The unit is now set to its highest sensitivity.

4.5 Fill the vessel to the required level; when the probe is covered with liquid the LED will change state. Slowly turn the sensitivity control in an anti-clockwise direction as much as possible without the LED changing state. The unit is now desensitised such that it should not detect foam etc. on the liquid surface.

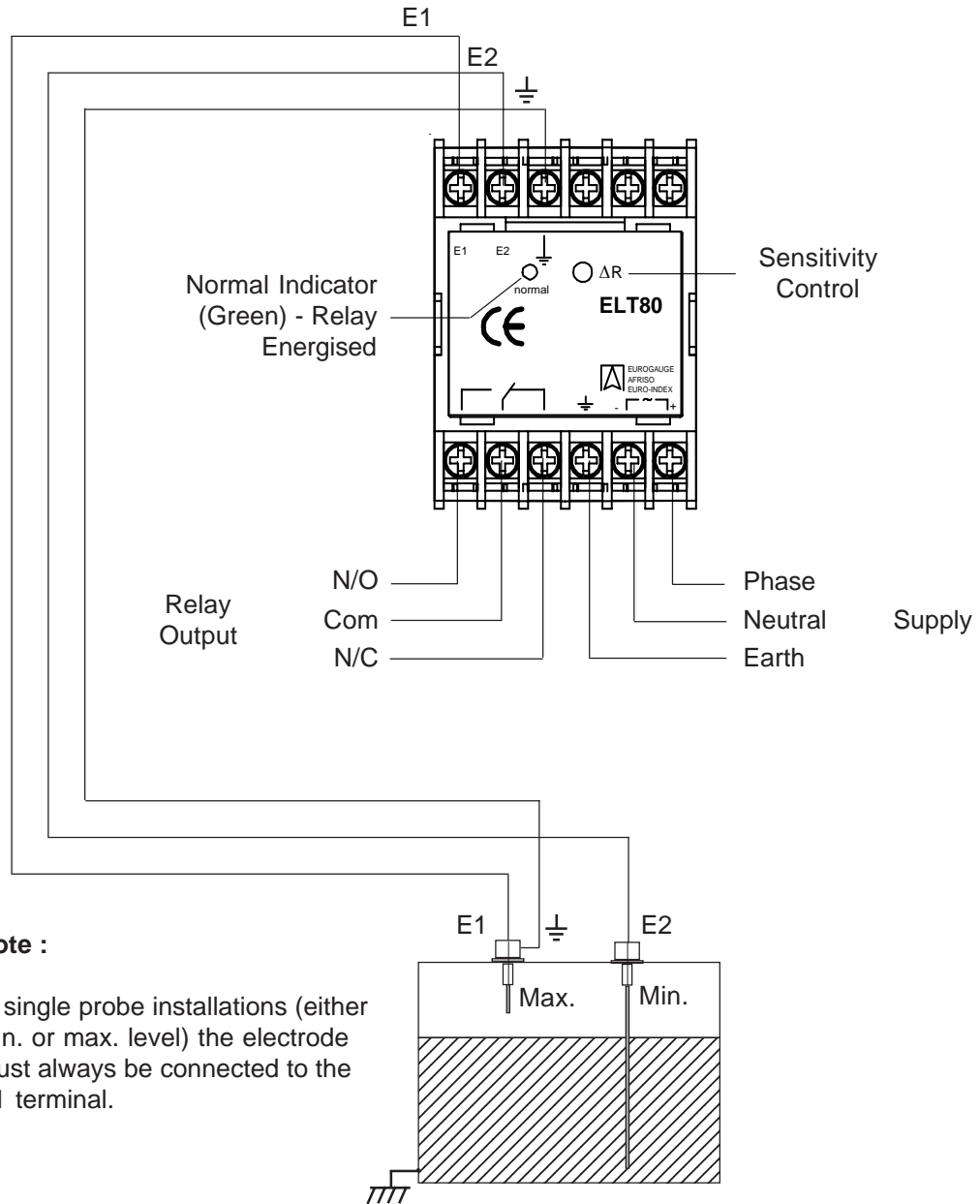
Note In applications where foam conditions exist or are likely to occur, the sensitivity setting of the ELT80 can be reduced by turning the sensitivity (Δ) control in an anti-clockwise direction.

Please phone us on 01342 323641 if you require further assistance.

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Wiring Diagram





Specification

Part Numbers	568830100H-1 : 230V ac; 568830100H-2 : 110V ac; 568830121H-3 : 24V ac; 568830121H-5 : 48V ac; 568823000H-4 : 24V DC.
Supply	24/48/110/230 Volts ac - 50/60Hz - 4VA maximum Works pre-set to order : Tolerance -15% +10%. 24V DC - Tolerance 20 to 32V DC : 2.5 Watts maximum.
Sensitivity	1k Ω to 100k Ω ;
Electrode	7 Volts pk-pk at 165Hz.
Controls	Sensitivity (Δ) to set trip point.
Output	Single pole changeover contacts : Voltage free; Rating : 3 Amps at 250V ac 750VA; : 1 Amp at 12V DC non-inductive load. Note : relay shown in de-energised state on unit label.
Indicator	Green LED on - 'normal' operation - output relay energised.
Failsafe	High Level (HL) failsafe : green LED on : output relay energised : probe uncovered. Low Level (LL) failsafe : green LED off : output relay de-energised : probe uncovered. Failsafe selection by internal switch, works pre-set to HL failsafe.
Hold Facility	Latch-on circuit between high and low level probes (E1 and E2) for pump control etc.
Temperature	-10°C ... 60°C
Housing	DIN-rail mounting enclosure with 12 screw terminals capable of accepting cable up to 2.5mm ² .
Fixing	Clip mounting to symmetrical DIN-rail.
Protection	IP40 (BS5940/IEC 529).
Weight	Approximately 0.3kg including packing.
Size	55mm x 73mm x 113mm overall.
Note	We reserve the right to alter the design and specification of this product without prior notice.



Outline and Dimensions

