

SOL 3000

Battery/Solar Powered Oil Separator Alarm



About this User Guide

This guide is part of the device installation.

Read this guide before using the device.

Keep this guide during the entire service life of the device and always have it readily available for reference.

Always hand this guide over to future owners or users of the device.

Contents

- 2 Warning terms
General installation and wiring requirements
General troubleshooting
- 3 General safety
General handling and storage
- 4 Staff qualification
Modification
Warranty
Spare parts
Recycling
Limit of liability
Copyright
Customer satisfaction
Contact Afriso Eurogauge
- 5 Application
Mechanical installation
Electrical installation and wiring
- 6 Base Flange Fixing
Commissioning
Maintenance
- 7 Specification
- 8 Declaration of conformity
Declaration of origin

- + Read guide before use!
- + Observe all safety information!
- + Keep guide for future use!

If In Doubt ASK !

+44(0)1293 658360
tech@afriso-eurogauge.co.uk



WARNING TERMS

The type and source of danger associated with this device is shown here.

Precautions to take in order to avoid the danger are shown here.

There are three different levels of warning:



DANGER

Imminent danger!



WARNING

Failure to observe the information will result in death or serious injuries.

Possible imminent danger!

Failure to observe the information may result in death or serious injuries.

CAUTION

Dangerous situation!

Failure to observe the information may result in minor or serious injuries and damage to property or device not working as expected.

General Installation and Wiring requirements

The device must be installed in accordance with the details given later in this guide.

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.

It is recommended that cable with polyethylene or PVC insulation with a conductor size of at least 0.75 to 1.0mm² is used.

CAUTION



ATEX installations may only be carried out by qualified and trained personnel in accordance with ATEX specific requirements.



Signal cables should be run separately from any cables carrying mains voltages.

MICC cable (Pyro) must never be used under any circumstances

If 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 only to the device earth terminal or as specified.

Specific terminal connection information may be found on identification label(s) on the device unless otherwise advised..

Refer to separately supplied installation guides for information regarding external components of the system such as level sensors, sounders and beacons etc.

CAUTION



Electrical systems may be impacted and the device switching contact (if fitted) may be destroyed by voltage peaks when inductive loads are switched off.

Use commercially available standard RC combinations such as 0.1µF/100Ω for inductive load switching.

Troubleshooting

Repairs and fault finding may only be performed by Afriso Eurogauge personnel or qualified personnel under Afriso Eurogauge instruction.

Refer to separately supplied installation guides for information regarding fault finding and repairs on

Safety

Intended use

The SOL 3000 Oil Separator Alarm device may only be used for continuous level monitoring in Hydrocarbon Separators.

Any use other than the application explicitly permitted in this guide or authorised by Afriso Eurogauge is not permitted.

Predictable incorrect application



The only part of the SOL 3000 Oil Separator Alarm device that can be mounted in a Hazardous Area (ATEX) is the sensor or sensors. The SOL 3000 Oil Separator Alarm device must always be mounted within the Safe Area.

If the SOL 3000 Oil Separator Alarm device is operated in hazardous areas, sparks may cause deflagrations, fires or explosions.

Safe handling

This product represents state-of-the-art technology and is made according to the pertinent safety regulations. Each device is subjected to a function and safety test prior to shipping.

Operate the device only when it is in perfect condition.
Always observe the operating instructions, all pertinent local and national directives and guidelines as well as the applicable safety regulations and directives concerning the prevention of accidents.

WARNING

Severe burns or death caused by mains voltage (110/230 VAC, 50/60 Hz) which may be present in the device depending on specification.



Do not expose the control unit to water.

Do not tamper with or modify the device in any way whatsoever.

Transport and storage

CAUTION Damage to the device due to improper transport.



Do not throw or drop the device.

Protect from wetness, humidity, dirt and dust.

CAUTION Damage to the device due to improper storage.



Protect from wetness, humidity, dirt and dust.

Store the device in a clean and dry environment.

Only store the device within the permissible temperature range.

Staff Qualification

The device may only be mounted, commissioned, operated, maintained, shut down and disposed of by trained staff. Electrical work may only be performed by trained electricians and in compliance with all applicable local and national directives.

Modifications to the device

Changes or modifications made to the device by unauthorised persons may lead to malfunctions and are prohibited for safety reasons unless specifically instructed by the manufacturer.

Use of spare parts and accessories

Use of unsuitable spare parts and accessories may cause damage to the device. Use only genuine manufacturer spare parts and accessories.

Liability information

The manufacturer shall not be liable in any form whatsoever for direct or consequential damage resulting from failure to observe the technical instructions, guidelines and recommendations given in this guide or ancillary documents.

The manufacturer or sales agent shall not be liable for costs or damages incurred by the user or by third parties in the usage or application of this panel, in particular in case of improper use of the device, misuse or malfunction of the connection, malfunction of the device or of connected devices.

The manufacturer or sales agent shall not be liable for damage whatsoever resulting from any use other than the use explicitly permitted in this guide or ancillary documents.

The manufacturer shall not be liable for misprints.

Disposal and Recycling

Switch off the supply voltage and disconnect from device.

Disconnect all other terminals and remove wiring from device.

Dismount the device.

To protect the environment, this device must **not** be disposed together with normal household waste

Dispose of the device according to local directives and guidelines.

This device consists of materials that can be recycled.

Electronic inserts can be easily separated and the device consists of recyclable materials.

Where it is not possible to dispose of the device locally in accordance with environmental regulations please contact us for return or disposal instructions.

Warranty

The manufacturer's warranty for this device is 24 months after the date of purchase.

This warranty shall be good in all countries this device is sold by the manufacturer or its authorised dealers or agents.

Refer to separately supplied installation guides for information regarding warranty on external components.

Copyright

The manufacturer retains the copyright to this device. This guide or any separately supplied installation guide may not be reprinted, translated, copied in part or in whole without prior written consent.

We reserve the right to make technical modifications with reference to the specifications in this guide without notice.

Customer Satisfaction

Customer satisfaction is our prime objective.

Please get in touch with us if you have any questions, suggestions or problems concerning the device or external components.

Contact

Afriso Eurogauge Ltd
Unit 4, Satellite Business Village
Fleming Way, Crawley
West Sussex. RH10 9NE

Tel: +44(0) 1293 658360 Fax: +44(0)1293 528270

email: sales@afri-so-eurogauge.co.uk

Web: www.eurogauge.co.uk

The SOL 3000 is designed to monitor the level of liquid hydrocarbon in oil separators/ interceptors/pits and troughs etc. in locations where mains power is unavailable. The system comprises an IP65 electronics housing containing the solar-powered circuitry, with an integral 10 metre cable, extendable to 300 metres, and a remote sensor with no moving parts for mounting in the separator chamber or as required by the type of installation. Depending on version an internal GSM unit sends an SMS text message to a designated mobile phone or phones advising that the separator requires emptying.

Operation

An integral solar panel trickle-charges a heavy duty lead acid 18 AH battery, which powers an intrinsically safe certified separator alarm unit or Zener barrier isolated level switch for other applications.

A Test/Reset button is provided that checks the correct functioning of the system, by simulating an alarm condition. When the separator has been cleaned, the system can be reset by pressing the Test/Reset button. The system will 'self-check' for 20 seconds before returning to the normal condition.

To conserve battery power and prolong operating life, the alarm unit is activated for 20 seconds every 60 minutes. If an alarm condition is present the beacon will flash. For GSM equipped units please see separate GSM user guide for full information.

Installation

Prior to installation the site contractor should provide a suitable concrete base with correctly spaced mounting studs set into the concrete base.

Insert the sensor into the separator using the access point provided by the separator manufacturer.

Under normal working conditions the sensor needs to be completely covered with water.

Run wires through a suitable duct to the junction box in the separator turret.

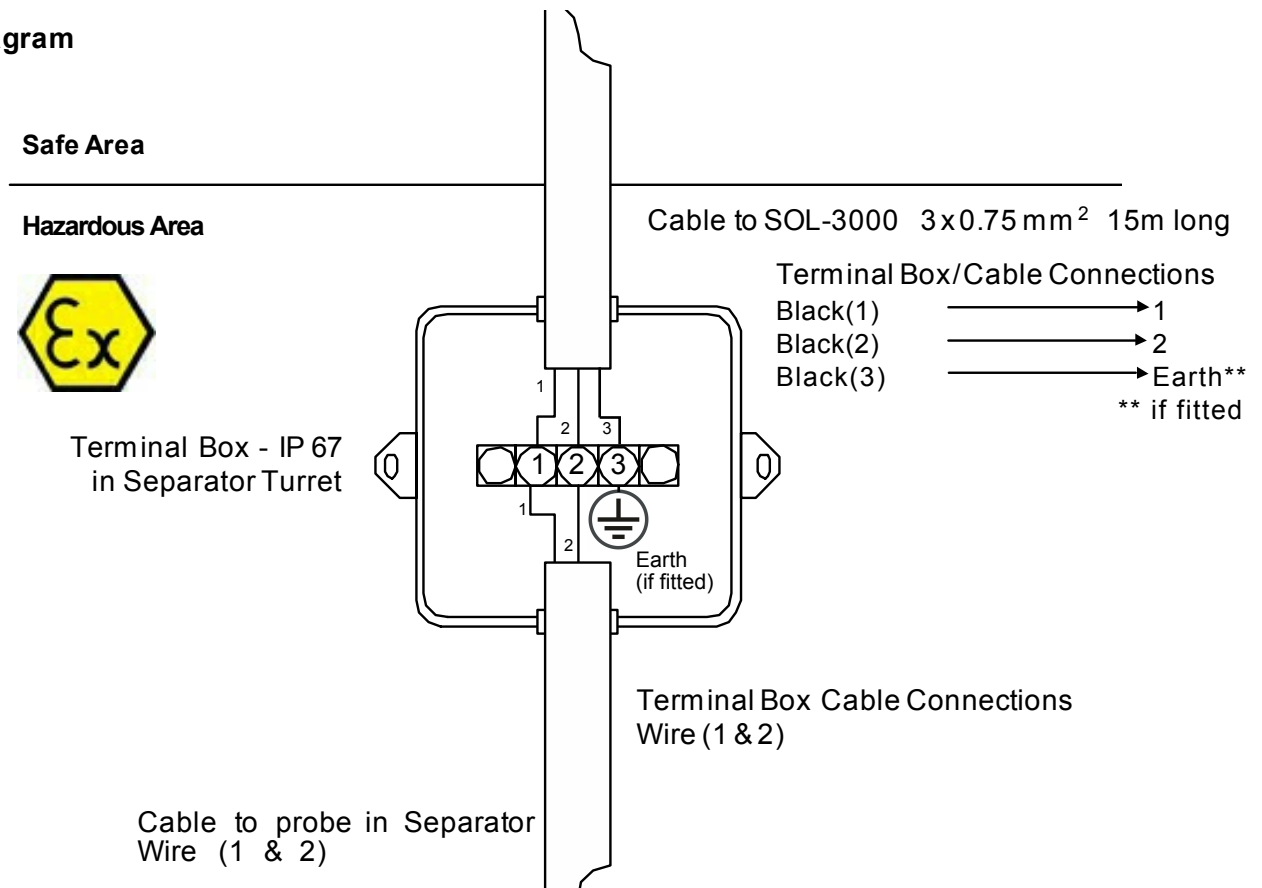
Orientate the pole until the solar panel is facing south.

Mount the complete assembly onto the concrete base and secure the fixing nuts.

Connect the wires (1 & 2) from the unit to the junction box in the separator turret as per diagram below.

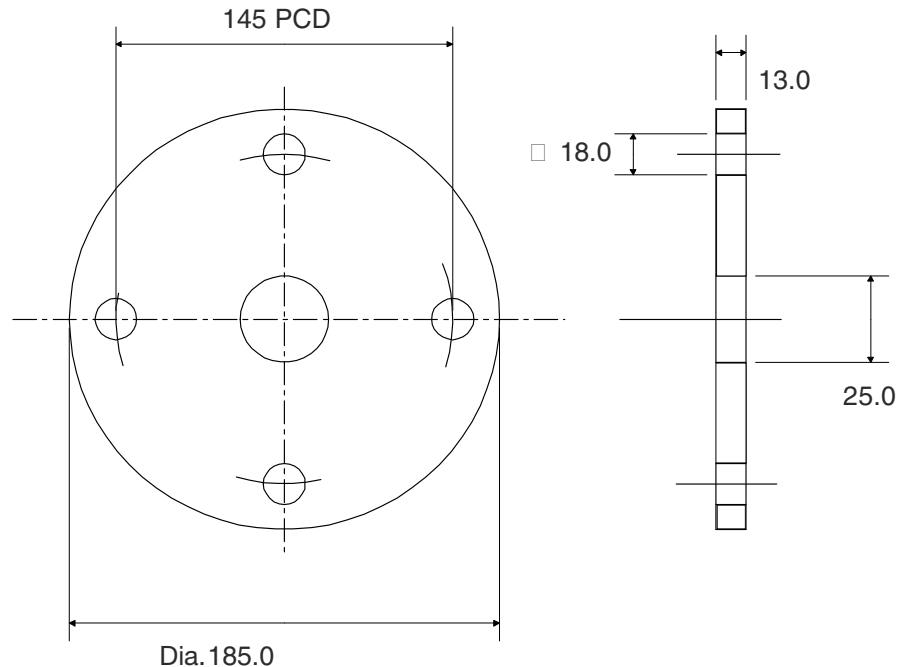
The Earth (3) wire should be connected to the separator earth (where provided on the separator).

Wiring Diagram



Orientate the pole until the solar panel is facing south.
Mount the complete assembly onto the concrete base and secure the fixing nuts.

Base Flange Fixing Hole Details



Commissioning

If the probe is immersed in water then after fitting the fuse adjacent to the battery, the green LED and the flashing beacon may come on. After 20 seconds the green LED will go out and the beacon will stop flashing if it is on.

If the probe is not immersed in water then after fitting the fuse, the red alarm LED and the flashing beacon will come on. After 20 seconds the red alarm LED will go out, but the beacon will continue to flash until the separator is filled to normal level with water.

Press the Test/Reset button and check that the green alarm LED is lit, and that the beacon is not flashing. The system is now fully operational.

Maintenance and Test

It is recommended that the transparent cover of the electronics housing is periodically cleaned with a suitable cleaner (anti static) to ensure that the solar panel always receives enough light to keep the battery fully charged.

The Test/Reset button should be operated at least once a month to ensure that the system is in full working order.

When a separator oil alarm condition is being cleared, the probe should be removed from the separator turret, cleaned and replaced.

When the oil has been drained from the separator and refilled with water, the Test/Reset button should be operated. The Green LED and the flashing beacon will come on for 20 seconds and then go off.

The unit is now fully operational.

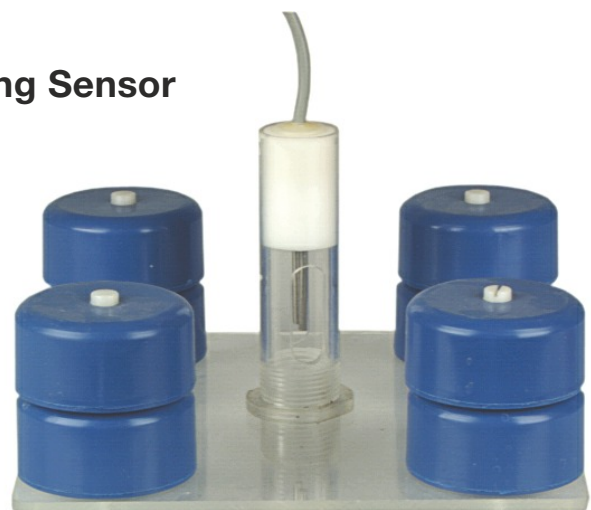
General Specification

Solar Panel	Output 16 V maximum; 12 V nominal; 500 mA maximum, connected to battery via solar shunt regulator.
Battery	18 AH lead acid re-chargeable – maximum voltage from solar panel 13.8 V via over-voltage protection provided by solar shunt regulator.
Visual Beacon	Flash rate – 1 Hz
Alarm Unit	Alarm Unit - intrinsically safe certified 24 Vdc or 230 Vac unit VTT 02 ATEX 012X depending on specification
EMC Emissions	EN 61000-3
Immunity	EN 61000-2
LVD	EN 61010-1
Test/Reset Button	IP 67 mounted on side of enclosure. In Test Mode the button simulates an alarm condition and energises the visual beacon. In Reset mode the Green LED on alarm unit and flashing beacon come on for 20 seconds and then go off providing fault condition has been cleared.
Fuse 1 A – 20 x 5 mm;	During transportation the fuse should be removed to de-energise the system and conserve battery power.
Enclosure	Polycarbonate PC/ABS with transparent and lockable door (IP65).
Dimensions:	Electronic Enclosure : 400 mm x 300 mm x 200 mm deep.
Overall Assembled Height	1.6 metres.
Assembled Weight	27.5 kg.



Standard Sensor

Floating Sensor





Declaration of Conformity

**SOL 3000 Battery/Solar Powered
Oil Separator Alarm**

This is to certify that the above named product(s) fully complies with the Electromagnetic Compatibility 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.

- EN61000-6-3: Electromagnetic Compatibility - Generic Emission Standard. Residential, Commercial and Light Industry.
- EN61000-6-1: Electromagnetic Compatibility - Generic Immunity Standard.

Signed :



D. C Ward

Position: Technical Services Manager
Date: 21/02/2007

This declaration applies to the following part number(s):
2800 Series and variants

Declaration of Product Origin

We confirm that the following product design(s) originate and have been wholly manufactured within the United Kingdom of Great Britain and Northern Ireland by:

Afriso Eurogauge Ltd.
Unit 4, Satellite Business Village,
Fleming Way, Crawley,
West Sussex.
RH10 9NE. United Kingdom.
Tel: +44 (0)1293 658360
Fax: +44 (0)1293 528270
sales@afriiso-eurogauge.co.uk
www.eurogauge.co.uk

SOL 3000 Battery/Solar Powered Oil Separator Alarm

Signed:



D C Ward

Position: Technical Manager

Date: 21/02/2007