

WATER LEVEL METERS (DIPMETER) WATER LEVEL ANTI-FOAM

**I
N
S
T
R
U
C
T
I
O
N
M
A
N
U
A
L**



CONTENTS	PAGE
1.0 INTRODUCTION	3
1.1 General description	3
1.2 Theory of operation	3
1.2.1 Water Level Meter	4
1.2.2 Anti-foam Level Meter	4
2.0 CONFORMITY	5
3.0 DELIVERY	6
3.1 Packaging	6
3.2 Handling	6
3.3 Inspection	6
3.4 Storage	6
4.0 OPERATION	7
4.1 Taking readings	7
4.2 Adjusting the sensitivity	9
4.3 Replacing the battery	11
5.0 MAINTENANCE	13
6.0 TROUBLESHOOTING	13
7.0 SPECIFICATION	14
8.0 SPARE PARTS	15
9.0 RETURN OF GOODS	16
10.0 LIMITED WARRANTY	17

1.0 INTRODUCTION

This manual is intended for all users of **Geosense® Water Level Meters** and provides information on their installation and operation.



It is VITAL that personnel responsible for the installation and use of Geosense® Water Level Meters READ and UNDERSTAND the manual, prior to working with the equipment.



1.1 General Description

Geosense® Water Level Meters are used to determine the depth of conductive liquids within boreholes, piezometer pipe or sumps.

Geosense® Water Level Meters consist of a stainless steel shrouded probe, specially designed to minimise displacement errors, providing unparalleled accuracy particularly within small bore piezometer installations.

As the probe is lowered into the water, a single audible noise (beep) is heard and visual indication (LED) is shown.

It is mounted on a rugged lightweight drum with integral brake and probe holder for easy operation and storage. The unit comes with an internal sensitivity control.

The **Geosense® Water Level Meter with temperature option** comes with an LCD digital display, with the temperature shown in degrees Celsius (°C)

Features:-

- Slim-line probe (14mm Water Level Meter, 21mm anti-foam)
- High accuracy
- Simple to use
- Easy to clean
- Robust construction
- Compact design

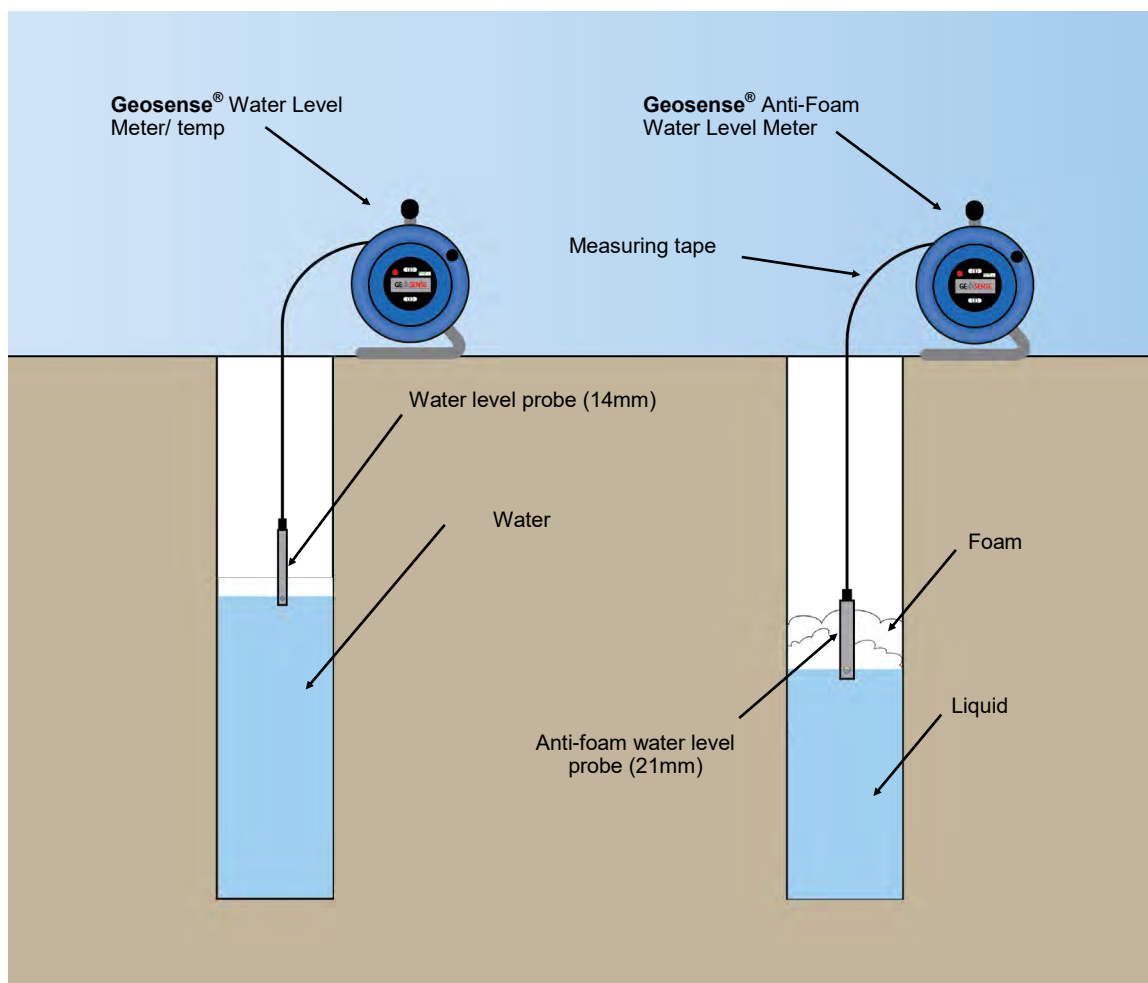
1.2 Theory of Operation

1.2.1 Water Level Meter

When the probe comes into contact with the water/conductive liquid, the liquid completes the internal circuit which is signalled by the lighting of the LED as well as an audible sound (beep). The depth of the water can be read using the tape.

1.2.2 Anti-Foam Water Level Meter

Some products, such as landfill leachate, create a foam on top of the water level, which may give a false reading if using a standard Water Level Meter. The anti-foam Water Level Meter, contains a float which sits on top of the water level and is not affected by the foam level. When the float rises above a certain level an audible sound (beep) is heard as well as a visual indication LED. The depth of the water (not the foam) can be read using the tape.

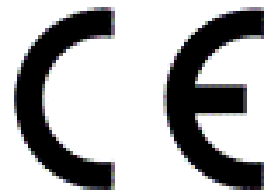


2.0 CONFORMITY

Geosense Limited

Nova House
Rougham Industrial Estate
Rougham, Bury St Edmunds
Email: info@geosense.co.uk

Declaration of Conformity



We Geosense Ltd at above address declare under our sole responsibility that the Geosense products detailed below to which this declaration relates complies with protection requirements of the following harmonized EU Directives,

The Electromagnetic Compatibility Directive 2014/30/EU
Restriction on the use of certain Hazardous Substances RoHS2 2017/2102/EU
Waste electrical & electronic equipment WEEE 2012/19/EU

Equipment description
Make/Brand
Model Numbers

Water Level Meters
Geosense
DIP-30, DIP-50, DIP-100, DIP-150, DIP-200, DIP250, DIP-300
DIP-30TEMP, DIP-50TEMP, DIP-100TEMP, DIP-150TEMP,
DIP- 200TEMP, DIP-250TEMP, DIP-300TEMP

Compliance has been assessed with reference to the following harmonised standard:

EN 61326-1:2006 Electrical equipment for measurement, control and laboratory use.
EMC requirements. General requirements.

A technical file for this equipment is retained at the above address.

A handwritten signature in black ink, appearing to read 'Martin Clegg'.

Martin Clegg
Director

July 2020

3.0 DELIVERY

This section should be read by all users of **Geosense® Water Level Meters**.

3.1 Packaging

Geosense® Water Level Meters are packed for transportation to site. Packaging is suitably robust to allow normal handling by transportation companies. Inappropriate handling techniques may cause damage to the packaging and the enclosed equipment. The packaging should be carefully inspected upon delivery and any damage **MUST** be reported to both the transportation company and Geosense.

3.2 Handling

Whilst they are a robust devices, **Geosense® Water Level Meters** are precision measuring instruments. They and their associated equipment should always be handled with care during transportation, storage and installation.

Once the shipment has been inspected, it is recommended that **Geosense® Water Level Meters** remain in their original packaging for storage or transportation.

3.3 Inspection

It is important to check all the equipment in the shipment as soon as possible after taking delivery and well before installation is to be carried out. Check that all the components detailed on the documents are included in the shipment. Check that the equipment has not been physically damaged.

3.4 Storage

All equipment should be stored in an environment that is protected from direct sunlight. Storage areas should be free from rodents.

When **Geosense® Water Level Meters** are not in use, it is recommend that the measuring tape is neatly wound onto the reel and the probe placed in its holder.

For extended periods of non-use, it is recommended that the battery is disconnected.

If the unit has been used in contaminated product it is recommended that the probe and tape is rinsed in clean water before storage, especially for the anti-foam model.

4.0 OPERATION

This section of the manual is intended for all users of **Geosense® Water Level Meters** and is intended to provide guidance with respect to their installation.

It must be remembered that no two installations will be the same and it is inevitable that some 'fine tuning' of the following procedures will be required to suit specific site conditions.



It is VITAL that personnel responsible for the installation and use of Geosense® Water Level Meters READ and UNDERSTAND the manual, prior to working with the equipment.



As stated before, it is vital to check all the equipment in the shipment soon after taking delivery and well before installation is to be carried out. Check that all components that are detailed on the shipping documents are included.

4.1 Taking readings

Step 1: Make sure that the brake is removed on the reel

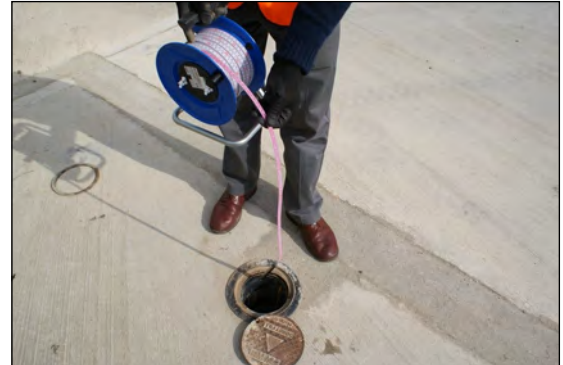


Step 2: Remove the probe from the probe holder.



4.1 Taking readings contd...

Step 3: Slowly lower the probe down the borehole/piezo pipe.



Step 4: Continue to lower the probe until a audible sound (beep) is heard/ LED shows.



Step 5: Lift the probe up until the audible sound (beeping) stops.

Step 6: Slowly lower the tape down to the point when the audible sound (beep) starts again.



Step 7: At the point where the audible sound occurs, place your thumb on the tape

4.1 Taking readings contd...

inline with the top of the borehole/pipe/
reference

Step 8: Without moving your thumb, lift the tape
up to read the length.



**IT IS IMPORTANT TO USE THE SAME
REFERENCE POINT WHEN TAKING
READINGS TO ENSURE THEIR
RELIABILITY**



Step 9: Remove the reel plate by
undoing the 4 screws (see right)

4.2 Adjusting the sensitivity

The sensitivity may need to be adjusted depending upon the quality (conductivity) of the
groundwater, especially in hard or brackish conditions.

Step 10: Using a 3mm terminal screw driver
adjust the sensitivity.

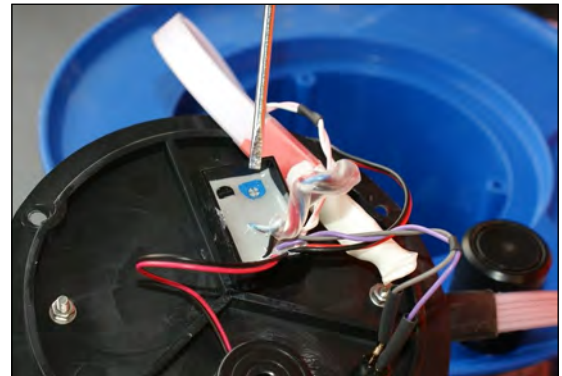
Increase sensitivity = clockwise

Decrease sensitivity = anti-clockwise



4.2 Adjusting the sensitivity contd...

WHEN DIPPED INTO THE LIQUID A SINGLE SHARP SOUND SHOULD BE HEARD. ADJUST SENSITIVITY ACCORDINGLY.



Step 11: Replace the reel plate



MAKE SURE THAT NO CABLES ARE TRAPPED WHEN REPLACING THE REEL PLATE.



Step 12: Undo the reel plate by undoing the 4 screws (see right)



4.3 Replacing the battery

Step 13: Remove the old 9V battery and remove the Velcro backing.



ALWAYS DISPOSE OF BATTERIES IN A SUITABLE AND RESPONSIBLE MANNER



Step 14: Apply the Velcro to the back of the replacement battery.



Step 15: Attach the new battery and secure onto the Velcro inside the reel



4.3 Replacing the battery contd...

Step 16: Replace the reel plate.



MAKE SURE THAT NO CABLES ARE TRAPPED WHEN REPLACING THE REEL PLATE.



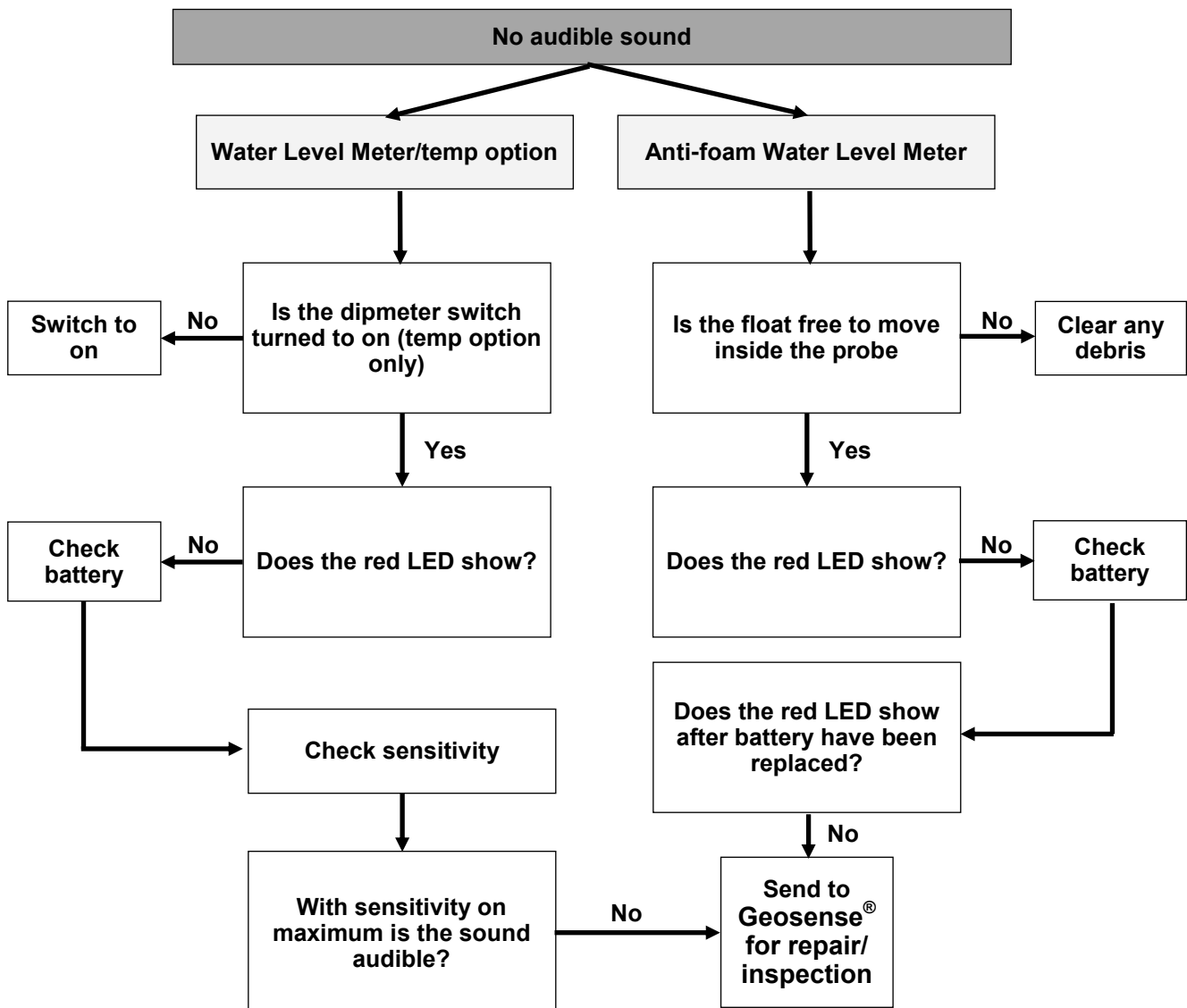
5.0 MAINTENANCE

All Water Level Meters require basic maintenance (please see below):-

- Status of the battery - change as required
- Cleanliness - always clean the probe, tape & reel after use
- When lowering and raising the probe make sure that the tape does not run over any sharp edges that may abrade the surface and shorten the life of the instrument.

6.0 TROUBLESHOOTING

If when lowering the water level into the borehole/casing no sound is audible check the following:-



7.0 SPECIFICATION

Water Level Meter

SPECIFICATION	
Probe diameter	14mm
Probe length	150mm
Probe material	Austenitic stainless steel
Tape type	Steel mm markings
Tape width	11.5mm
Tape coating	Polyethylene
Tape lengths	30, 50, 100, 150 200, 250, 300 metres
Reel type	Polypropylene
Reel diameter	230mm
Audible indicator	88 dB (A) buzzer
Visual indicator	Red LED
Power	9 volt PP3 battery

Anti-foam Water Level Meter

SPECIFICATION	
Probe diameter	21mm
Probe length	150mm
Probe material	Austenitic stainless steel
Tape type	Steel mm markings
Tape width	11.5mm
Tape coating	Polyethylene
Tape lengths	30, 50, 100, 150 200, 250, 300 metres
Reel type	Polypropylene
Reel diameter	230mm
Audible indicator	88 dB (A) buzzer
Visual indicator	Red LED
Power	9 volt PP3 battery

8.0 SPARE PARTS

While **Geosense® Water Level Meters** are robust instruments, items may need to be replaced from time to time due to wear. Please see below spare parts available.

Water Level Meter	
Qty	Description
1	Spare probe and tape
1	9 volt battery
1	Reel
1	LED
1	Buzzer
2	Probe clips

Additional items for anti-foam Water Level Meter	
Qty	Description
1	Float
1	Float stop

9.0 RETURN OF GOODS

10.1 Returns procedure

If goods are to be returned for either service/repair or warranty, the customer should contact **Geosense®** for a **Returns Authorisation Number**, request a **Returned Equipment Report Form QF034** and, prior to shipment. Numbers must be clearly marked on the outside of the shipment.

Complete the **Returned Equipment Report Form QF034**, including as much detail as possible, and enclose it with the returned goods and a copy of the form should be faxed or emailed in advance to the factory.

10.2 Chargeable Service or Repairs Inspection & estimate

It is the policy of **Geosense®** that an estimate is provided to the customer prior to any repair being carried out. A set charge for inspecting the equipment and providing an estimate is also chargeable.

10.3 Warranty Claim (See Limited Warranty Conditions)

This covers defects which arise as a result of a failure in design or manufacturing. It is a condition of the warranty that **Geosense® Water Level Meters** must be installed and used in accordance with the manufacturer's instructions and has not been subject to misuse.

In order to make a warranty claim, contact **Geosense®** and request a **Returned Equipment Report Form QF034**. Tick the warranty claim box and return the form with the goods as above. You will then be contacted and informed whether your warranty claim is valid.

10.4 Packaging and Carriage

All used goods shipped to the factory **must** be sealed inside a clean plastic bag and packed in a suitable carton. If the original packaging is not available, **Geosense®** should be contacted for advice. **Geosense®** will not be responsible for damage resulting from inadequate returns packaging or contamination under any circumstances.

10.5 Transport & Storage

All goods should be adequately packaged to prevent damage in transit or intermediate storage.



10.0 LIMITED WARRANTY

The manufacturer, warrants **Geosense® Water Level Meters** manufactured by it, under normal use and service, to be free from defects in material and workmanship under the following terms and conditions:-

Sufficient site data has been provided to **Geosense®** by the purchaser as regards the nature of the installation to allow **Geosense®** to select the correct type and range of **Geosense® Water Level Meters** and other component parts.

Geosense® Water Level Meters equipment shall be installed in accordance with the manufacturer's recommendations.

The equipment is warranted for 1 year from the date of shipment from the manufacturer to the purchaser.

The warranty is limited to replacement of part or parts which, are determined to be defective upon inspection at the factory. Shipment of defective part or parts to the factory shall be at the expense of the Purchaser. Return shipment of repaired/replaced part or parts covered by this warranty shall be at the expense of the Manufacturer.

Unauthorised alteration and/or repair by anyone which, causes failure of the unit or associated components will void this **LIMITED WARRANTY** in its entirety.

The Purchaser warrants through the purchase of Geosense® Water Level Meters that he/she is familiar with the equipment and its proper use. In no event shall the manufacturer be liable for any injury, loss or damage, direct or consequential, special, incidental, indirect or punitive, arising out of the use of or inability to use the equipment sold to the Purchaser by the Manufacturer.

The Purchaser assumes all risks and liability whatsoever in connection with **Geosense® Water Level Meters** from the time of delivery to Purchaser.



Geosense Ltd

Nova House . Rougham Industrial Estate . Rougham . Bury St Edmunds . Suffolk . IP30 9ND . England .

Tel: +44 (0) 1359 270457 . Fax: +44 (0) 1359 272860 . email: info@geosense.co.uk . www.geosense.co.uk