

# **Super Dipmeter Operating Manual**

**for models**

**DM3.1-100 /DM3.1-100T / DM3.1-200  
DM3.1-300 / DM3.1-400 / DM3.1-500**

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# 1. General Operational Features

## 1.1 Front Fascia



**ON** Press and release ON/OFF. Short beep-on, remembers last setting when switched on.

**OFF** Press and hold ON/OFF for 3 seconds. Auto off 5 minutes after last use.

**+** For pure water. Press to increase sensitivity.

**-** For cascading or saline water. Press to decrease sensitivity.

1-8 Digits

N.B. For room temperature option, see page 5.

## 1.2 Reel Lock

To lock the reel turn the plastic knob on the rear clockwise until locked.

## 1.3 Equipment Check

- Test circuit and battery by pressing the ON button. Make sure the panel securing knobs are tight. If the unit does not sound, replace the battery (one 9 volt) in the drawer on the faceplate and repeat.
- Test tape and probe by shorting out the centre conductor and probe body on the stud on the back axle of the unit. The buzzer and light should activate; if not, adjust the sensitivity and repeat. Make sure unit is on.
- Test the unit in tap water before going out to the field. **DO NOT** use distilled or deionised water.

## 1.4 Use in the Field \*

- Reel the tape down the well carefully, avoiding the edge of the casing. Hang the unit on the casing where possible and run the tape over the frame leg to avoid cuts and nicks.
- When the unit sounds, carefully measure the depth to water from your reference point by slowly lowering and raising the probe to the air/water interface. Raise the probe, shake off the water and repeat the measurement. In wells with cascading water, reduce the sensitivity by pressing the (-) button to avoid false signals.
- The probe is rated to full depth and can be used to measure depth to bottom of well. Reel the tape until the probe touches bottom and the tape becomes slack. **DO NOT** let the probe fall under gravity or it will be damaged when it hits the bottom of the well. **DO NOT** use the unit to measure sand backfill as the tape and probe may get "locked" in the backfill.
- Wind the tape back onto the reel, removing any excess moisture and dirt.

\* **Important:** Ensure that the panel securing nuts are tight before use.

**Note:** Intermittent beep indicates unit ON. Beeping shuts off automatically 5 minutes after last use.

## 2. Cleaning the Dipmeter

- Always clean the meter after use in the field to maintain optimal performance and extend the life of the unit.
- Unwind the tape and probe and wash with a mild detergent. Rinse well, wipe and rewind onto the reel. The tape and probe can be cleaned and degreased with the following: soap solution, naphtha alcanox 10%, detergent 10%, Lestoil; methyl, isopropyl and isobutyl alcohols; hexane, heptane and fully halogenated freon. Rinse thoroughly with water afterwards.
- Wash reel if necessary. The central electronic panel can be removed and the reel washed down. Unthread the panel securing knobs and carefully pull out the central panel. Disconnect the panel from the tape. The reel may be cleaned with the following: soap solution, naphtha alcanox 10%, hexane, heptane, white kerosene, mineral spirits; methyl, isopropyl, isobutyl and 1 + 3 denatured alcohols; freons TF + TE. Rinse well with water and let dry before putting the panel back in. **DO NOT** use abrasives, partially halogenated hydrocarbons or ketones to clean the reel.

## 3. Trouble Shooting

### No Sound when the unit is tested

- Check battery by pressing ON button. Replace battery if low and make sure panel securing knobs are tight. If unit still does not sound, remove central panel and check all connections.
- Check probe conductor to make sure it is clean and not crusted with mineral deposits. Check tape/probe connection for any breaks.

### Continuous Sound when the unit is turned on or probe removed from water

- Make sure probe conductor tip is clean.
- Check for excess moisture on the back of the electronic panel.
- Check probe/tape connection and tape for any breaks or leaks where water might get in.

### To test the system

Hold the probe centre pin against the stud on the back of the reel axle at the same time touch the probe body against the screw on the frame. The buzzer will sound if the system is ok. Sensitivity should be 8.

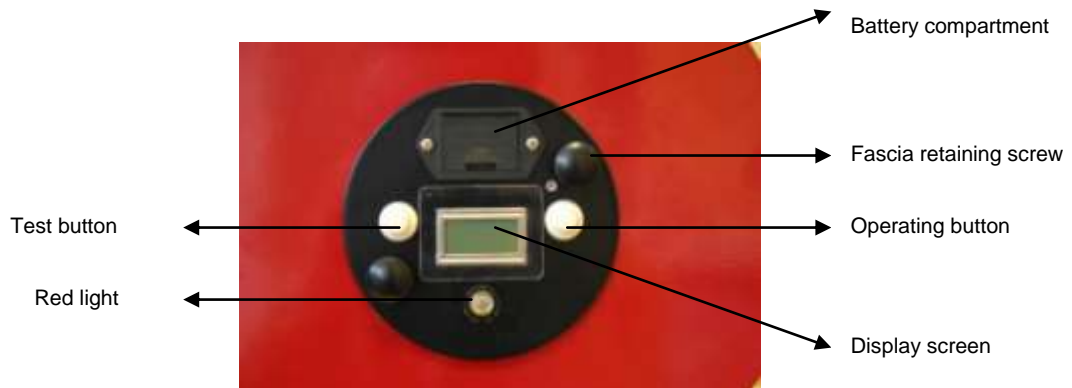
## 4. Precautions

- Avoid sharp edged casing.
- Avoid entanglement with other equipment in boreholes and wells.
- **DO NOT** use as guide to backfilling with sand etc., instrument may get locked in sand.
- Rewind tape onto reel after each use.
- The meter may be used outdoors; however, it should not be used in positions where it may be subjected to long periods of inclement weather without further protection.

***Warranty is conditional upon adherence to these guide lines.***

## 5. Temperature Option - Operating Instructions

The unit is off until the probe is in the water or the test button is pressed. Pressing the test button in air gives the air temperature.



### Operating Instructions

- Press Test button: Activates the test mode
- Press Operating button: Audio alarm will sound and red light will illuminate
- Press Test button: Turns off test facility
- Press and hold Operating button: Red light will remain illuminated, temperature will be displayed

## 6. Technical Specification

PHYSICAL	
<b>Power source</b>	9V Battery, user replaceable
<b>Dimensions and weight</b>	Reel weight: 5.0kg max. Tape weight per 30m: 0.6kg Reel diameter: 100m - 270mm 200m - 305mm 300m - 382mm 400m - 382mm 500m - 382mm Probe diameter: 16mm
<b>Tape length</b>	According to model selected: 100m, 200m, 300m, 400m, 500m
<b>Tape accuracy</b>	Class II, EC standard measuring devices 972/362/EC), 1 <sup>st</sup> amendment 78/629/EC, 2 <sup>nd</sup> amendment 85/146/EC
<b>Temperature meter</b>	Range: -55 °C - +100 °C Accuracy: ±0.5 °C Resolution: 0.625 °C
<b>Operating temperature</b>	Reel: -20 to +40 °C Probe: -20 to +85 °C
<b>Relative humidity</b>	0-99% Non condensing
<b>Reel seal</b>	IP54

MATERIALS OF MANUFACTURE	
<b>Reel</b>	Steel, powder coated
<b>Frame</b>	Steel, powder coated
<b>Probe</b>	Stainless steel, nose cone EPDM
<b>Tape</b>	Band: High tensile steel Conductors: Stainless steel Coating: Polyethylene

## 7. WEEE Compliance

The wheelie bin symbol displayed on equipment supplied by Geotechnical Instruments signifies that the apparatus must not be disposed of through the normal municipal waste stream but through a registered recycling scheme.

The Waste Electrical and Electronic Equipment directive (WEEE) makes producers responsible from July 1<sup>st</sup> 2007 in meeting their obligations, with the fundamental aim of reducing the environmental impact of electrical and electronic equipment at the end of its life.

Geotechnical is now registered with the Environmental Agency as a producer and has joined a recycling scheme provider who will manage and report on our electrical waste on the company's behalf.

### **Our Producer Registration Number is WEE/GB0052TQ**

When your instrument is at the end of its life, please contact the Geotechnical Instruments sales team who will advise you on the next step in order to help us meet our WEEE obligations.

