

Elcometer 500

Metal Box Locator

Operating Instructions



This product meets the following directives:

2014/53/EU Radio Equipment

2014/35/EU LVD/EMC

2011/65/EU Restriction of the use of certain hazardous substances.

The Elcometer 500 Metal Box Locator has been tested in accordance with EU regulations governing Electromagnetic Compliance and it meets the required directives.

RED Certificate Number ENW20RED1083 Issued by Element Materials Technology Limited

NB 0981 in accordance with article 3.2 only of the RED 2014/53/EU

Note: Performance may be affected if the unit is operated within a radio frequency electromagnetic field strength greater than 3V/m.

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A copy of this Instruction Manual is available for download on our Website via www.elcometer.com

CONTENTS

Section	Page
1 About your Box Locator	2
2 Getting started	3
3 Using the instrument	4
4 Maintenance	5
5 Technical specifications	6
6 Related equipment	6

Thank you for your purchase of this Elcometer 500 Metal Box Locator. Welcome to Elcometer.

Elcometer are world leaders in the design, manufacture and supply of inspection equipment for concrete and coatings.

Our concrete inspection products include a comprehensive range of concrete, and civil engineering inspection equipment. Our coatings products cover all aspects of coating inspection, from development through application to post application inspection.

The Elcometer 500 Metal Box Locator is a world beating product. With the purchase of this instrument you now have access to the worldwide service and support network of Elcometer. For more information visit our website at www.elcometer.com

1 ABOUT YOUR BOX LOCATOR

The Elcometer 500 Metal Box Locator is a hand held instrument for fast and accurate location of valve boxes, manhole covers and other metal objects.

- A strong focused search field ensures the accurate location of objects close to metal fencing and vehicles.
- Ignores any ghost signals from cigarette packets, drink cans and other metallic waste materials.
- Manufactured from a single moulded design in high impact ABS plastic, the Elcometer 500 Metal Box Locator stands up to a tough working environment.
- Balanced, lightweight unit with a single control button for ease of use.
- Audio signal with headphone socket and an ultra-bright LED visual indicator identify when metal has been detected.

1.1 WHAT THE BOX CONTAINS

- Elcometer 500 Metal Box Locator
- 4 x LR6 (AA) alkaline batteries
- Operating instructions

The instrument is packed in a cardboard and foam package. Please ensure that this packaging is disposed of in an environmentally sensitive manner. Consult your local Environmental Authority for further guidance.

To maximise the benefits of your new instrument, please take some time to read these Operating Instructions. Do not hesitate to contact Elcometer or your Elcometer supplier if you have any questions.

2 GETTING STARTED

2.1 FITTING BATTERIES

The Elcometer 500 Metal Box Locator uses dry cell batteries only. Sealed alkaline batteries are recommended however rechargeable equivalents may also be used.

4 x LR6 (AA) alkaline batteries are supplied in the kit.

To fit or replace the batteries:

1. Remove the battery compartment cover.
2. Fit the batteries taking care to ensure correct polarity.
3. Replace the battery compartment cover.

Note: Remove the batteries from the instrument if it is to remain unused for a long period of time. This will prevent damage to the instrument in the event of malfunction of the batteries.

Note: Alkaline batteries must be disposed of carefully to avoid environmental contamination. Please consult your local Environmental Authority for information on disposal in your region.

Do not dispose of any batteries in fire.

2.2 SWITCHING ON

Switch the machine on by turning the rotary control away from the "OFF" position.

2.3 BATTERY TEST

Keep the search head away from any metal and check the battery state by watching the LED. If the LED glows red, or the unit whines continuously even when the head is well away from any metal, fit new batteries - see "Fitting batteries" on page 3.

3 USING THE INSTRUMENT

1. Holding the search head well away from any metal, adjust the rotary control until the unit is on the verge of producing a low-frequency buzz or tickover sound. This is the most sensitive setting, and in use it will usually be found that the knob can be turned back somewhat from this position.
2. Hold the search head 100 mm to 150 mm (4" to 6") above the ground (so that larger surface clutter is not picked up) and sweep the instrument back and forth.

When metal^a is detected, the sound will rise in frequency to a whine and the red LED will illuminate.

The most sensitive point of the search head is its centre.

3. The outline of manhole covers etc. can be identified by bringing the search head up to the side of the object from four different sides and noting the point at which the signal starts, hence preventing unwanted targets being dug up where the resultant outline does not match the required target.
It is advisable to turn back the rotary control so that the edge of the target is easier to identify, and/or raise the search head, if the signal is very strong.
4. To conserve battery life, remember to switch the unit off when not in use. If the unit is not going to be used for a period of time, remove the batteries before storing it away.

4 MAINTENANCE

The Elcometer 500 Metal Box Locator is designed to give many years reliable service under normal operating and storage conditions.

No special maintenance is necessary, though the unit should be wiped clean of dirt and moisture after use.

The instrument does not contain any user-serviceable components. In the unlikely event of a fault, the instrument should be returned to your local Elcometer supplier or directly to Elcometer. The warranty will be invalidated if the instrument has been opened. Contact details can be found on the outside cover of these instructions, or on the Elcometer website, www.elcometer.com

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- a. The Elcometer 500 has a built in reject circuit against small pieces of metal, and cigarette packs, silver foil etc., such that no signal is given when the search head is over them.

5 TECHNICAL SPECIFICATIONS

Overall Length:	96 cm (38")
Search Head Diameter:	21 cm (8")
Weight:	1.1 kg (2.5 lb)
Power Supply:	4 x 1.5 V AA cells (Alkaline) or 4 x 1.5 V NiMH rechargeable cells (rechargeable cells must be removed from the unit before charging)
Operating Frequency:	960Hz \pm 10%
H-field Strength (Hf) at 10m:	29.6dB μ A/m
Operating Temperature:	-10°C to 50°C (14°F to 122°F)

APPROXIMATE DETECTION RANGE

Stop Tap Box:	50 cm (19")
Fire Hydrant Cover:	87 cm (34")
Inspection Cover:	95 cm (37")

6 RELATED EQUIPMENT

Elcometer produces a wide range of concrete and coatings inspection equipment. Users of the Elcometer 500 Metal Box Locator may also benefit from the following Elcometer products:

- Elcometer Deep Cover Metal Detector
- Elcometer Concrete Covermeters

For further information contact Elcometer, your Elcometer supplier or visit www.elcometer.com