LOCATION & IDENTIFICATION OF NETWORKS

ELIOT
— Innovative Solutions —

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1 SIMPLE DETECTION USING RFID

ELIOT is a system based upon RFID technology. It was designed to detect, identify and locate buried networks regardless of the soil type and the degree of humidity (dry, wet or under water).

The features of the system are as follows:

- Simultaneous identification of all types of networks,
- Location on three axis X,Y,Z with accuracy ± 3 cm in X,Y and ± 10 cm in Z,
- Location of networks to class A in accordance with the NF S 70 003,
- Geo-referencing of underground networks,
- Built in database enabling communication with GIS (Geographic Information System)

The system consists of a passive RFID (marker) transponder, an RFID detector equipped with its antenna and software to process the data (HMI – Human Machine Interface).

2 EASY & PRECISE LOCATION

DETECTION METHOD

The ELIOT technology is all or nothing.

- The detection is 100 % reliable when in range of the marker.
- Loss of the audible & visual signal draws a circle whose centre is directly above the marker. The emitted field is unaffected by the type of soil or the environment.
- Information about the marker is clearly shown on the display of the detector.
  The Eliot technology does not require special training or experience, so it can be used by all.

READING THE INFORMATION

This function is available when a marker is in range of the detector. The information stored on the marker is directly read by the detector.
By simply pressing the VALID button the second level of information gives additional data about the type of buried network, traceability...

WRITING THE INFORMATION

The detector allows the user to add information to the marker whatever the depth. This information can be password protected.

MEASUREMENT OF THE REAL DEPTH IN AN INSTANT

The detector can measure the actual depth of the marker below the surface

A specific algorithm provides centimeter accuracy regardless of the type of soil or the presence of electromagnetic fields.

Ability to add information in the memory of the marker.

Presentation of the depth measurement.

3 ERGONOMICALLY DESIGNED

Ergonomic handle
for easy operation

Shroud to protect the display
from the sun

Anti-glare
colour screen

High capacity rechargeable battery (Li Ion)
with a long-life (50 % use of power in 4h)

Easy to update the software
thanks to the electronic
compartment

Multi-language keyboard
and automatic update of
the date and time based
on time zones

Charging battery and USB port
connectivity (battery charger supplied
as standard, optional external charger
available)

Handles to attach a
shoulder strap (supplied)
for comfortable operation

Folding antenna
for easy transport

Class protection IP54 & 67
(case & antenna)

4 MAPPING AID

GPS FUNCTION

The locator is equipped with an internal GPS to perform sub metric measurements.

These geographical coordinates are then associated with the information in the database and the file can be exported in .csv format.

The integration of these information in to GIS is then very easy.

LOCATES TO EN CLASS A

The unmatched accuracy and consistent ELIOT detector can perform geographic search operations on closed trenches in respect of class A (French settlement - NF S 70-003).

This allows greater flexibility in creating as-built drawings and a better organization on the ground.

5 INTEGRATED DATA

There are two types of readable data in the Eliot detector:

- Those stored in the RFID marker,
- Those stored in the locator database.

DATA IN THE MARKER

One part is accessible as read only in the detector:

- Identification number of the marker,
- Application,
- Integration type.

Another part is read and write, these fields Notes 1 and 2. They are modifiable even buried up to the maximum depth of use of the marker. These fields can be protected against changes with a password.

These 2 fields each have an area of up to 90 alphanumeric characters, depending on the marker type. The user can then transfer relevant remarks the traceability of a fitting or operational.

DATA IN THE DETECTOR

The information stored includes:

- The GPS coordinates (from the internal or external GPS),
- The information from the GPS (number of satelites, HQOP...),
- The date of record,
- Depth,
- Type of equipment (valve, flange, ...).

› It is possible to store 3,000 tags that can be exported or imported in CSV format

6 ADVANCED CONNECTIVITY

BLUETOOTH TO EXTERNAL GPS & KEYBOARD

The Bluetooth function lets you connect an external keyboard or GPS to the detector.

Both devices can be connected simultaneously.

USB PORT

It can export or import the database.

7 SECURE FUNCTION

PROTECTION OF THE DATA ON A MARKER

The data contained in the marker during manufacturing, are not modifiable.
The “Note” fields can be edited but also protected with a password.
A small locked padlock appears next to the information when it is secured.

DETECTOR LOCK FUNCTION

To prevent misuse of the detector a password can be required when the unit is started.

8 SUMMARY OF THE KEY TECHNICAL DATA

MECHANICAL CHARACTERISTICS

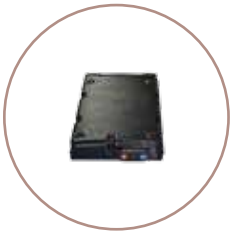
Description	Value
Locator dimension (without antenna)	82x31x13 cm
Weight	4,45 kg
Antenna dimension	Ø 68 cm
Detector colour	Orange, RAL 2011 (equivalent to Pantone 158C)
Protection class locator	IP54
Protection class antenna	IP67
Operating temperature	-5°C / +35°C
Storage temperature	-25°C / +60°C

ELECTRONIC CHARACTERISTICS

Description	Value
Rated voltage	7,2 V DC
Battery	93,6 Wh
Battery life for a transmitted power of :	
› 100 %	2h
› 70 %	3h
› 50 %	4h
› 30 %	4h30
› 10 %	6h
Charger input voltage	110-230 V AC 50/60 Hz
Charger output voltage	8,4 V DC
Charger rated current	2,7 A

9 ADDITIONAL ACCESORIES

FOR THE ELIOT DETECTOR



Spare battery

External charger

Ultra-resistant carry case on wheels IP67 - Lockable

Bluetooth AZERTY or QWERTY keyboard

kineka.com