



# **EASYSCAN**

The Smart Leak Locator

## **User Manual**

Language: English

Version: 1.2





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# 1 Indications for Use

It is essential to read the operating instructions carefully and completely before using the first time the equipment and software. They contain important information on safety, installation and use. Keep these instructions in a safe place.

## 1.1 Symbols

	<p><b>Warning of dangerous situations that can cause injury and damage to the devices.</b></p>
	<p><b>Warning</b> The ZONESCAN Correlating Noise Logger contains a very powerful magnet. The operation of cardiac pacemakers and implanted defibrillators can be influenced. People with cardiac pacemakers and implanted defibrillators are not permitted anywhere near this product.</p>
	<p><b>Important notes and tips are a sign Info provided. Follow these guidelines.</b></p>
	<p><b>Never put in your household waste bin.</b></p>

## 1.2 Safety



The operating and maintenance personnel must read the instructions carefully before using the equipment. Knowing all the information contained therein - in particular the warning and safety instructions - is needed to safely operate the equipment, and to protect yourself and others against possible dangers. Ignoring the warning, safety and operating instructions can result in injury, damage, or a considerable shortening of the equipment life time. Do not make any changes or alterations to our products. Never open the device, otherwise any warranty and conformity expires. To protect the battery, the Link must be recharged every 3 months. For questions concerning replacing the battery, please contact your Gutermann distributor. When using the software or the equipment, make sure you adhere to any applicable regulations, in particular traffic regulations.

## 1.3 Warning



The ZONESCAN Correlating Noise Logger contains a very powerful magnet. The operation of cardiac pacemakers and implanted defibrillators can be influenced. People with cardiac pacemakers and implanted defibrillators are not permitted anywhere near this product.

## 1.4 Intended Use

Gutermann products, hardware, software, and accessories are exclusively intended for industrial use and exclusively intended for leak detection on water pipes of the public water supply. In particular, these products are not intended to be used on waste water and gas pipes. Gutermann is not liable for any damages caused by misuse, improper operation, and as a result of non-compliance with safety instructions and warnings.

## 2 Delivery Contents



The EASYSCAN System contains the following components:

1. Smartphone or tablet computer with Android OS (optional)
2. Ground Plate and 3 Rods
  - a. Pointed rod
  - b. Extension rod
  - c. Handle rod
3. EASYSCAN Link including USB battery charge cable
4. EASYSCAN Red and Blue Correlating Sensors
5. Robust carrying case
6. Sensor Clips
7. Around-the-Ear Headphones (optional)
8. Magnets

### 3 Installation EASYSCAN Software

This guide helps with installing and running the EASYSCAN software for Android OS. For help with getting started please refer to chapters 4, 10, or the enclosed Quick Start Guide.

#### 3.1 Features

EASYSCAN currently has the following features:

- Programming of EASYSCAN Correlating Sensors via Link
- Show Sensors in map
- Listening Feature
- Free offline maps available for download
- View saved correlations and listenings in Historical data section

#### 3.2 System Requirements

The program works on devices with the following requirements:

Minimum: Tablet computer (or smartphone) with

- Android OS 4.22 or higher
- GPS

Recommended:

- Screen size > 4"
- Quad core processor

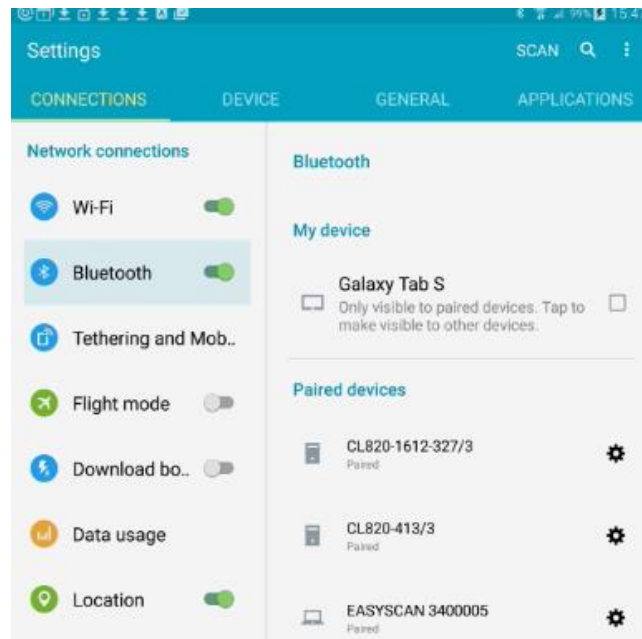
#### 3.3 Installation of EASYSCAN App

When you are ready to install the app on your Android device before the first use of the product, go to the Google Play Store, search for “EASYSCAN Water”, and download the EASYSCAN App.



After the installation, you can start EASYSCAN with the icon on the home screen:

- A one time setup of the link and sensors are required. On the initial screen enter your Company Name and Link Serial Number which can be found in the red panel of the link.
- The next screen choose “Open Bluetooth Settings” , Switch on the Link and SCAN for the EASYSCAN \*\*\*\*\* Link and pair (no PIN required). Use the back arrow to return to EASYSCAN then select “Pair Device”.
- The final setup screen requires both Blue and Red sensor serial numbers entered then tap “finish”



## 4 EASYS CAN Link

- On/off: The link can be switched on and off by using the push-button on the side. The LED will blink every 2 seconds when the link is on.
- Charge: Connect the link with the USB cable to a USB 2.0 or higher port to charge. The LED will blink fast to indicate the charging process.
- Battery status: The status can be seen in the top icon bar on your android device. The link needs to be connected to your device for this.



Easyscan link with push-button and LED



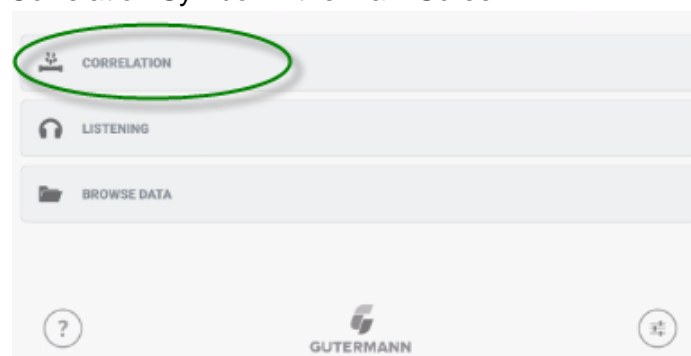
Easyscan link cable and socket

## 5 Correlation

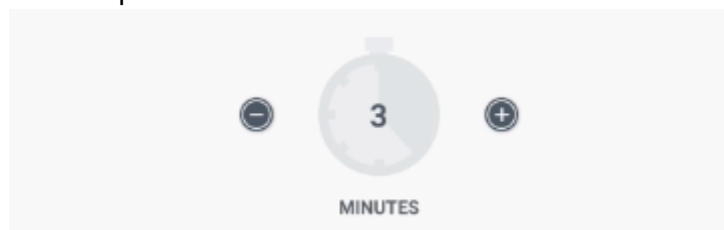
Hardware: For a description of how to prepare your hardware for the correlation operation, please refer to section 9 of this manual.

In your App:

- Tap on the Correlation Symbol in the Main Screen

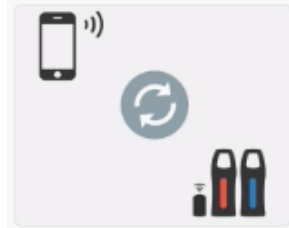


- Use the +/- symbols to enter a time delay before correlation starts then tap OK. Note: allow enough time to open the chamber covers and attach the sensors to both fittings.

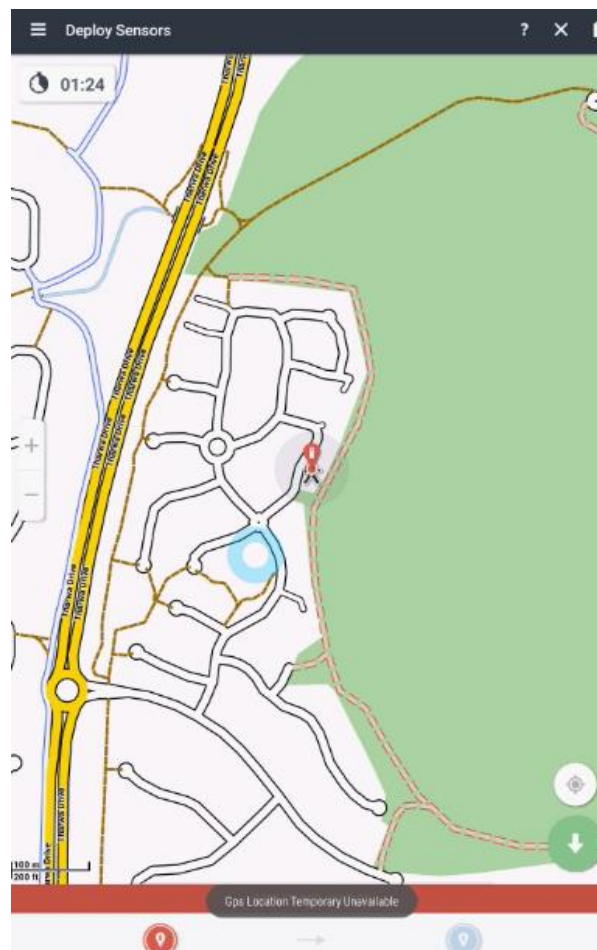




- Switch the Link on and tap Synchronise

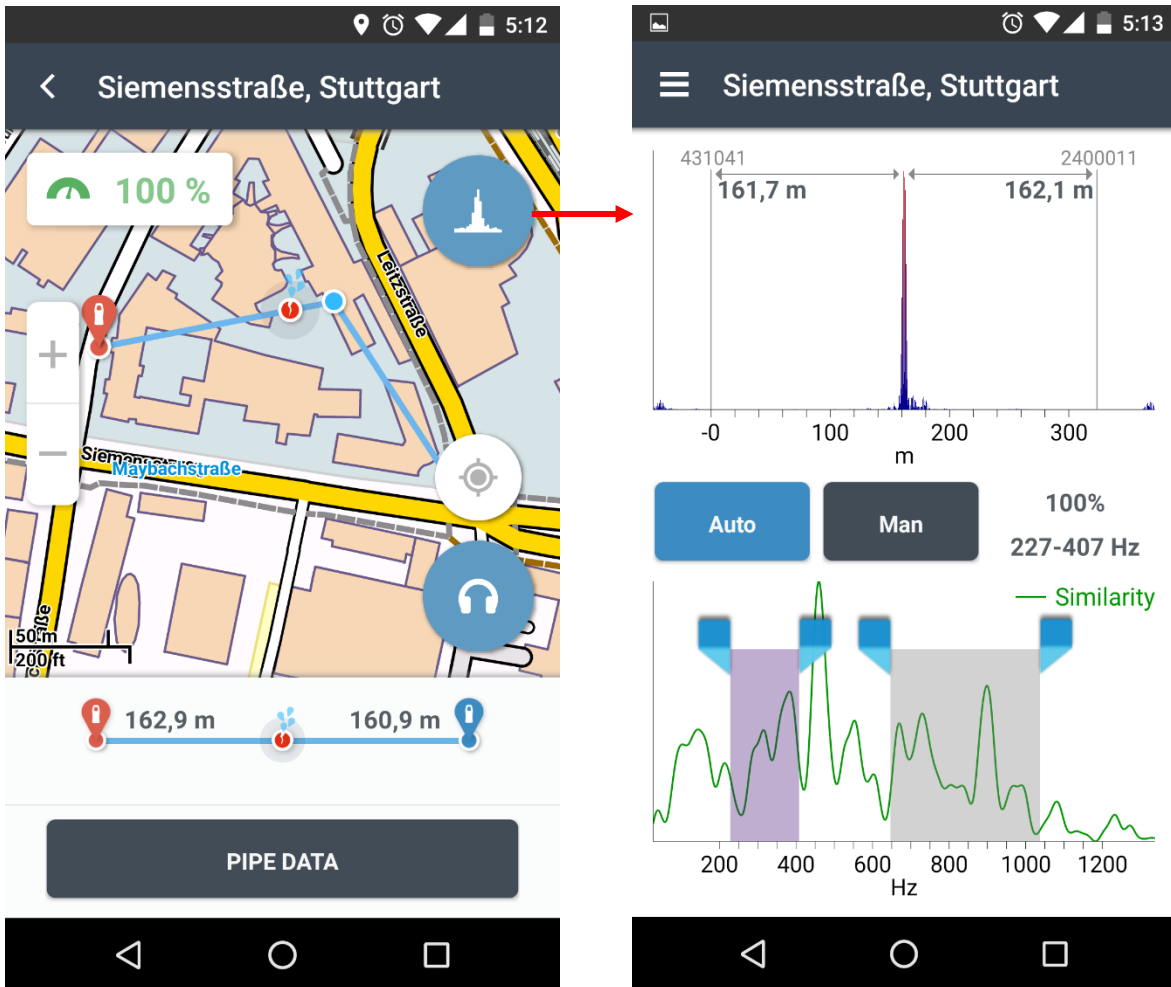


- Deploy the Red Sensor first using the tablet to plot the sensor position. If the GPS position is not accurate enough, you can move the map with your finger (zooming in increases position accuracy). Then tap the green arrow to confirm. Repeat for the Blue sensor and the correlation starts.



- A timer counts down until the measurement is completed
- The EASYSCAN App will instruct the user to collect the Sensors.
- Once collected tap next to download the data.
- Choose the pipe type straight or bent (mixed material) and enter the pipe type plus diameter.
- The result is displayed with a correlation quality % in the top left of the screen and the distance from Red and Blue sensors in the bottom of the screen as shown

below. Tap the headphone symbol if you wish to pin point the leak, or the chart symbol to filter the correlation manually.



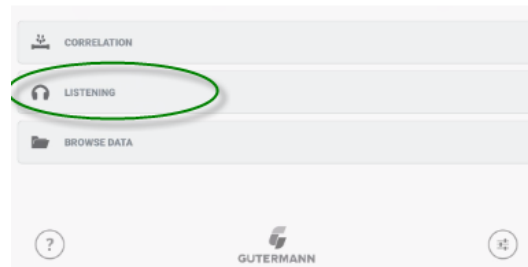
The Correlation Filter screen on the right hand-side shows the correlation chart on the top with the leak position as a peak over the length of the pipe. With the buttons in the middle you can switch automatic or manual filtering on/off. The bottom chart shows the similarity of the acoustic signal between the red and blue sensors over the frequency. A high value indicates a good frequency range for filtering, which you can also select manually by moving the handles.

## 6 Listening

Hardware: For a description of how to prepare your hardware for the listening operation, please refer to section 9 of this manual.

In your App:

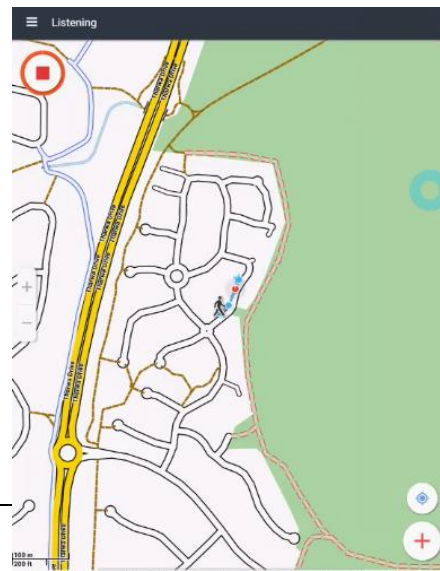
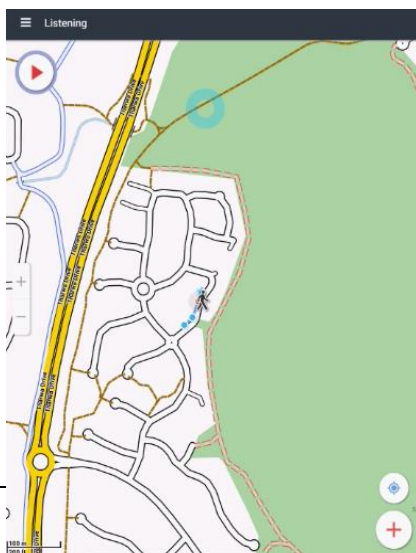
- Tap “Listening”



- The EASYSCAN system is a listening stick or a ground microphone. Simply tap on “Listening” on the main screen then attach a sensor to the ground plate using the magnet. Then choose the appropriate rod configuration to create the microphone required.

### 6.1 Using the Ground Mic function:

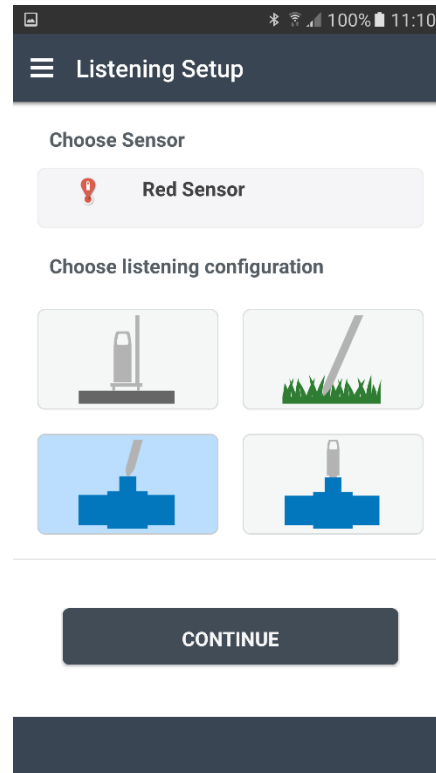
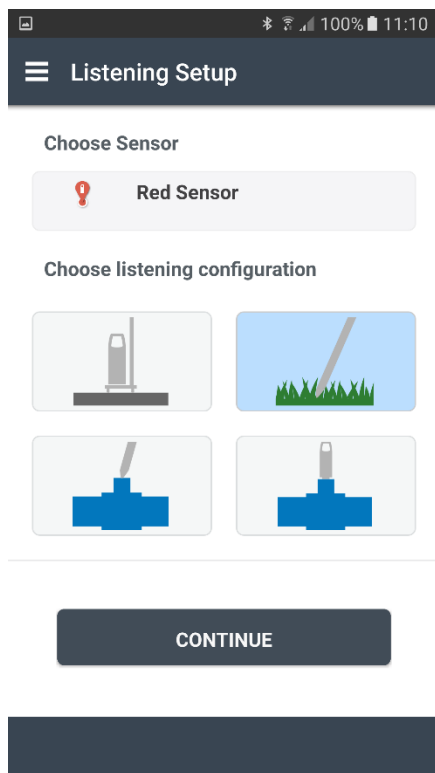
- Use the rod with the handle plus extension rod and screw to the top of the ground plate.
- Either Red or Blue sensor can be selected in the lower part of the screen. By default, the sensor which has more battery left is selected.
- Attach the chosen Sensor to the Ground Plate with the magnet.
- Tap the ground mic symbol
- A map window opens, use the red record symbol in the top right corner to listen.
- A 5 second sample of sound is recorded and looped over until stop is pressed. A



noise level is displayed in the lower part of the screen.

- To pin point the leak using the noise level feature place mic on the ground surface (above the pipe) and press play, listen for 5 seconds then press stop, move to the next spot above the pipe and press play, listen for 5 seconds and press stop. Repeat the process until the highest number has been found. The highest noise level and the highest pitch is likely to be the leak.

## 6.2 Using a Listening Stick

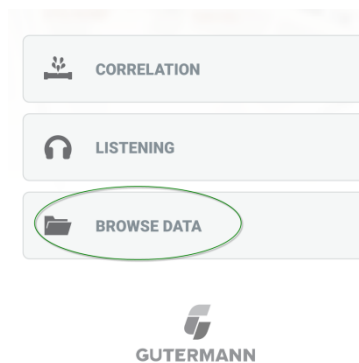


- Configure the rods to create a listening stick then either tap the middle symbol when listening through soft ground or the lower symbol if listening on fittings such as valves, hydrants or meter services. Repeat the process as described above.

### 6.3 Creating a Leak Event

- You can save a listening permanently (and later load in from “Browse Data”). For this, you create a Leak Event tapping the “+” button at the bottom right corner of the screen.
- As an EAYSCAN PREMIUM member you can later upload those Leak Events to your myEAYSCAN.net cloud account.
- It is important to know that a correlation can only be saved as leak event if it was subsequently re-confirmed as leak using the listening function.

## 7 Browse Data

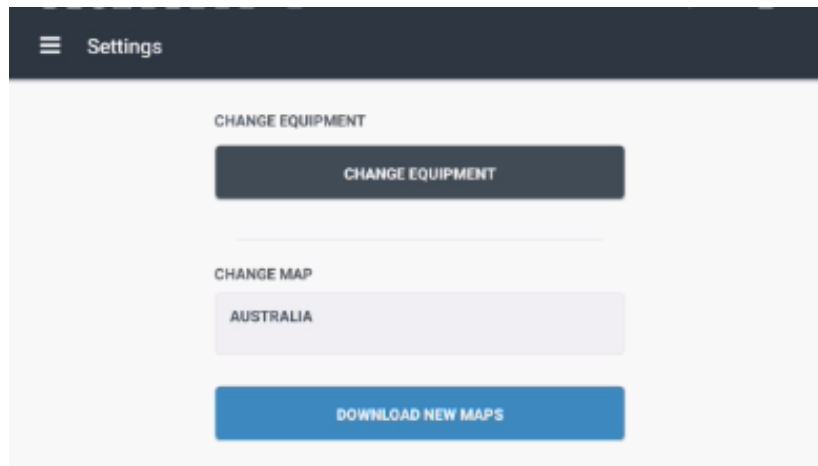


- All saved correlations are stored in the Browse Data section. Tap this option, then on the next screen choose the correlation you wish to review. The saved correlations are normally stored under street name and suburb.

## 8 Settings

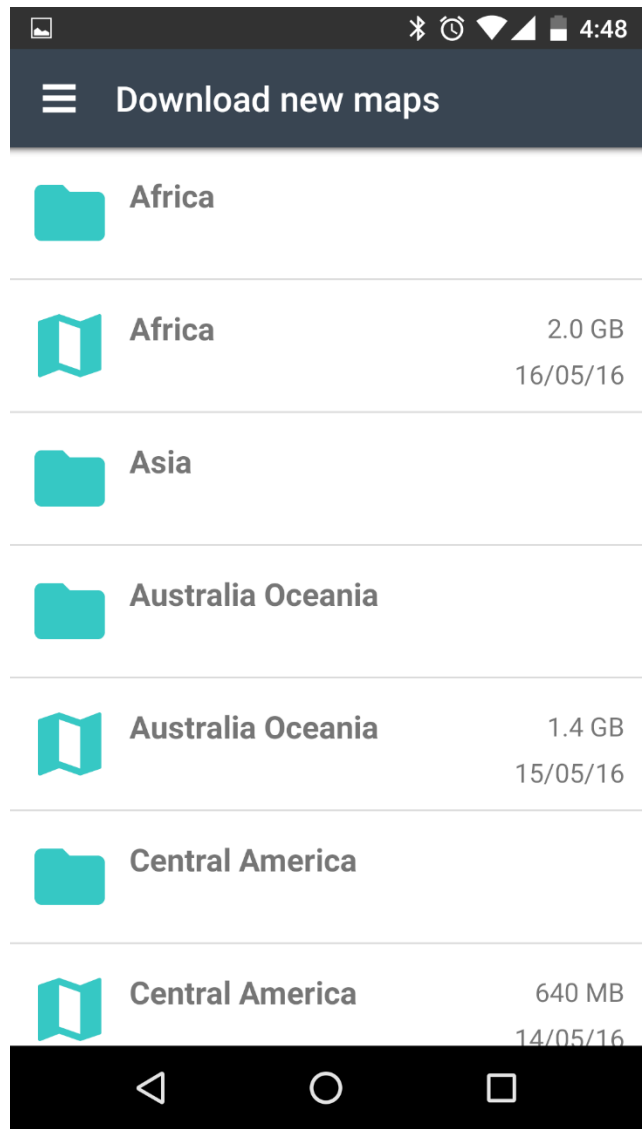


- The settings button is in the bottom right hand corner of the main screen.
- Within Settings there are 2 options, Change Equipment and Download New Map
- Select Change Equipment if the Link or one of the Sensors is replaced. The process is the same as the initial setup and guides you through.



## 8.1 Download Maps

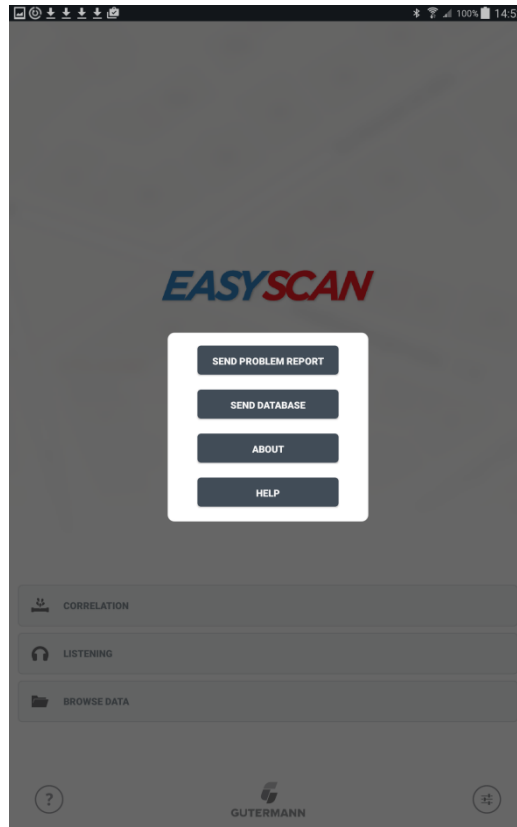
- By default, EASYSCAN uses online Open Street Maps. However, this requires network access. In addition, the map server can be slow which causes grey tiles in the map.
- To download an offline map, you need a fast internet connection. Then choose the map required in the list of countries as shown below.



## 9 Help



- The help button is on the bottom left of the main screen.



### 9.1 Send Problem Report

- If the user has any issues with the EASYSCAN System then simply use the “Send Problem Report” option to email support with the problem. Fill out the steps within the email which lead up to the problem, fault or crash, then hit Send.

### 9.2 Sharing measurements

- EASYSCAN has the ability to share measurements with Gutermann Support who will be able to advise on a problem. Tap the Send Database and send via email.

### 9.3 About

- This gives the version number and map license link.

### 9.4 Further Help

- Takes you to the Gutermann Contacts webpage where you have all the office details around the globe. Contact your nearest office for Technical support



## 10 Detailed Instructions of Kit Setup

### For the Correlation Operation:

#### Connect the clip to the sensor:



1. Push clip vertically over the top of the sensor handle



2. Push the clip down until you hear a second click



3. Pull the clip back up until the sensor handle is blocked in the clip hooks (and you hear a click)

#### Release the sensor from the clip:



1. Push the clip down to release the sensor handle from the hooks



2. Turn the clip carefully sideways on the handle



3. Release the clip by pushing the hooks over the handle edge

### For the Ground Microphone Operation:



1. Screw the handle rod into the extension rod



2. Screw the extension rod into the ground plate



3. Place the sensor with magnet onto the ground plate (centered)

### For the Listening Stick Operation:



1. Screw the pointed rod into the extension rod



2. Screw the extension rod into the sensor as shown



3. Screw the rods tightly to improve stability

## 11 Technical Data

### EASYSCAN SENSOR

Models numbers:

- GESA401 (red sensor EU)
- GESB401 (blue sensor EU)
- GESA501 (red sensor North America)
- GESB501 (blue sensor North America)

Technical Data:

- Casing: Rubber shrouded high-quality Aluminum casing
- Ingress Protection: IP68, submersible up to 2 meters
- Temperature Range: -30°C to +70°C
- Battery Life: Depending on user-specific usage, but optimized in firmware
- Dimensions: 174 mm x Ø 51 mm (height x diameter)
- Weight: 375 grams
- Data Transmission: Proprietary radio, country-specific public frequency

### EASYSCAN LINK

Models numbers:

- GELK401 (Link for EU)
- GELK501 (Link for North America)

Technical Data:

- Casing: ABS Plastic.
- Ingress Protection: IP40
- Temperature Range: discharging 0°C to +50°C, charging 0°C to +40°C
- Battery Life: Depending on user-specific usage, but optimized in firmware
- Dimensions: 85 x 48 x 15 mm.
- Weight: 60 grams
- Data Transmission: Proprietary radio, country-specific public frequency

### ZONESCAN 820 Logger

Models numbers:

- Model 4-1-C1 (EU, internal antenna),
- Model 4-2-C1 (EU, external antenna),
- Model 5-1-C1 (North America, internal antenna)
- Model 5-2-C1 (North America, external antenna)

### ZONESCAN 820 Repeater

Models numbers:

- Model 4-1-C1 (EU)
- Model 5-1-C1 (North America)

## 12 Disposal



Never put electrical appliances in a household waste bin. Always collect them separately and perform an environmentally friendly recycling. When disposing of electrical appliances always comply with national and regional waste disposal regulations. If an orderly disposal of our products is not possible, send the unit to us. We dispose our products environmentally friendly. Address see imprint.

## 13 Imprint

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www.gutermann-water.com  
info@gutermann-water.com



Subject to changes

## 14 Conformity

This device complies with part 15 of the FCC Rules and with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:



- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Minimum distance between the device and the operator should be at least 20cm when the device is operational.

## 15 Important Information

Please refer to all warnings and information in the manual and on the products. By using this Manual, you acknowledge that you are aware of and have read the warnings and information provided in the manual.

-  Put the logger on the valve or pipe. Make sure that the magnet on the bottom of the logger has a stable, dirt-free contact with the metal. A clean connection is needed for good measurements.
-  Always clean the sensors and mechanical accessories with a clean towel after use before stowing them away in the carry case.