GUTERMANN

ZONESCAN INSTALL

Quick Reference Guide

Language: English

Version: 2.1

Table of Contents

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

⚠	**Warning of dangerous situations that can cause injury and damage to the devices.**
⚠	**Warning of non-ionising electromagnetic radiation.**
①	**Important notes and tips. Follow these guidelines.**
🗑	**Never put in your household waste bin.**

1.2 Safety

The operating and maintenance personnel must read the instructions carefullybefore 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.

When using the software or the equipment, make sure you adhere to any applicable regulations, in particular traffic regulations.
In case of any questions, ask your Gutermann representative.

1.3 Intended Use

ALPHA 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, or non-compliance with safety instructions and warnings.

1.4 Android Device Requirements

The ZONESCAN Install App works on devices with the following requirements:

Minimum: Tablet computer (or smartphone) with

- Android OS 5 or higher

GPS Recommended:

- Rear camera with > 3 M pixel and auto focus
- Screen size > 4''
- Quad core processor
- 3GB of RAM
- 16 or 32GB internal storage

1.5　Installation of ZONESCAN Install Software

To install ZONESCAN Install from play-store proceed as follows:

- Go to the play store app on your device and search for ZONESCAN install
- Alternatively, click on the below link
- https://play.google.com/store/apps/details?id=eu.gutermann.ZONESCAN.install

2 Introduction

This is a quick guide to help you with setup and working with NB-IoT and Alpha devices.In the past, ZONESCAN ALPHA systems were set using ZONESCAN mobile on a Windows Mobile PDA. This will be replaced by ZONESCAN install, running on Android phone or tablet.

This document is meant as a quick and handy reference guide on how to use ZONESCAN install – it is not a complete manual for every option in the software.

Basically, there are three things you can do using ZONESCAN install:
- Install new devices
- Do project maintenance
- Update device firmware in the field

Each will be covered in this document.

3 Setting up the App

- Download the app from the play store
- Grant permissions, otherwise some features will not work
- Accept license conditions
- Enter the company name
- You will land in the Project Management screen. Tap the 'Enable' button on the bottomright and enter the Account Settings
  - o This step cannot be skipped - you need to enter the Account details.

- Enter the account settings and select back. After that select 'Reload' button in the Project Management screen.
- Once 'Reload' is selected your projects are downloaded from the server

4 Installation of NB-IoT projects

The procedure explained will cover every necessary step to set up a new NB-IoT project from scratch. Guided tutorials are also provided all along the app to help you.

4.1 Setup of NB-IoT project

From the project list choose the NB-IoT project you want to download by selecting 'Download'. By selecting the project you'll land on gateway settings screen.
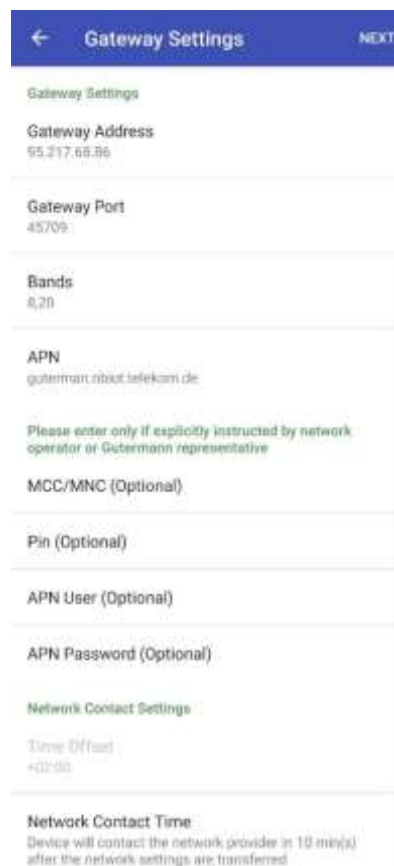
You need to fill the following details in the Gateway Settings screen:

- Gateway Address: Default address is set to '95.217.68.86'.
- Gateway Port: Default port number is set to '45709'. In the unlikely event that your network provider has blocked port 45709, you can use port 8472 as an alternative.
- Bands: Select all the bands that your network provider supports.
- APN: APN of your network provider must be set.
- MCC/MNC (Optional), Pin (Optional), APN Username (Optional), APN Password (Optional): Leave empty unless explicitly required by your network provider or Gutermann representative.
- Time offset: It is automatically set, and it is the same as the time offset set in ZONESCAN NET.
- Network contact time: This is the delay before the NB-IoT Logger will try to register itself at the gateway. The default time is set to 5 min.

Note: Gateway Address, Port, APN, and band details are mandatory for establishing gateway connectivity.

For successful registration, the NB-IoT Logger must be known to ZONESCAN NET. So, you have to upload the project from ZONESCAN INSTALL toZONESCAN NET before this time is up.

After filling all the details click on next to complete the setup.

4.2 Import NB-IoT Project

In ZONESCAN INSTALL go to Project Management, search for your project and download it.

This step is most important, because it makes sure that you work with the most recent configuration! If there were any changes (e.g., exchanged loggers) this step will update your local copy of the project so there are no more data inconsistencies.
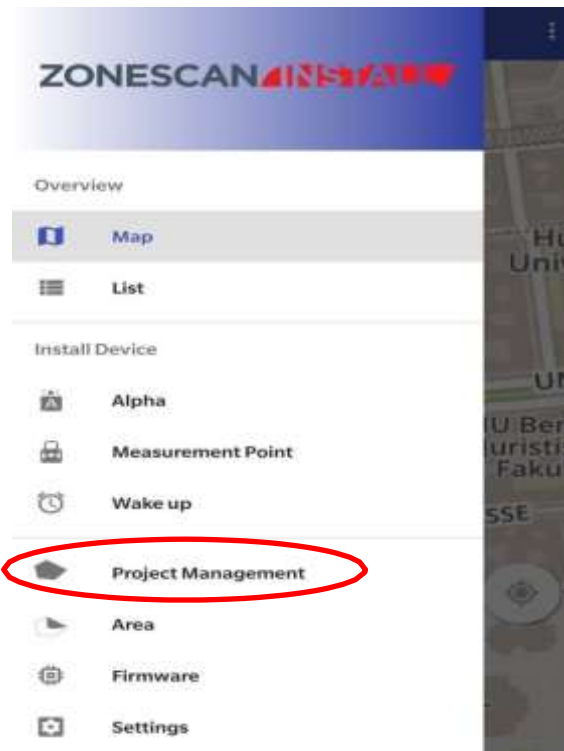
After downloading you get to change settings, but everything should be pre-filled already. Select 'Next' and the project is downloaded.

Alternatively, you can also download the latest project configuration by selecting options menuin the top right corner in the map screen select 'Project' and click on 'Download'.
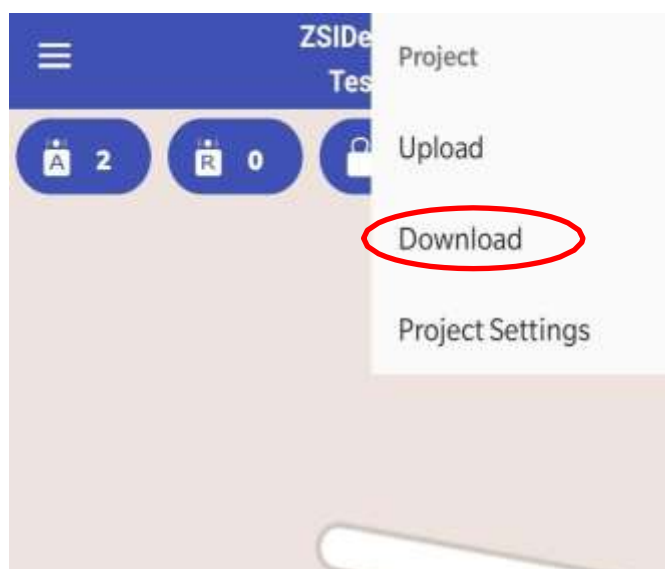
4.3 Adding NB-IoT logger

Plug in the OTG cable directly to the android device. Once connected you get the following message 'Allow the app ZONESCAN Install to access the USB device' select 'OK' . Once connected select 'Logger Setup' in the navigation item.
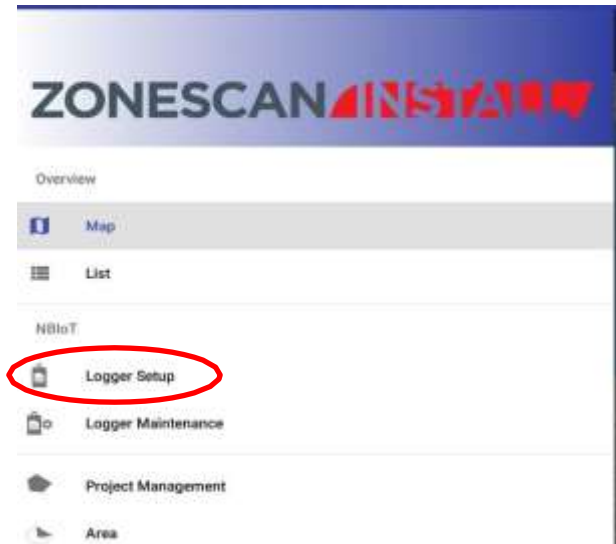

Once Logger Setup is selected it goes to 'Setup NB-IoT device' screen. If OTG cable is connected data is read from the NB-IoT logger and you can view serial number, firmware version and other details of the logger.

> Here make sure that Logger serial number is in the range of '500 000 000' to '516 777 215'. If not, you have to update to the firmware v1105 or above. If not, you wouldnot be able to deploy the logger

Once the data is read you would see a dialog 'Would you like to synchronize the network settings' here select 'OK'
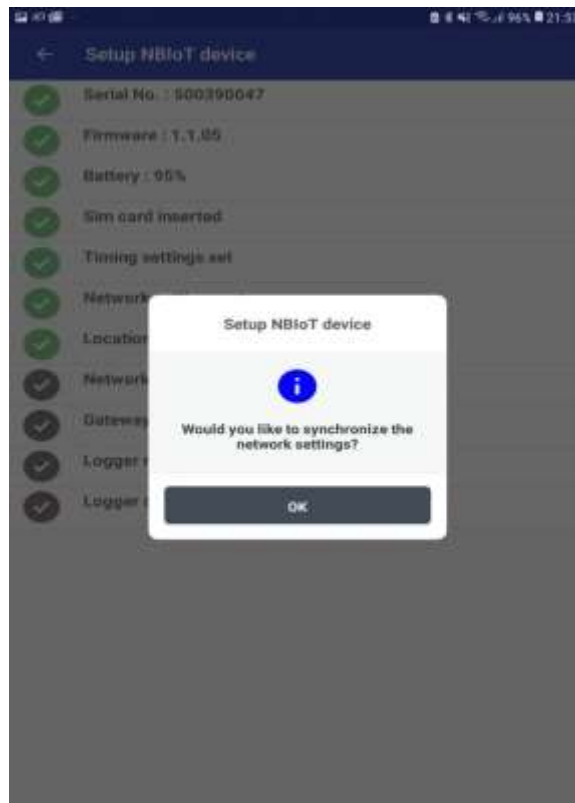
Once the network settings are read, basic NB-IoT device setup is finished. Later continue to deploy the logger. Now you would see the deploy screen.

Next step is to deploy the NB-IoT logger on the map. This can be done via GPS position or manually moving the position on the map. After deploying you would see a tutorial 'Tap on the next screen after deploying'. Select this button to upload to ZONESCAN NET.
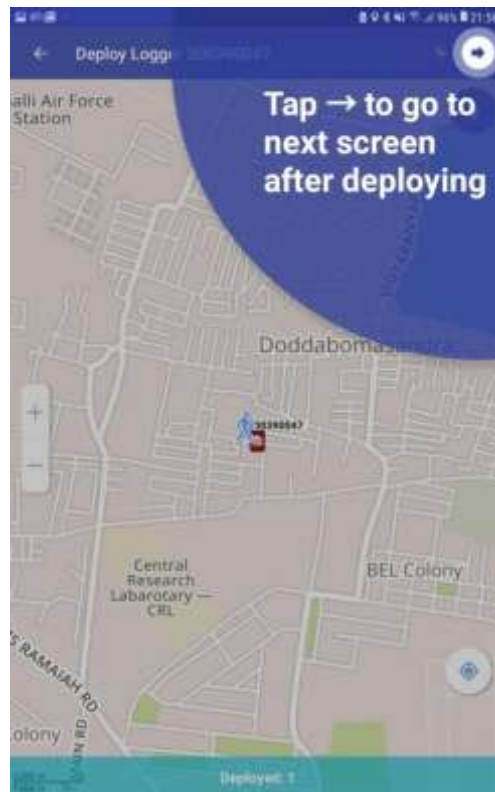
Select 'Upload' to upload the data to ZONESCAN NET. If 'Later' is selected the data should be uploadedwithin the 'Network contact time' set in the Gateway settings to avoid data loss.
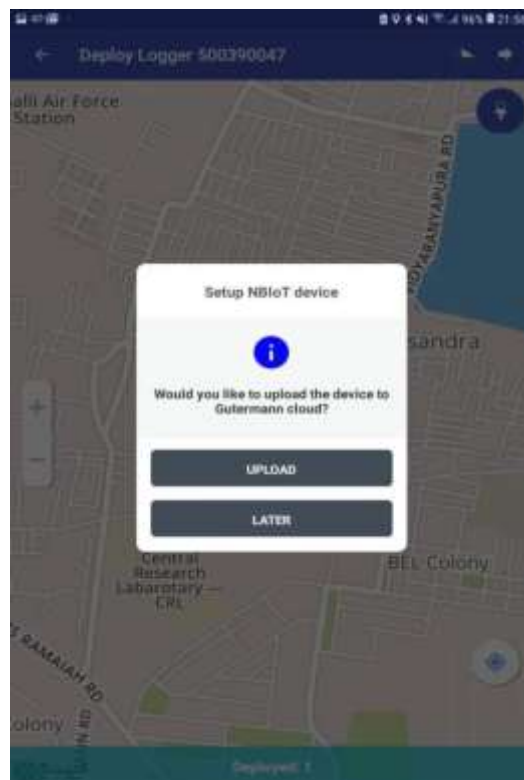
5 Firmware

For firmware update make sure the OTG cable is connected. After that follow the following steps

- In the left-hand menu (navigation item) select 'Firmware'
- You will get a list of available firmware files on the server
- Select the version number you want to update
- If it is already downloaded to your device, you will be asked to confirm the selection
- If not, a download is offered
- Choose the required version and select 'Continue'
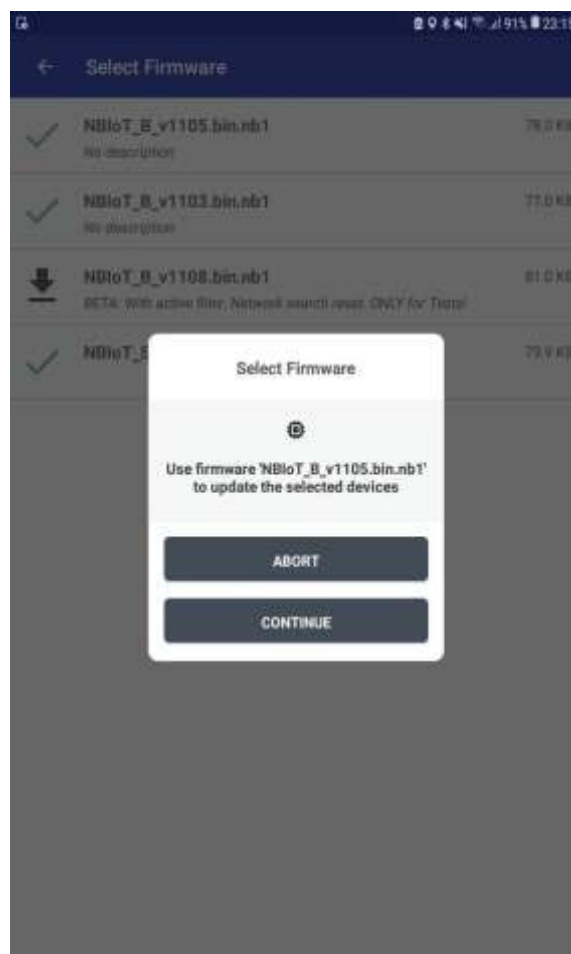
6 NB-IoT Logger Maintenance

Under logger Maintenance you would be able to read 'Device Config', 'Device State' and 'Device log'. In case of any trouble with NB-IoT device communication you could send us NB-IoT log file to support team by selecting the share option.
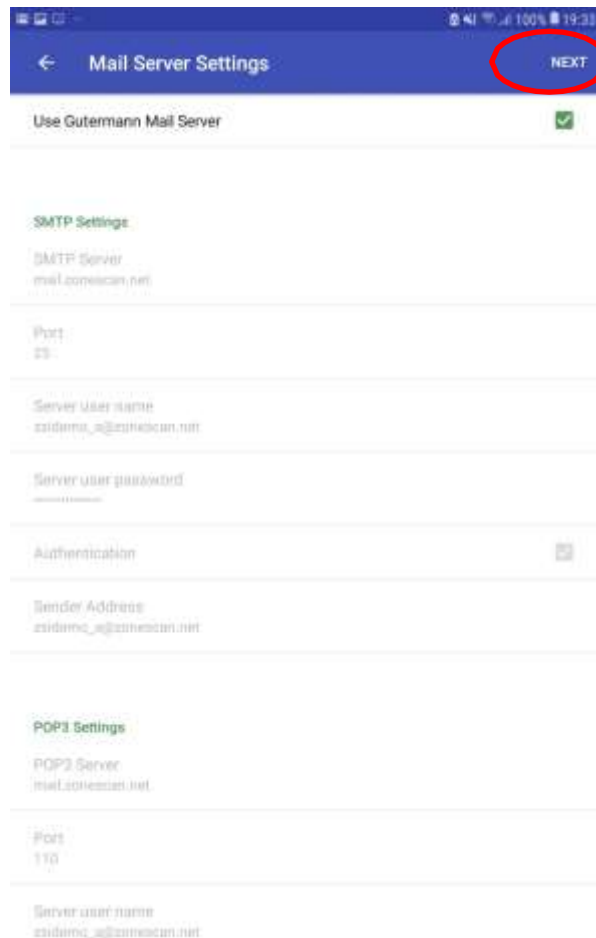
7 Installation of Alpha projects

The procedure explained will cover every necessary step to set up a new ALPHA project from scratch.

For each device, there is a guided workflow implemented in ZONESCAN install. You can switch off the tutorial notes in the 'General' section of the settings found in the left-hand menu bar once you don't need them anymore.

7.1 Setup of Alpha Project

From the project list choose the NB-IoT project you want to download and click on 'Download'. After selecting the project you'll get to change mail server settings. Default Gutermann mail server settings are set, changes can be done if needed. After that select 'Next'.

Once 'Next' is selected you'll land on the Commlink setup screen, here you need to enter the Commlink details. The commlink serial number is printed on the back of the commlink. Pairthe commlink with the device Bluetooth to finish the setup.

7.2 Import Alpha Project

Please check section 4.2 of the manual

7.3 Adding new Devices

With new projects, it is strongly recommended to set up the ALPHA(s) first so that whenadding Repeaters, you can already work with the real radio connection and choose the position of Repeaters accordingly.
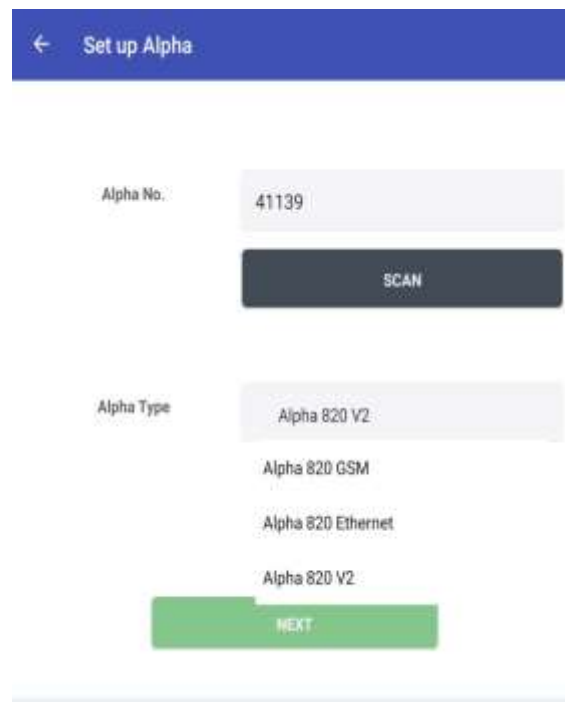
But before you start, all the new devices are in sleep mode and thus hard to reach via radio. At the beginning of each day that you want to install new devices, call the Wake-Up option from the left-hand menu. This will save you a lot of time during the day with all the connection tests you need to do.
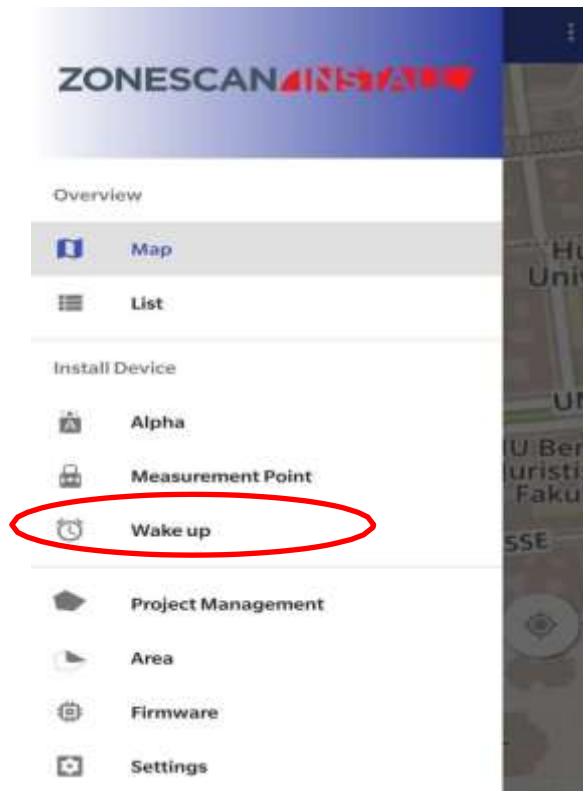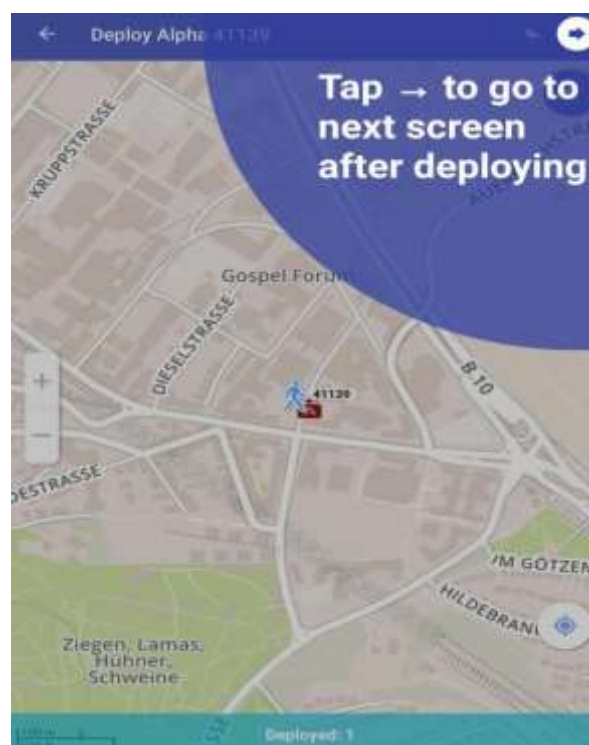
7.3.1 Adding an ALPHA

Open the left-hand menu bar, in the section 'Install Device' tap on Alpha.

Enter the serial number and select the correct ALPHA type (this has influence on some options later on).

Next step is to deploy the ALPHA on the map. This can be done via GPS position or manually moving the position on the map.

After that you will be asked if you already have a SIM card. If you have, you can insert it now and set up the internet connection. If not, you can skip this part.

Alpha APN Settings

APN
internet.telekom

User Id
t-mobile

Password
..

Pin
7002

It is recommended to insert the SIM card and to set up and test the internet connection while in the office or hotel before your actual appointed day of installation. This will safe your valuable time on the installation day.

7.3.2 Adding a Measurement Point

A measurement point usually consists of a Repeater and a Logger. The workflow supports both ways – installing the logger first or installing the repeater first and will adapt automatically depending of which device ist first scanned.

Also adding multiple Loggers to one Repeater is supported, though it should be carefully checked, if this option might result in weak radio communication links, which would lead to loss of data. When in doubt, add another Repeater.

Most important part of the workflow is the connection test – make sure you get the best possible radio connection for your devices. This will influence reliability as well as battery life.
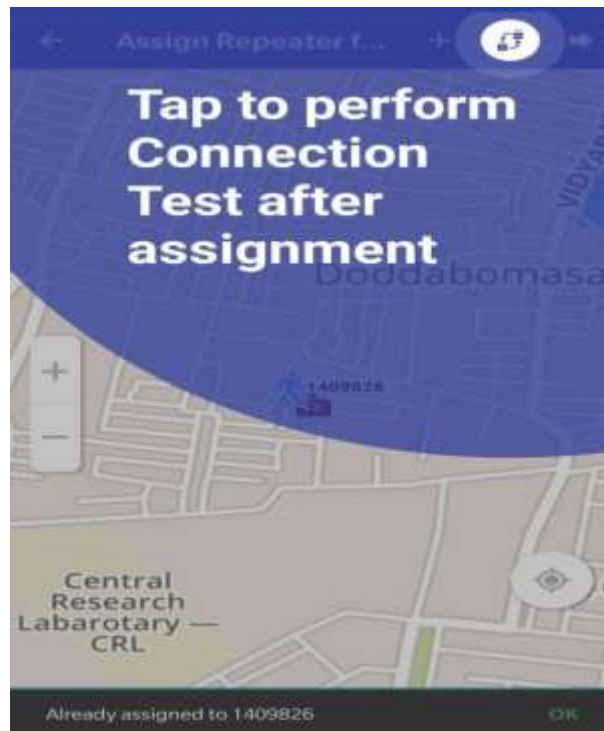
The connection test will tell you the radio signal strength – or RSSI value. The value is always negative. Generally, it is in the range between -50 and -120 with -50being good and -120 being really bad. As a rule of thumb anything better than -70 is excellent and might be hard to get, especially with the long distance between ALPHA and Repeater. Up to -90 is still good and should work well. Worse than -100 should be avoided. The signal is very weak and even small influences (like fog) might cause loss of data for thenight.

7.3.3 Finalize the Changes

When you are done, you need to upload the changes you made to ZONESCAN net for them to become effective. Go to Project Management and tap Upload on your project
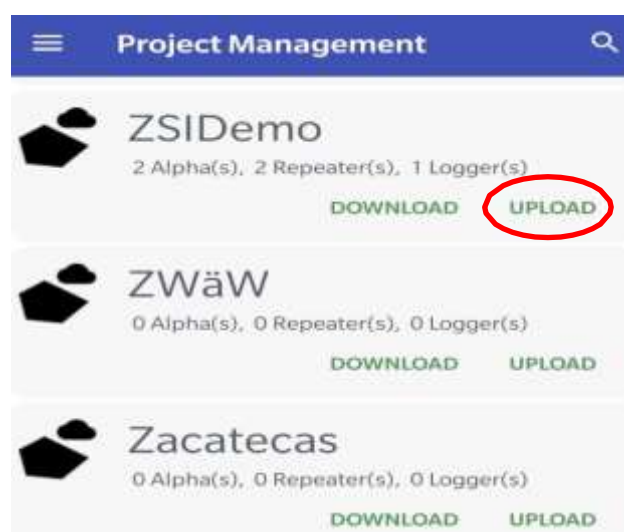
Alternatively, go to map in the top right corner you would find the options menu. Click on Project and select Upload.
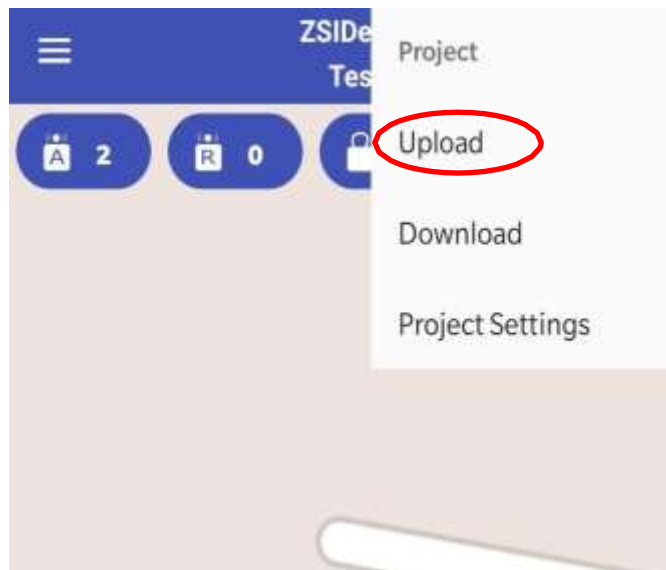
When you log in to ZONESCAN net, you now see all the installed devices, you can calculate the radio window settings and then transfer the settings to the ALPHAs – only then will they start working.

8 Project Maintenance

So something is not working right, some loggers are not giving data or worse. ZONESCAN install helps you in the field to identify and repair the problem.

- Go to Project Management and re-import the project. Only then you do have the latest configuration of the project on your mobile device.
- Either via the map or via the list select the not correctly working device.
- You can use ZONESCAN install to navigate there
- Once on the spot, try to get a radio connection with the device, if it answers, try to findbetter spots for Logger and/or Repeater to get a better radio connection
- If you can't reach it, check if it is physically still there
- If it is, it is likely damaged or the battery is empty. Either replace the device or send it in for repairs

If any device has been exchanged, the connection has been altered (e.g. connected to adifferent ALPHA) or the setting has been changed (e.g. different antenna), you need to upload the project as per 7.3.3.

9   Firmware Update

With ALPHA systems usually firmware updates are distributed via email to the ALPHA and from there via radio to the devices. With some of them the radio connection might be not stable enough so that the remote update is not possible. In this case you have to go to the device and update manually

- In the left-hand menu select 'Firmware'
- Select what kind of device you want to update
- You will get a list of available firmware files on the server
- Select the one you want to use
- If it is already downloaded to your device, you will be asked to confirm the selection
- If not, a download is offered
- After that you get a list of devices to choose from.
- Multiple selection is possible (for example to update a ZONESCAN smart set)

Firmware Update

Device	Alpha

Device Type	Alpha 820 GSM
	Alpha 820 GSM
	Alpha 820 Ethernet
	Alpha 820 V2

NEXT

10 Alpha Maintenance

For Alpha maintenance go to List and select the alpha required. Once selected you would find three options, they are Alpha Details, Alpha Radio and Alpha.

- Alpha details has options to change Device Image, check for Alpha APN settings and Alpha Communication settings. Alpha settings give an option to change Alpha APN Settings and Alpha Time Settings.

- Under Alpha Radio there are options to check for Alpha state, Read Alpha Parameters, Alpha Installation Mode and Antenna Search. In case of any trouble with Alpha communication you could send us Alpha log file to support team by selecting Read Alpha Logfile.
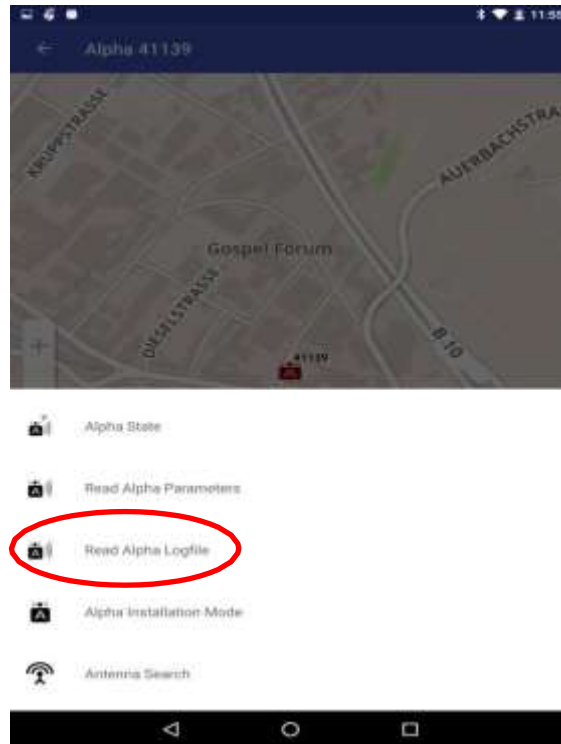
- By selecting Alpha you could Edit, Detele or Replace Alpha

11 Help

In case of any problems with the app, problem report and database can be sent to the support team for resolving the issue. To send problem report click on Navigation item Help there you would find options to send problem report and database.
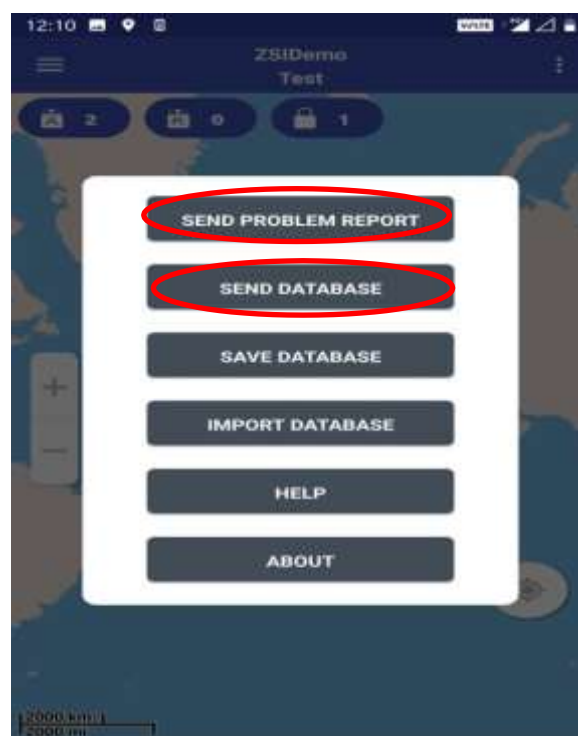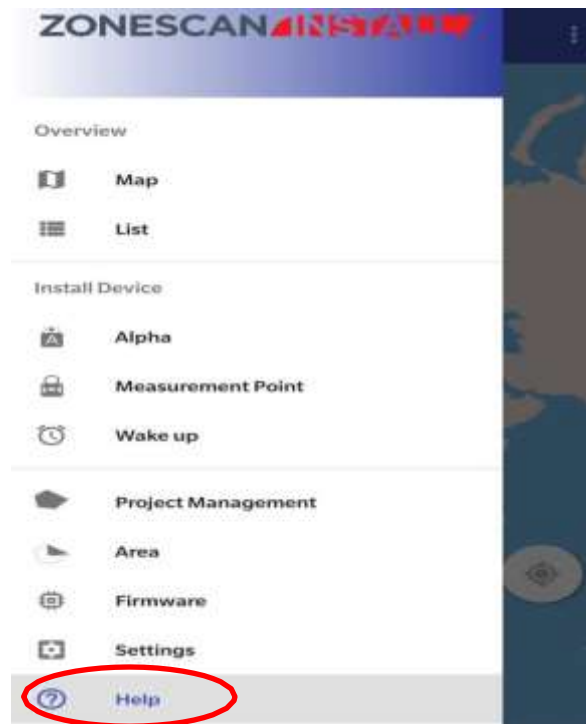
12 Disposal

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 of our products environmentally friendly. Address see below.

13 Imprint

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Subject to changes

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info@gutermann-water.com

CE

14 Important Information

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

Always clean the sensors and mechanical accessories with a clean towel after use before stowing them away in the carry case.