

MPP PROBE

Model MPP-EM2S+ with Android software

Instruction Manual



860 boul. de la Chaudière, suite 200
Québec (Qc), Canada, G1X 4B7
Tel.: +1 (418) 877-4249
Fax: +1 (418) 877-4054
E-Mail: gdd@gdd.ca
Web site: www.gdd.ca

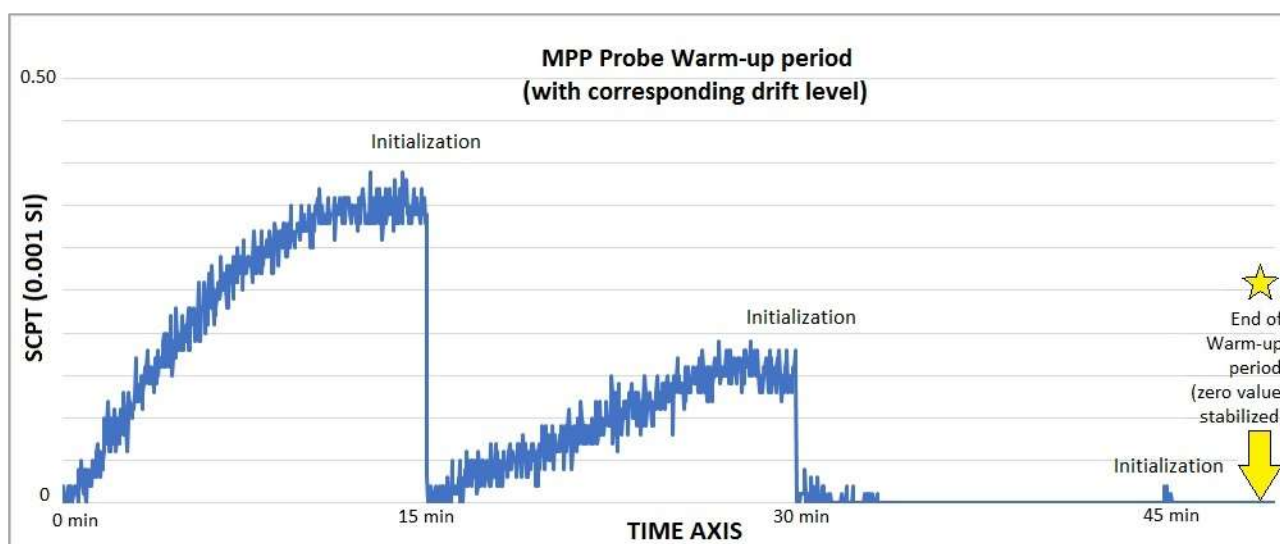
Table of contents

WARNINGS: Measure Stability and Battery Discharge	2
1. Introduction	4
2. Mineral Conductivity – General Rules	5
3. Android software.....	6
4. Equipment List.....	7
5. Batteries	8
6. Probe buttons and switches.....	10
7. Starting.....	12
8. Display.....	23
9. Reading Modes	31
10. Manage Projects.....	34
11. Export Files.....	37
12. Readings interpretation.....	40
13. Troubleshooting	41
14. Technical Support.....	44

WARNINGS: Measure Stability and Battery Discharge

Measure Stability (Drift)

The MPP-EM2S+ is a useful geophysical instrument that will help you to get the information that you need to design an appropriate geophysical survey. In order to obtain stable values (which should be around 0) and avoid signal drift, **it is highly recommended to leave the probe ON during one hour before taking the first measurement.** After one hour, you must re-initialize the probe and then, you are ready to take measurements. To minimize the drift once you have started to take measurements, you must initialize the probe every 1, 5, 10 or 15 minutes. By default, the option 1 minute between every initialization is activated.



If you want to take measurements right away after turning on the probe, we suggest that you initialize the probe every minute or, for best results, before each reading for the first 30 to 60 minutes.

This preventive procedure decreases the risk to take erroneous values that would be caused by weather variations or by other external causes that lead to a drift of the instrument. It is therefore very important to often re-initialize in order to maintain the «0» base value used in the calculation of the displayed values.

Please take note that values are more stable after 20 minutes and are completely stable after 50 to 60 minutes.

Battery Discharge

***** For the probe, when the level of the AA batteries charge is low, the value of the readings could be inaccurate and you could not be able to initialize the probe.**

The specifications described in this Instructions Manual is valid at temperatures between 0°C and 70°C. At temperatures lower than 0°C, some specifications, like the battery's life, could be different.

1. Introduction

Thank you for choosing the MPP-EM2S+ Multi Parameter Probe developed by Instrumentation GDD inc. to help you optimize your prospecting efforts. This probe will help you to better determine the nature, the exact position as well as the intensity of magnetic/conductive horizons along your cores and samples. The simplicity of the measurement process and the automatic recording will allow you to easily obtain conductivity and magnetic susceptibility profiles corresponding to the core.

Here are the key benefits of the new MPP-EM2S+ probe:

- It provides you the ability to measure at all time the magnetic susceptibility with or without the presence of a conductor such as pyrrhotite.
- It has improved software to measure in continuous mode using a time base with specific lengths of your choice.
- It is equipped with new software to quickly create a profile from the measurements taken in continuous mode.

Because the probe's response towards a conductor is similar to a conventional electromagnetic (EM) survey's response, it will provide you more significant information than an ohmmeter or a visual interpretation would do. To give an example, if the conductive zones of your core are evaluated by an ohmmeter, the occurrence of chalcopyrite will induce a reading corresponding to a conductive zone. In fact, chalcopyrite, even if it seems massive, will often not produce an anomaly detectable by an EM survey. Along the core, the MPP-EM2S+ probe will have a similar response as the EM response and will only indicate the conductors detectable by this type of survey. The use of the MPP-EM2S+ probe could, therefore, prevent you to beginning an EM survey campaign for a type of ore that would not respond to this approach.

In the previous example, the phenomenon that explains the absence of conductivity is probably related to the chalcopyrite ore distribution in the sample. If the chalcopyrite grains are not touching each other but are linked only by very thin filaments, the ohmmeter will detect the conductor presence because of these tiny filaments connecting them. However, the grains, being linked only by those filaments, will not form a sufficient surface to be detected by the probe.

For an equivalent content of conductive material, the probe's response will be higher in function of the conductor's surface. You could try the following experience. Take an aluminium paper foil (a few cm²), put the probe on the sheet and note the intensity of the anomaly. Roll the sheet in a small ball, put the probe on the ball and take the reading again. You will see that the intensity of the anomaly is higher for a larger contact surface even if the substance conductivity and quality are the same.

2. Mineral Conductivity – General Rules

Pyrrhotite often occurs in thin but continuous veins. It causes multiple and very high EM anomalies.

Chalcopyrite is hardly detectable for two reasons.

- 1- It is 20 times less conductive than pyrrhotite.
- 2- It occurs, more often, in disseminated grains or clusters rather than in continuous beds, as the pyrrhotite or graphite that extend in horizons of hundreds of meters.

Pyrite and galena are not conductive when they respond to an EM survey even within a single crystal. However, we have observed some very conductive samples of silver-bearing galena (Kamouraska) and pyrite rich in gold. (Balmorals and Wrightbar mines).

Sphalerite, arsenopyrite and stibnite are never conductive and are not detectable with EM and IP surveys.

Rich graphite beds can be more conductive than pyrrhotite. Occasionally they are not conductive at all. Graphite can also show all intermediary conductivity values.

It is important to note that, with or without the presence of a conductor such as pyrrhotite, the MPP-EM2S+ probe will measure the magnetic susceptibility value.

At all times, the MPP-EM2S+ provides an estimated EM conductivity value.

3. Android software

The MPP Probe model MPP-EM2S+ can be used with any Android devices supporting Bluetooth or Serial (RS-232) communication.

The GDD MPP Android software is available on Google Play (<https://play.google.com/store/apps/details?id=com.gddinstrumentation.gddmpp>).

Generally, Android devices don't have any RS-232 port. To use the probe with the serial communication cable, you would need an USB/RS-232 adapter like the one shown below. You would need also a USB connector adapted to your Android device.



4. Equipment List

When receiving a GDD MPP probe model MPP-EM2S+, ensure that it contains the following elements:



The items supplied with the device and available accessories may differ from the picture.

1. One (1) MPP-EM2S+ wireless probe
2. Four (4) rechargeable AA batteries with charger
3. One (1) set of international adapters for AA batteries charger
4. One (1) MPP wall power supply with international plug kit (universal voltage)
5. One (1) standard serial communication cable
6. One (1) MPP Instruction Manual
7. One (1) MPP utilities CD-ROM / USB Stick
8. One (1) black carrying box

Do not hesitate to communicate with GDD Instrumentation Inc. if needed.

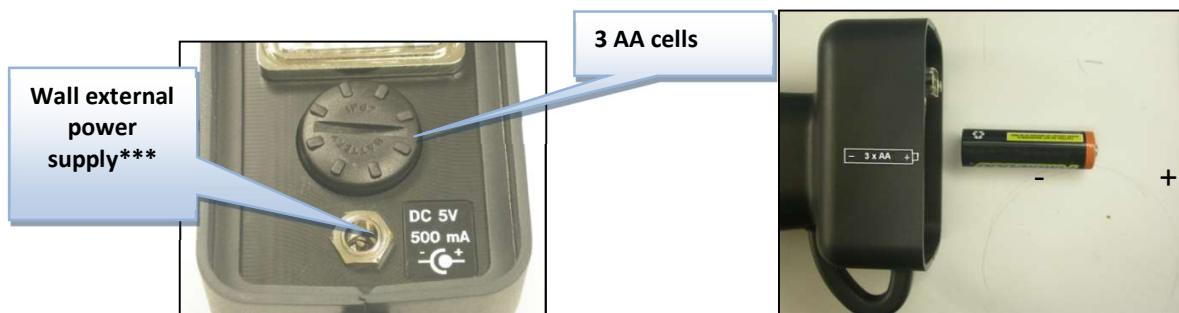
5. Batteries

5.1 Android device battery

When the GDD MPP Android software is running on your device, the automatic screen save mode is disabled. To reduce battery usage, please make sure to close MPP software when you don't use it for long time.

5.2 Supplying power to the probe

With the MPP 1000 Series, it is possible to use three AA batteries or the wall power supply included with the MPP set.



***** The use of another power supply than the one provided by GDD could damage the probe.**

5.3 Battery level indicator

If the power of the probe is supplied by three AA batteries, it is important to verify that the level of the batteries charge is sufficient.

Press and hold the BI button to turn on the lights.



Lights signification

Lights on	Status	Time remaining in wireless mode**	Time remaining in cable mode**
Red, yellow, green	The batteries are fully charged	7.5 hours	9 hours
Red, yellow	The batteries are partially discharged	0-4 hours	0-4 hours
Red	The batteries are not enough charged to supply the probe	2-3 minutes	2-3 minutes
No lights on	The batteries are absent or totally discharged	0	0

** This information is an approximation only. The time remained depends of the type of cells and the operating conditions.

5.4 Recharging AA batteries

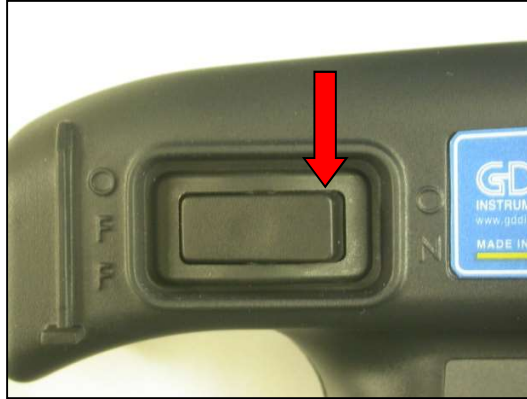
Simply put the AA batteries in the charger and plug it in the wall using the 120 V plug located at the back of the charger or the 220 V adapter.



6. Probe buttons and switches

6.1 On / Off Switch

Turn on the probe with the On / Off toggle switch.



6.2 Cable / Wireless / Prog Switch

The **Cable / Wireless / Prog.** switch is used to select the operating mode.

*** **It is important to place the switch in the position wanted before turning the probe on.**

The **Cable** and **Wireless** positions are used to operate with or without cable. The **Prog** position is not used for normal operation. If the operating mode must be changed during the operation, the probe must be turned off before changing it.



6.3 STAMP and MEM buttons

There are two buttons on the handle of the MPP–EMS2+ probe. These buttons have the same utility as the **Stamp** and **Mem** buttons in the GDD MPP Android software and were designed to facilitate handling. Pressing the both buttons together initializes the probe, so it makes the same action as **Initialize** button in the GDD MPP Android software (for the firmware versions starting from MPPi5_6). See *Section 9 – Reading Modes* for more details.



6.4 BI button



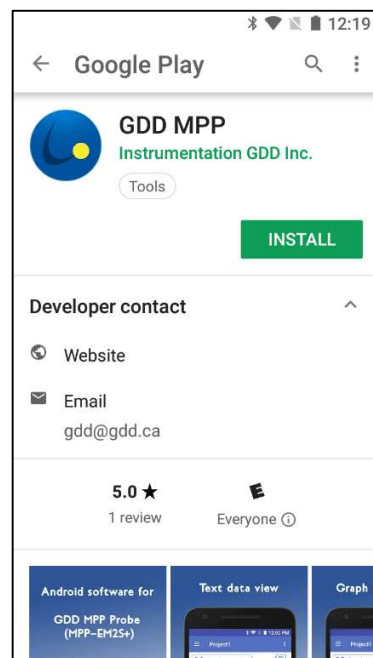
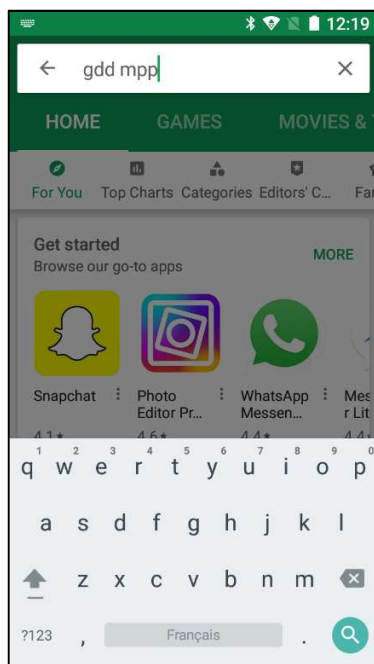
See *Section 5.3 – Battery level indicator* to know how to use this button.

7. Starting

7.1 Starting – Wireless (Bluetooth) mode

*** It is highly recommended to leave the probe ON during one hour before taking the first measurement.

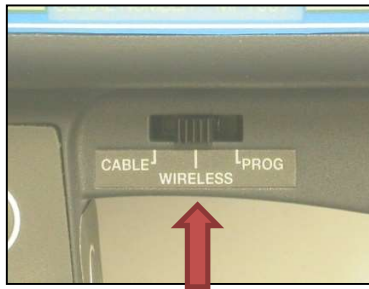
1. Install the GDD MPP software on your Android device.
This software is available on Google Play
(<https://play.google.com/store/apps/details?id=com.gddinstrumentation.gddmpp>).



2. Turn and pull the cap of the battery holder, and insert 3 AA batteries into the probe. Push and turn the cap to close it. Or, plug the wall external power supply in the power jack.



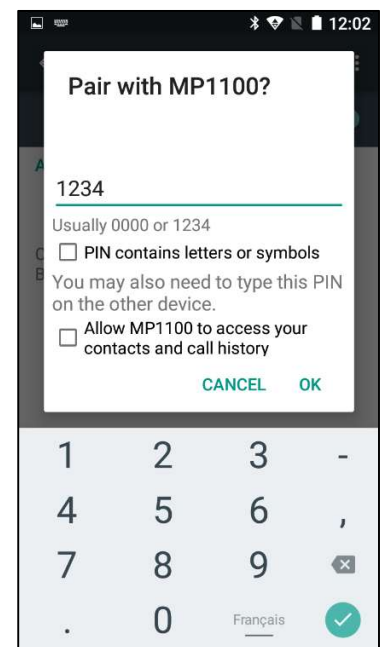
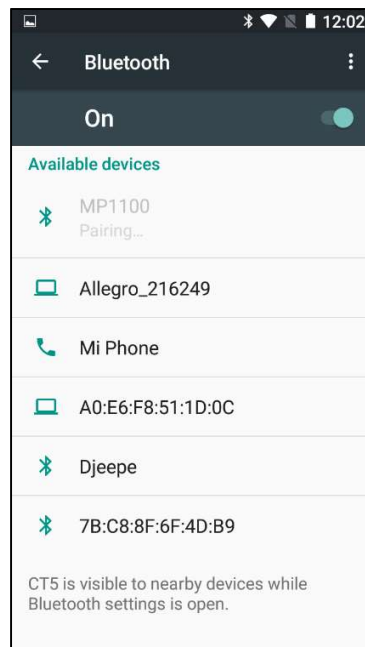
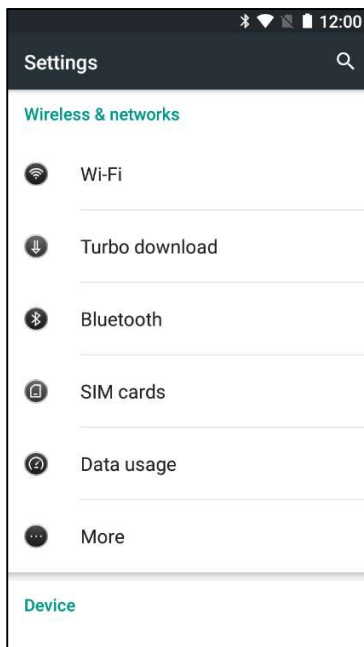
- Place the **Cable – Wireless – Prog** switch in **Wireless** position.



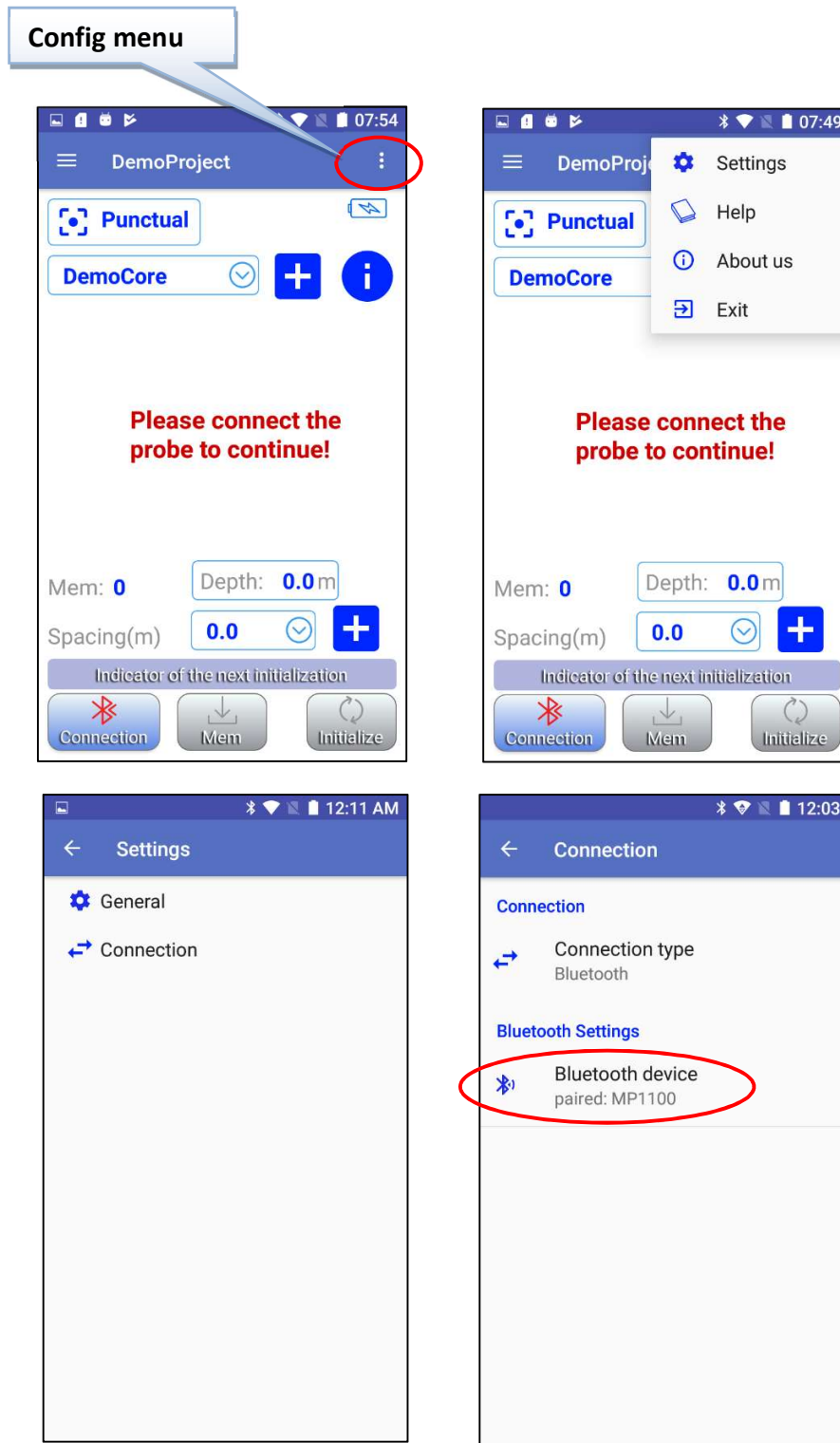
- Turn on the probe with the **On/Off** switch placed on the right side of the probe.



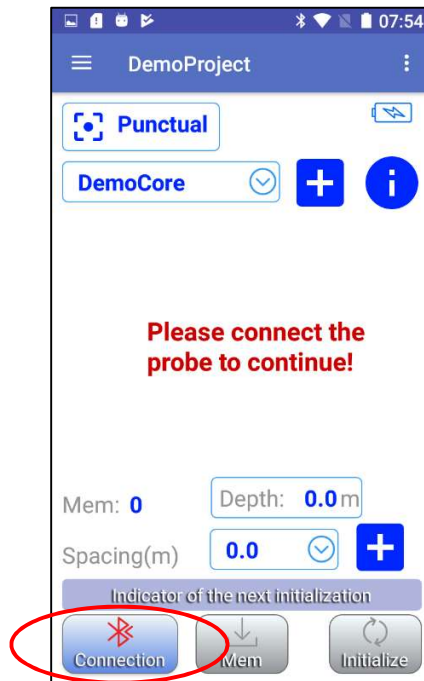
- On your Android device, go to Settings->Bluetooth, verify that Bluetooth is ON, find your MPP probe and pair it with the code **1234**.



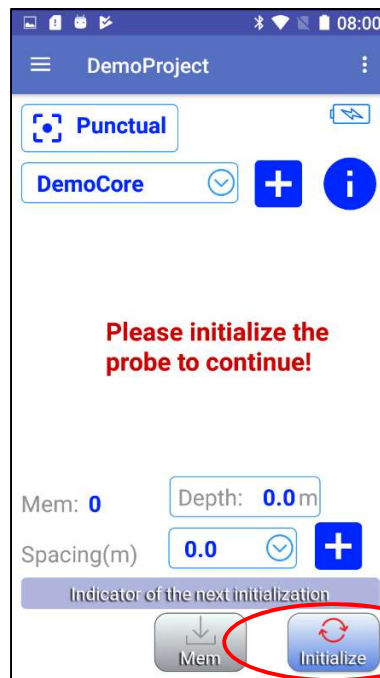
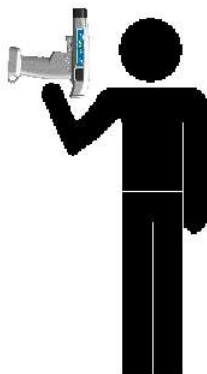
6. Run the GDD MPP program. Go to the **Config menu**->**Settings**->**Connection**. Make sure that **Connection type** is **Bluetooth** and your MPP Probe is selected as **Bluetooth device**.



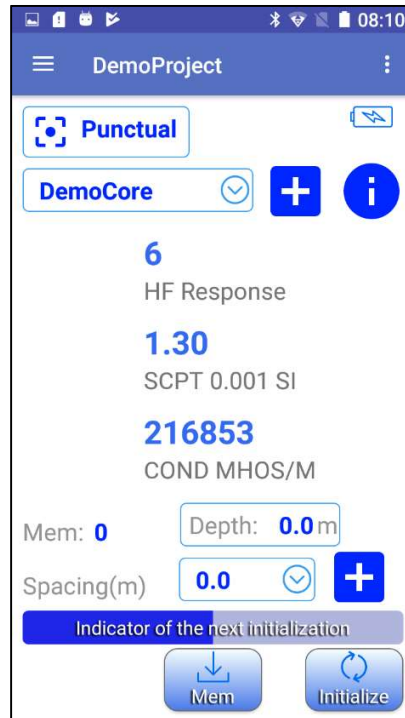
7. Come back to the GDD MPP software main screen and connect to the probe with **Connection** button.



8. Set the different parameters you need to use (see *Section 10 – Manage Projects*) according to the reading mode you chose (see *Section 9 – Reading Modes*). Once the setting is finished, come back to the GDD MPP software main screen, keep the end of the probe far from metal objects (point it towards the sky) and initialize it by tapping on **Initialize** button.



9. The **initialization...** message will turn for few seconds and after this, the reading screen should appear. You are ready to take readings according to the reading mode you chose (see *Section 9 – Reading Modes*).



7.2 Starting – Cable mode

***** Use the cable mode only if the Wireless (Bluetooth) mode does not work.**

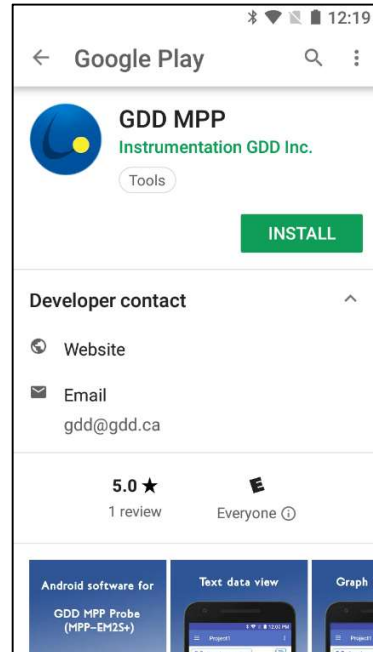
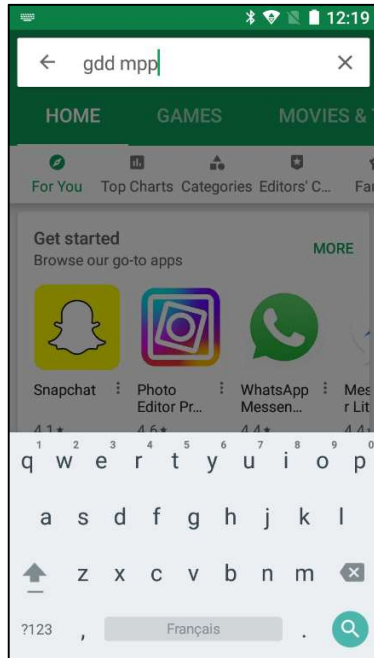
1. Connect the serial RS-232 cable with the adapters between the probe and your Android device.

Note: You need to plug together three cables to make a serial (RS-232) communication.

1. Standard serial communication cable
2. USB / Serial cable adapter
3. USB connector (depends of the model of your Android device)



2. Install the GDD MPP software on your Android device.
This software is available on Google Play
(<https://play.google.com/store/apps/details?id=com.gddinstrumentation.gddmpp>).



3. Turn and pull the cap of the battery holder, and insert 3 AA batteries into the probe. Push and turn the cap to close it. Or, plug the wall external power supply in the power jack.



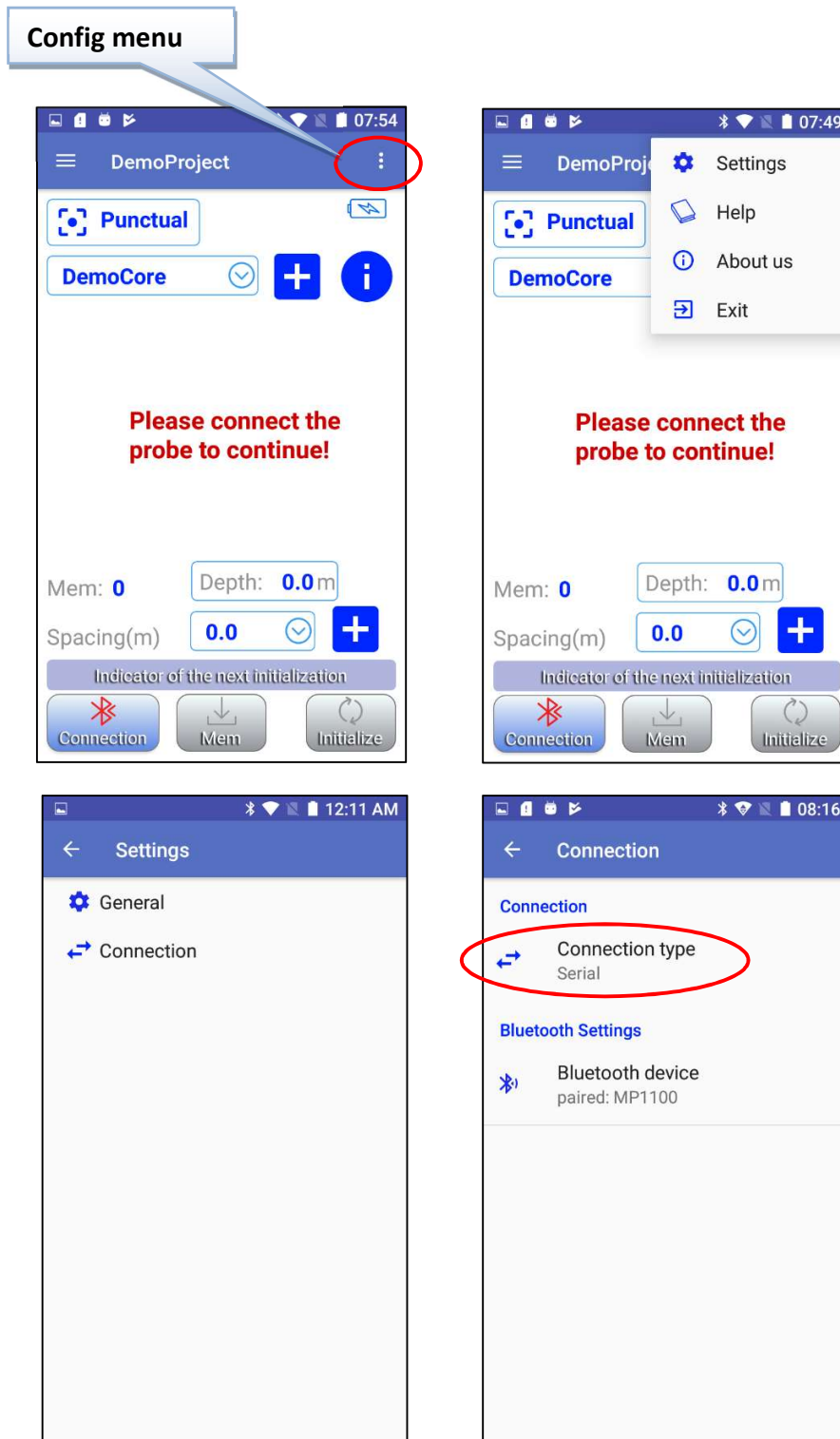
4. Place the **Cable – Wireless – Prog** switch in **Cable** position.



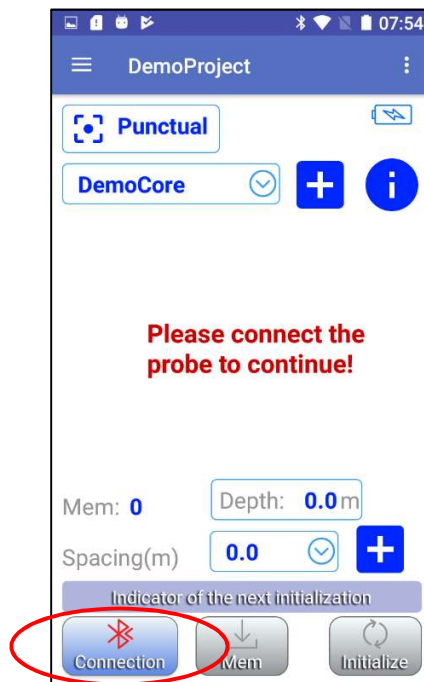
5. Turn on the probe with the **On/Off** switch placed on the right side of the probe.



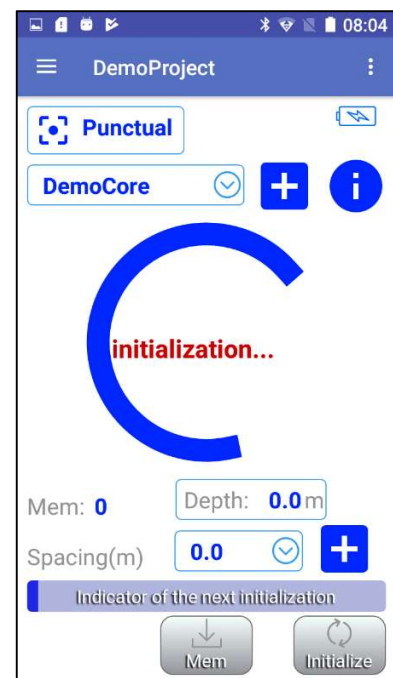
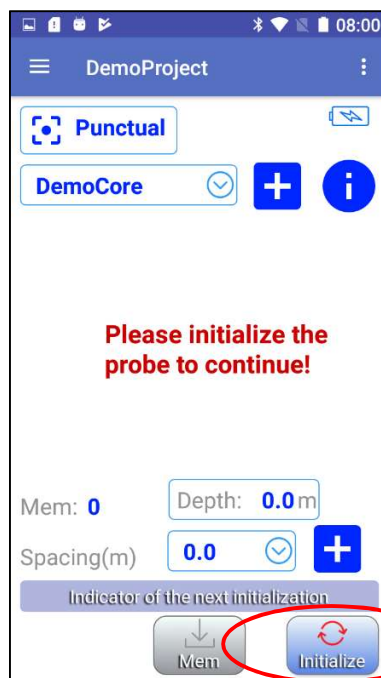
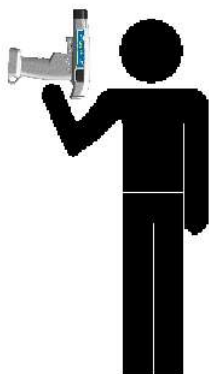
6. Run the GDD MPP program. Go to the **Config menu->Settings->Connection**. Make sure that **Connection type** is **Serial**.



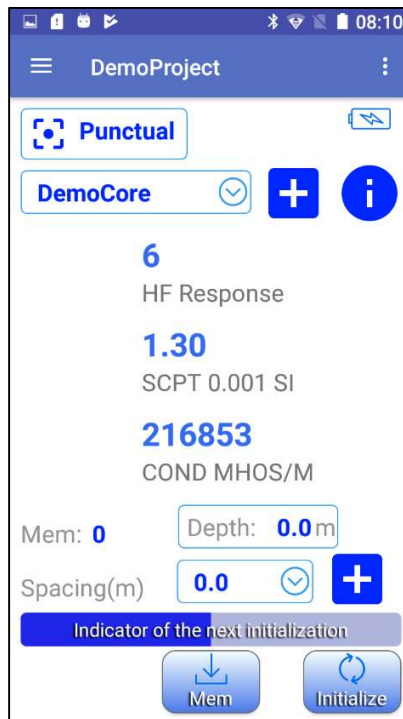
- Come back to the GDD MPP software main screen and connect to the probe with **Connection** button.



- Set the different parameters you need to use (see *Section 10 – Manage Projects*) according to the reading mode you chose (see *Section 9 – Reading Modes*). Once the setting is finished, come back to the GDD MPP software main screen, keep the end of the probe far from metal objects (point it towards the sky) and initialize it by taping on **Initialize** button.

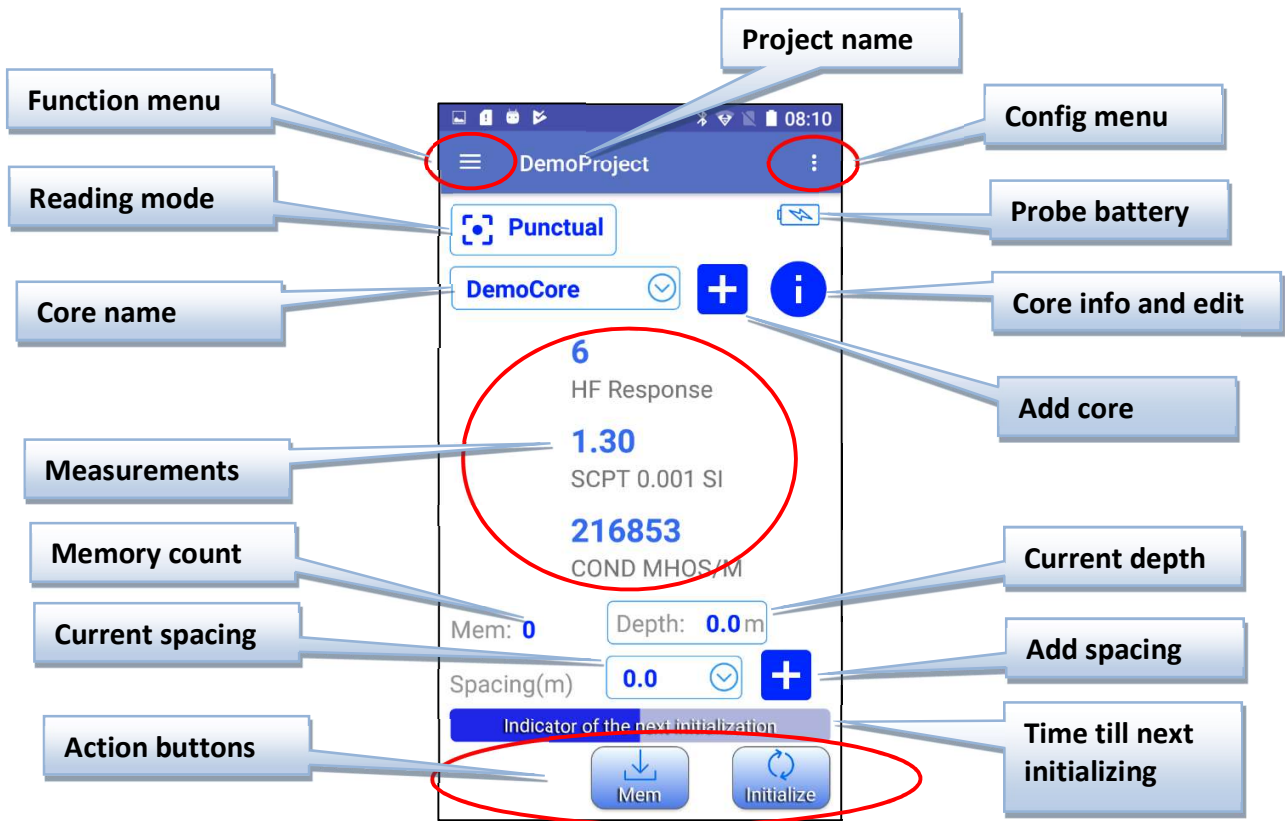


9. The **initialization...** message will turn for few seconds and after this, the reading screen should appear. You are ready to take readings according to the reading mode you chose (see *Section 9 – Reading Modes*).



8. Display

Here are the sections of the main screen.

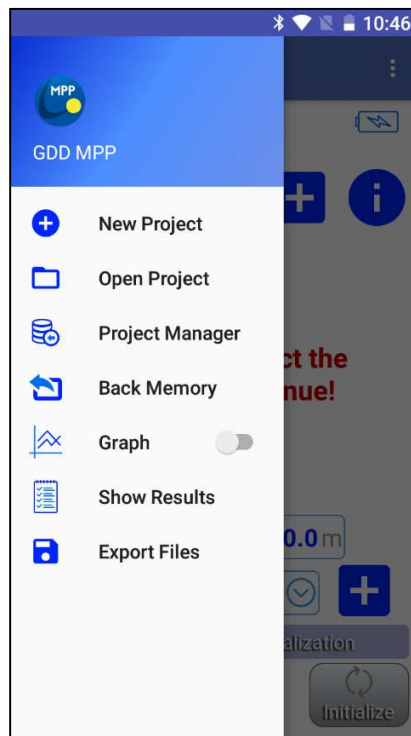


8.1 Project name

Indicate the name of the current open project (see *Section 10 – Manage Projects*).

8.2 Function menu

This menu contains the functions to manipulate data and projects.



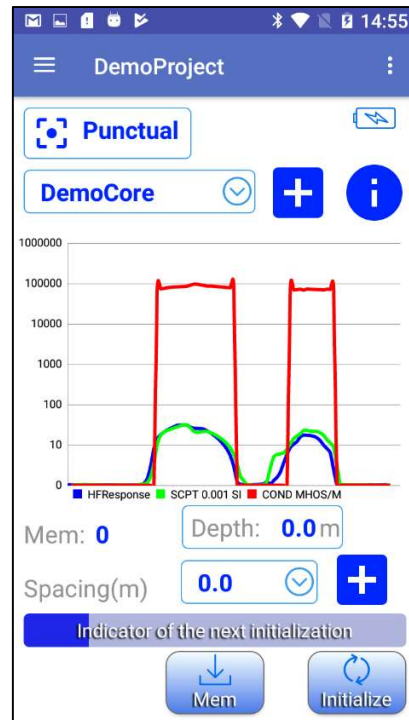
8.2.1 New Project, Open Project, Project Manager (see *Section 10 – Manage Projects*).

8.2.2 Back Memory

Allows to delete the last stored reading in the selected project and core.

8.2.3 Graph

This function allows to switch between text and graph data view.
In graph view, you can PAUSE/RUN graphic by clicking on the graphic area.
You can also ZOOM IN/OUT the scale of the vertical axis.



8.2.4 Show results

This function allows to view all previously saved readings in the current project.

Select the core that you want to see

Select the number of readings on the page

Zoom IN/OUT the view

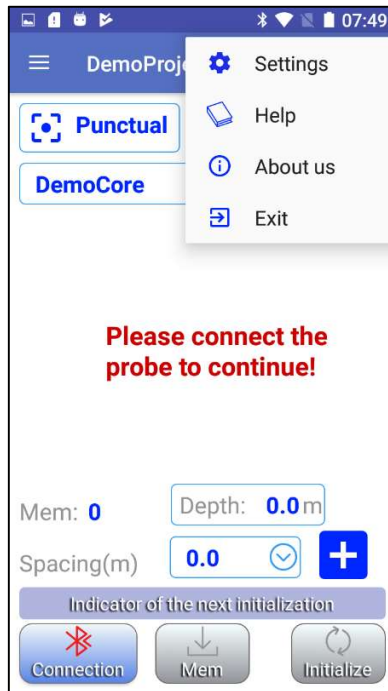
Navigate the pages

Id	CoreID	Date	Time
18	Core1	19/11/2018	12:08:09
19	Core1	19/11/2018	12:08:09
20	Core1	19/11/2018	12:08:09
21	Core1	19/11/2018	12:08:09
22	Core1	19/11/2018	12:08:10
23	Core1	19/11/2018	12:08:10
24	Core1	19/11/2018	12:08:10
25	Core1	19/11/2018	12:08:10
26	Core1	19/11/2018	12:08:11
27	Core1	19/11/2018	12:08:11
28	Core1	19/11/2018	12:08:11
29	Core1	19/11/2018	12:08:11
30	Core1	19/11/2018	12:08:11
31	Core1	19/11/2018	12:08:11
32	Core1	19/11/2018	12:08:12
33	Core1	19/11/2018	12:08:12
34	Core1	19/11/2018	12:08:12

8.2.5 Export Files

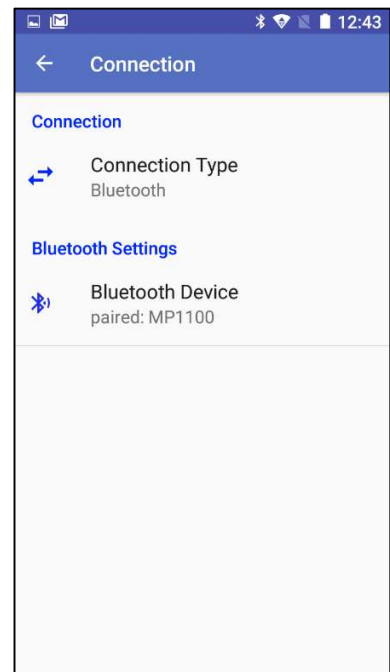
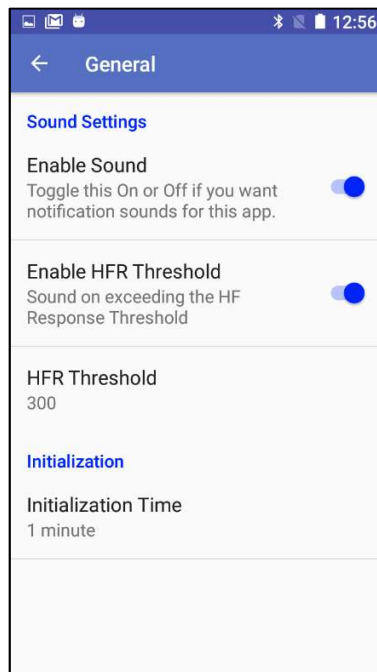
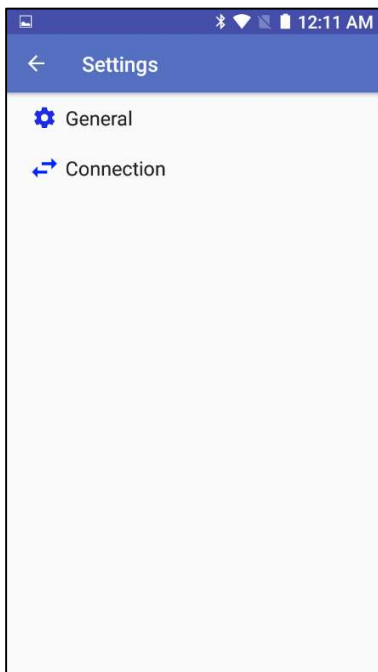
(see Section 11 – Export Files).

8.3 Config menu



The **Config menu** contains following items:

8.3.1 Settings



8.3.1.1 General

Enable Sound activates/deactivates all kind of sound notifications in the software (buttons, initialization, alerts, HF Response Threshold, ...).

Enable HFR Threshold activates/deactivates the sound on HF Response Threshold. This sound is the one you hear when a conductive material is detected.

HFR Threshold defines the HF Response Threshold. On exceeding this HF Response value, the software will make a detection sound. The default threshold is set to **300**.

Initialization Time defines the time interval between required initializations.

Remember: it takes at least 40 minutes for the probe to warm-up. Before that time is reached, you need to initialize the probe every minute or before each reading. After the probe is ready, it is possible to set the time between two initializations. The default time is one minute. Otherwise, you could also set the time for either 5, 10, 15, 30 or 60 minutes. The new time set will be activated after the next initialization.

8.3.1.2 **Connection** defines the type of connection (Bluetooth or Serial cable) and the Bluetooth device to use.

8.3.2 **Help** offers the links for viewing instruction manuals in three languages (English, French and Spanish).

8.3.3 **About us** shows the versions of the Android software and the MPP Probe firmware.

8.3.4 **Exit** allows to completely exit from the software.

On Android platform an application can stay in background when you press BACK or HOME button on your Android device.

Use Exit function to be sure to completely exit from GDD MPP software releasing communication channel and all used memory.

8.4 **Reading mode** (see *Section 9 – Reading Modes*).

8.5 Probe battery

The **Probe battery** indicator starts to flash RED when the probe battery is LOW.

You can also verify the probe battery state with the **BI** button on the probe.



8.6 Core name

Select a core from the current project. The following readings will be associated with that core.

8.7 Add core

Add a core to the current project.

8.8 Core info and edit

See or edit details of the selected core.

8.9 Measurements

Several times per second, the probe measures and displays three physical properties which are:

HF RESPONSE: Conductor response measured in Hertz (Hz). It measures high frequency variations. Its value increases with the quantity of conductive material in the sample. It decreases with the distance between the probe and the sample.

SCPT 0.001 SI: Magnetic susceptibility is indicated in SI unit by a factor of 10^{-3} . SI = International system of units. Its value increases with the quantity of magnetite in the sample and decreases with the distance between the probe and the sample. It is important to note that, with or without the presence of a conductor, the MPP-EM2S+ probe will measure the magnetic susceptibility value at all times.

COND MHOS/M: Conductivity measured in MHOS/M. It is independent on the quantity of conductive material in the sample (HF Response) and independent on the distance between the probe and the sample.

8.10 **Memory count** shows the number of readings stored in the current project.

8.11 Current depth

This indicator shows the actual position on the core. Each time you take a reading in **Punctual** mode or do a **Stamp** in **Continuous** mode, the **Depth** is incremented by **Spacing** value.

You can also enter in this field (by clicking on it) to modify directly the current **Depth**.

8.12 Current spacing

This field indicates the current spacing value and allows to select another spacing value from the list.

8.13 Add spacing

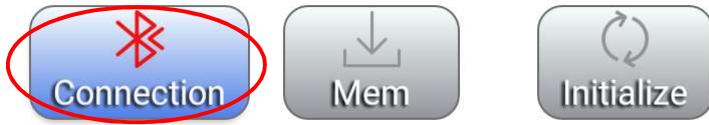
This field allows to add a new spacing value to the list.

8.14 Time till next initialization

This indicator shows the time elapsed from the last initialization and the time left till the next required initialization. The time interval between initializations can be adjusted in **Config menu- >Settings->General->Initialization Time**.

8.15 Action buttons

Connection – use this button to connect to the probe.



Initialize – use this button to initialize the probe.



Mem – use this button to take a reading in **Punctual** mode and **Single Reading** mode.



REC – use this button to START/STOP recording the readings in **Continuous** mode.



Stamp – use this button to move the **Depth** (position on core) in **Continuous** mode.



9. Reading Modes

It is possible to take readings by using three different methods with the MPP-EM2S+. These methods are **Punctual**, **Continuous** and **Single Reading** modes.

9.1 Punctual mode



In this mode, each time you click **MEM** button in the GDD MPP software or you press **MEM** button on the probe, one reading is stored in the current project. This reading is associated to the selected **Core** and taken at the current **Depth** position. If the current **Spacing** is not **0**, the current **Depth** is incremented by the value of **Spacing** and the next reading will be stored at this **Depth** position.

9.2 Continuous mode

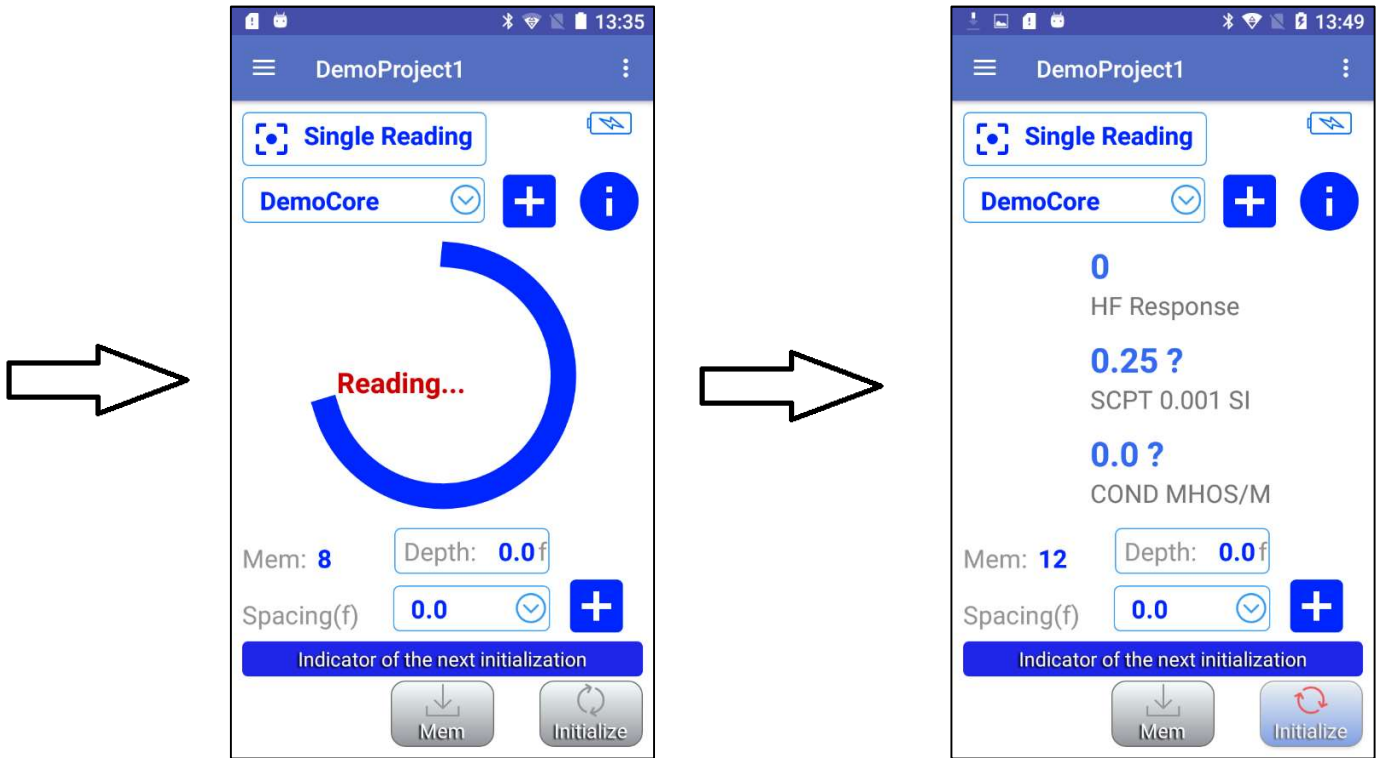
In this mode, the readings are recorded automatically according to the recording time interval you need (0.1 s, 0.2 s, 0.5 s, 1.0 s, 2.0 s, 5.0 s). By clicking **MEM** button in the GDD MPP software or pressing **MEM** button on the probe you **START** or **STOP** recording readings. To mark the positions, you click **STAMP** button in the GDD MPP software or press **STAMP** button on the probe. The readings are associated to the selected **Core** and equally distributed between **Depth** positions marked by **STAMP**. Each time you make a **STAMP**, the **Depth** is incremented by the value of **Spacing** if it is not **0**.



9.3 Single Reading mode

In this mode, you have to initialize the probe before taking a single reading. After the probe is initialized, you have 15 seconds to take a reading before you have to reinitialize the probe. The reading values will be displayed on the screen with a resolution of 10^{-6} SI for readings lower than 10×10^{-3} SI. The reading will remain there until the probe is initialized again.





This reading is associated to the selected **Core** and taken at the current **Depth** position. If the current **Spacing** is not **0**, the current **Depth** is incremented by the value of **Spacing** and the next reading will be stored at this **Depth** position.

10. Manage Projects

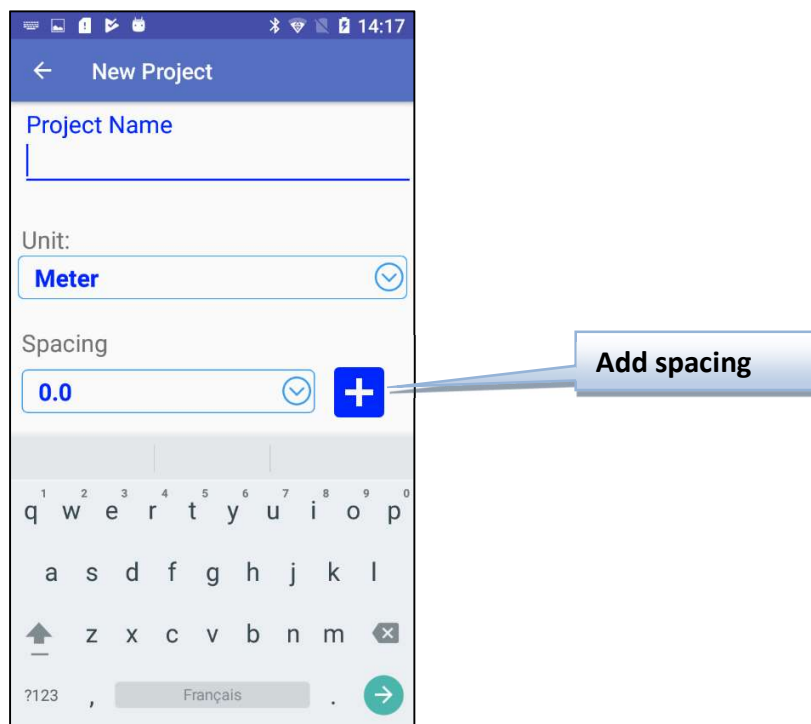
Before starting to get readings, you have to create or open a project. In order to help you with manipulations, when the GDD MPP Android software is started with no existing project in memory, the software automatically creates and opens **DemoProject** with one **DemoCore** and default configuration. This is a good way to let you manipulate the probe quickly instead of imposing creation of project.

Don't forget to modify DemoProject or create another one if you need a real project with proper configurations.

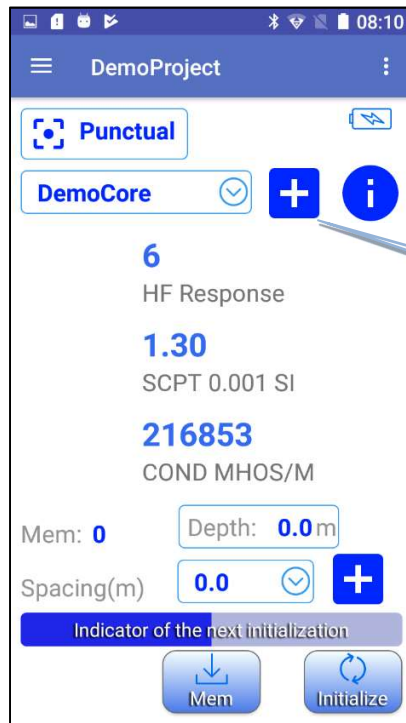
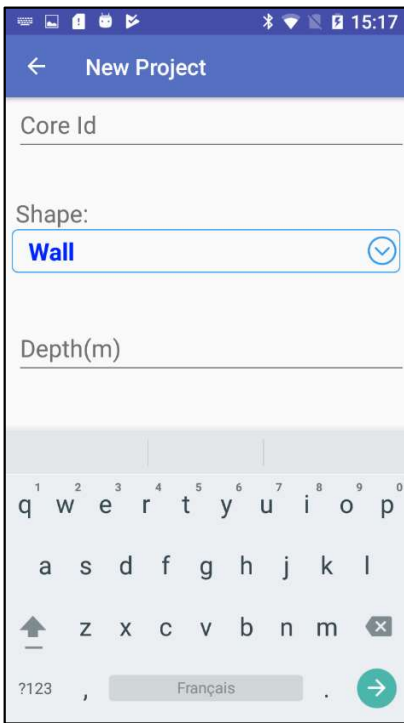
To open an existing project, go to the **Function menu->Open Project**.

To create a new project, go to the **Function menu->New Project**.

You will be invited to enter the name of the project, select the unit (**Meter** or **Foot**) and add a list of available **Spacings** if you need.



While creating a project, you have to define a core. This is the first core in the project. You will be able to add any core with **Add core** button on the main screen.



Add core

The sample can be one of two types: **Wall** or **Cylinder**.

If you are scanning a core, select the **Cylinder** option.

For a rock of flat surface, select the **Wall**.

Both types need the starting **Depth** to be specified.

Enter the core **Diameter** in millimeters.

The **Depth** unit (**Meter** or **Foot**) depends of the project configuration made previously.

The **Diameter** is always in millimeters.

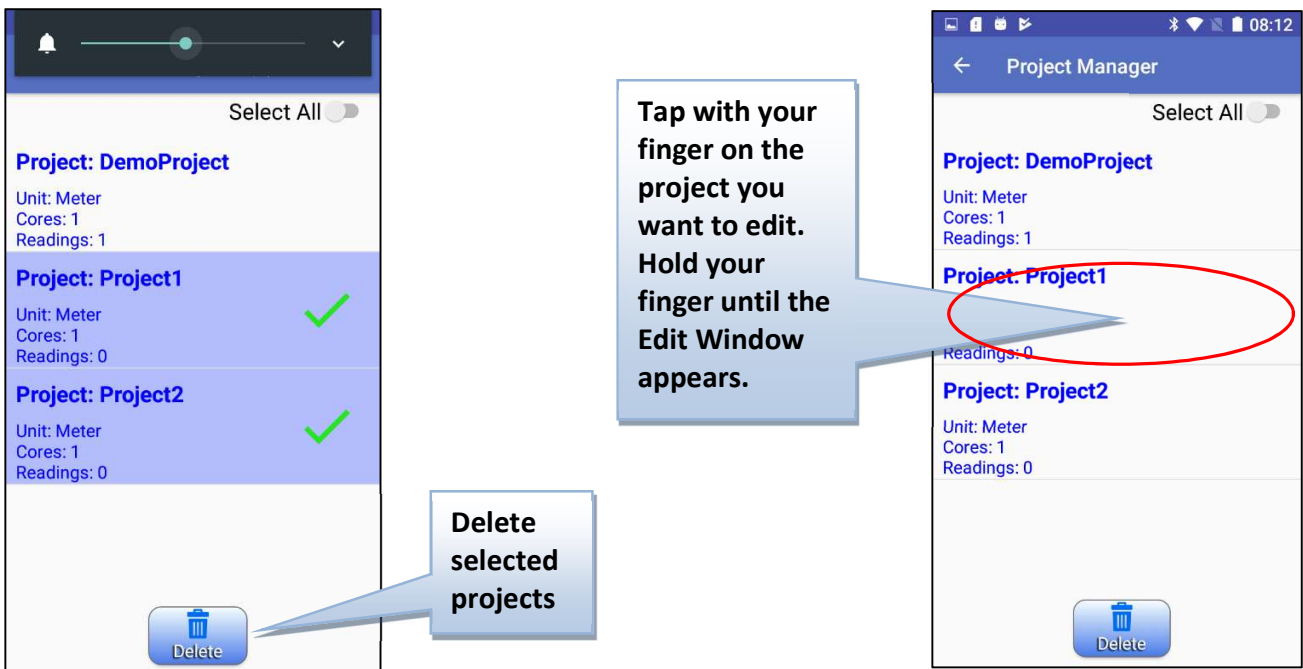
Select the **Half** check box if you have a split core.



When you are scanning a split core sample, always put the MPP probe on the flat side.

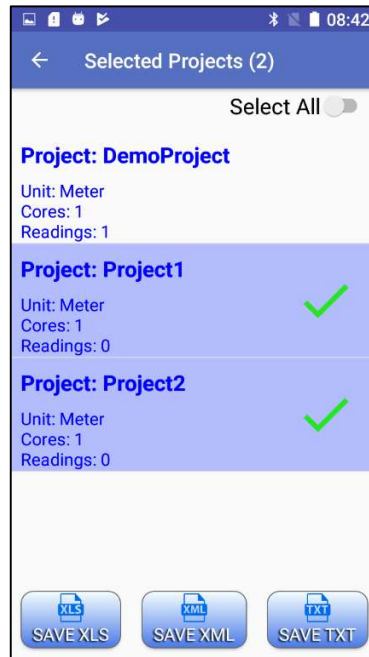
All project configurations are automatically saved when you exit from the software.

To delete or edit projects go to **Function menu-> Project Manager**.



11. Export Files

Function menu-> **Export Files** allows to save the stored readings in several formats.



Normally, you will find the saved files in **\Documents\GDDMPP** folder of your Android device (*the folder name and path may vary between Android devices*).

There is one file of selected format by project (example: Project1.xls, Project2.xls, Project1.txt, Project2.txt, etc.)

The **XLS** (Excel) format is the most useful, but there is one limitation, it cannot contains more than **65536** readings.

A normal project should not contain so many readings, but in case of exceeding you can use **XML** and **TXT** (text) format without limitation.

XML format is easy to open in Excel.

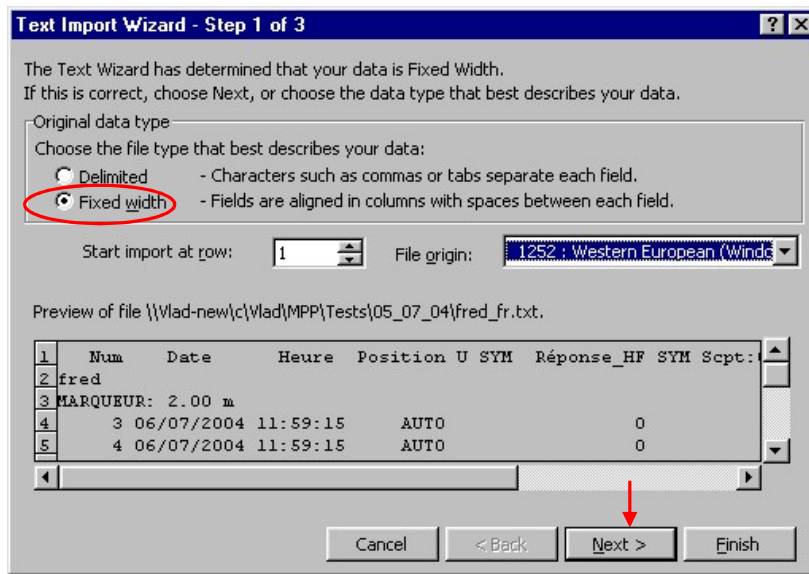
To open **TXT** file in Excel please follow this **Text to Excel Importing Instruction**:

Open the Microsoft Excel software.

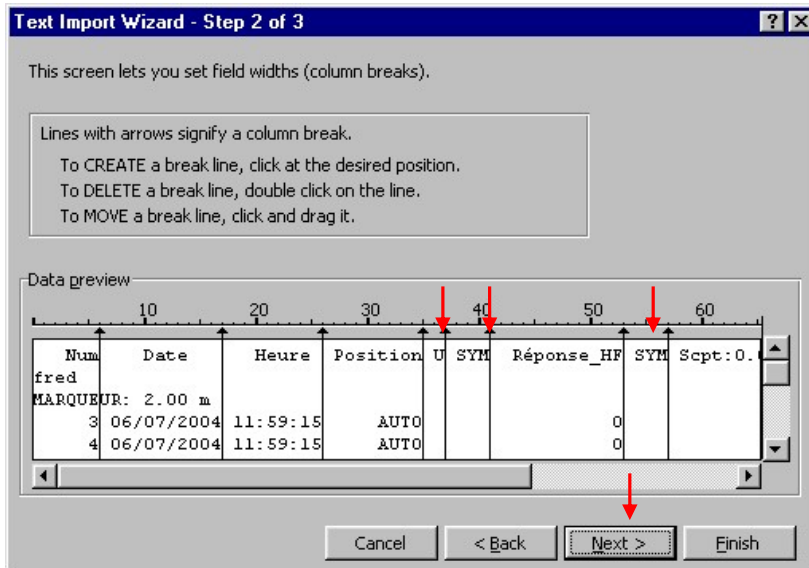
In the tool bar, select **File** and **Open**.

In **Type of files**, select **All Files (*.*)**. In **Look in**, you have to localize your file. This is very important in order to find the file you need. The file extension is **.txt**. Then select the file you want to open and click on **Open**.

You should now see **Text Import Wizard – Step 1 of 3**. Select **Fixed width**. Select **Next**.

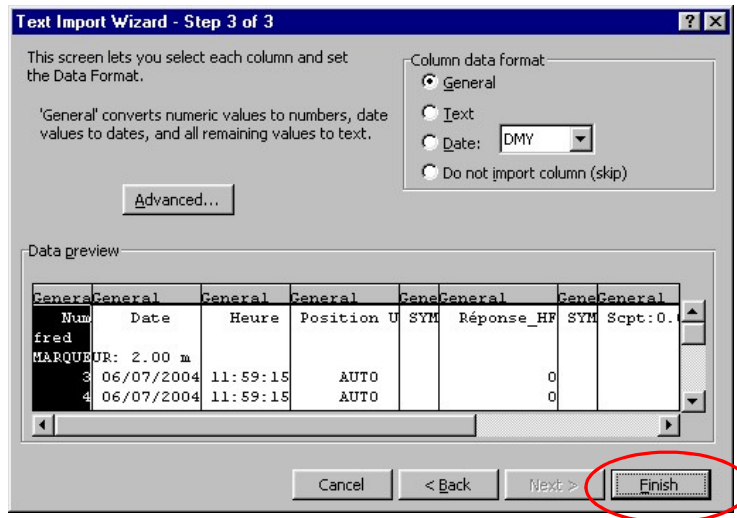


Text Import Wizard – Step 2 of 3.

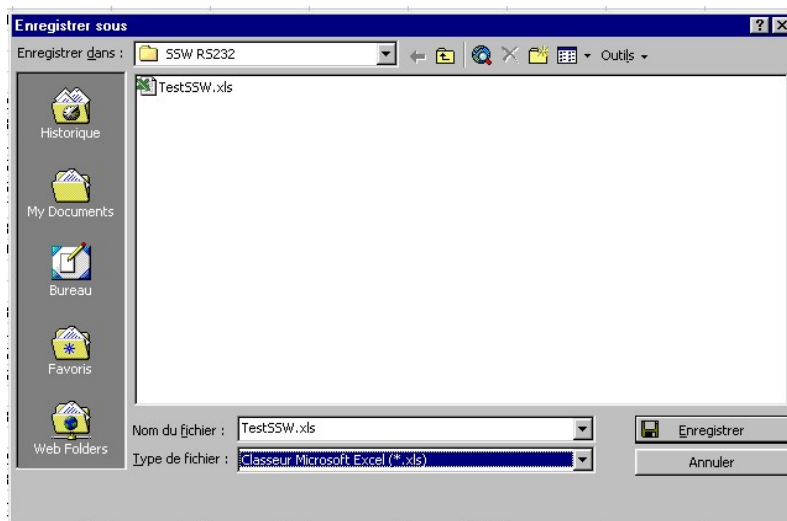


Make sure that break lines separate the following titles: **U** (position 35-37), **SYM** (position 37-41) and **SYM** (position 53-57). Select **Next**.

Text Import Wizard – Step 3 of 3. Select **Finish**.



It is very important that you save your file at this point. To do so, go to the tool bar and select: **File, Save as:** In the **Save in:** field, choose the folder in which you want to save it. In the **Save as type:** field, select Microsoft Excel Workbook (*.xls). In the **File name** field, choose the name you want to save. Click on **Save** button.



12. Readings interpretation

12.1 HF/Cond Distinction

In the case of conductive sulphides: The HF response provides an indication of sulphides quantity. The Conductivity (Mhos/m) provides an indication of sulphides quality. The conductivity of a small and a large aluminium foil will be similar but the HF response will increase with the size of the aluminium surface.

12.2 Results Signification

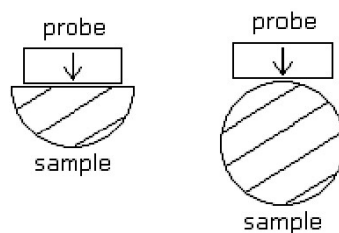
HF RESPONSE: It indicates a specific reaction of the high frequency to the presence of a conductor. The number in this window represents the value of the HF response in Hertz.

SCPT 0.001 Magnetic Susceptibility: the number in this window represents the value of the magnetic susceptibility. As mentioned previously, it is important to note that, in the presence of a conductor, the MPP-EM2S+ probe will measure the magnetic susceptibility value. In the presence of pyrrhotite combined with a small amount of magnetite or no magnetite at all, the magnetic susceptibility will be measured.

COND MHOS/M Calculated Conductivity: it is important to note that in the presence of some magnetite in the sample, the MPP-EM2S+ probe will overestimate the conductivity value. The « > » sign appearing before conductivity value indicates that real conductivity is higher than 999999. It is recommended to take the measurement again on the points marked with > or where the value is 999999 after reinitializing to make sure that the readings are real.

12.3 Sample Shape and Distance

The measured values could depend on the shape of the sample. For an equivalent content of conductive/magnetic ore, the response will increase with an increasing surface of contact. In the same way, the response will decrease with an increasing distance between the probe and the sample, the probe has to be in contact with the sample.

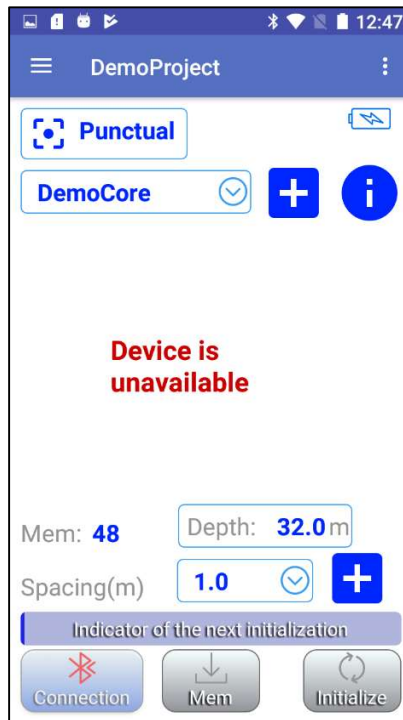


13. Troubleshooting

13.1 Errors while starting the MPP software

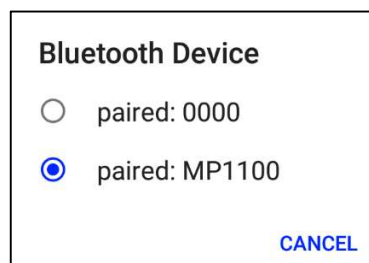
➤ **Problem:**

In **Bluetooth** mode, the probe is not responding and cannot connect to the Bluetooth communication.



✓ **Solutions:**

- In **Config menu->Settings->Connection->Bluetooth Device**, verify that the probe serial number corresponds to the Bluetooth Device selected.

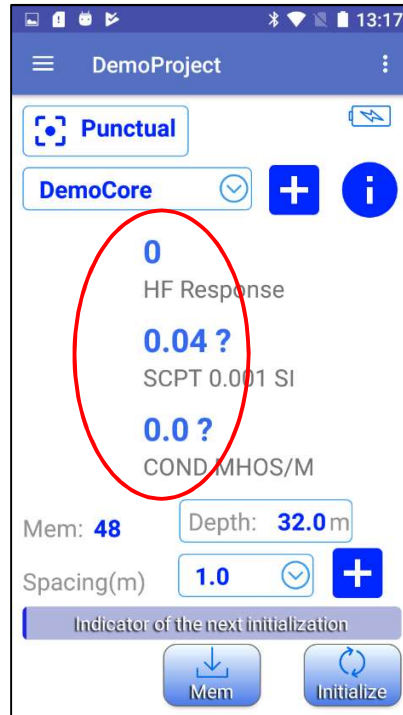


- Verify the batteries of the probe (see *Section 5.3 – Battery level indicator*).

13.2 Errors during the measuring process

➤ **Problem:**

After initialization, the readings seem to drift.

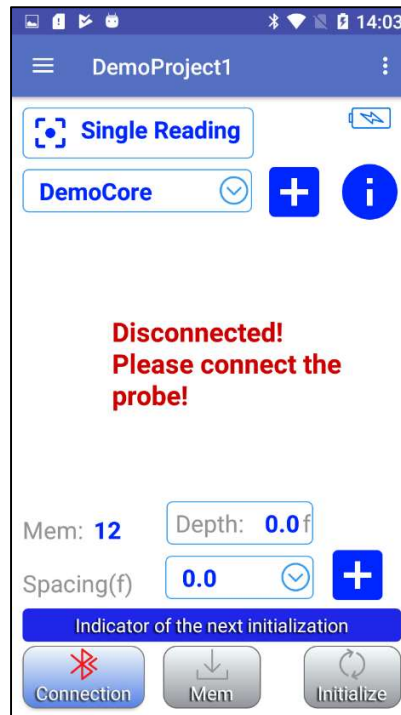


✓ **Solutions:**

- As mentioned in the **Warnings** on the first page of this manual, it is highly recommended that you leave the probe ON for one hour before taking the first measures.
- If it is impossible to wait for one hour before taking measurement, re-initialize the probe frequently.

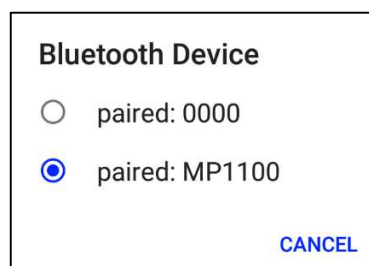
➤ **Problem:**

The probe disconnects during measuring process.



✓ **Solutions:**

- In **Config menu->Settings->Connection->Bluetooth Device**, make sure to select the correct Bluetooth Device you are using.



- Verify the batteries of the probe (see *Section 5.3 – Battery level indicator*).

14. Technical Support

If you encounter a problem not described in this manual, do not hesitate to contact **Instrumentation GDD Inc.** for help at:

Telephone: +1(418) 877-4249

Fax: +1(418) 877-4054

Toll free line: 1-877-977-4249 (in Canada)

E-Mail: support@gdd.ca

Emergency out of business hours:

Pierre Gaucher

Home phone: + 1 (418) 657-5870

Cell phone: + 1 (418) 261-5552

Régis Desbiens

Home phone: + 1 (418) 658-8539

Cell phone: + 1 (418) 570-3408

Any GDD MPP probe that breaks down while under warranty or service will be replaced free of charge upon request for the duration of repairs, subject to instruments availability, except for shipping charges. This service is subject to instrument availability but we have been able to honour this commitment up to present.