

GMS^{plus} Quick User Manual

Foreword

This manual is provided as a brief guideline to give an overview of the first steps and it is not intended to cover all the different circumstances. Please check the *GMS^{plus} User Manual* for details.

Step 1. Unpacking

The GMS^{plus} is shipped in a standard packing box containing all the typical accessories. Some specific options (such as the external battery) may be supplied in a separate box.

The packing box must be inspected for any external damage and any damage should be immediately reported to the forwarder.



The contents of the packing box can be checked according to the order and the packing list. Verify that none of the items have physical damage. Keep the packing box for transportation to the final location of the instrument.

Step 2. Installation Organisation

Before proceeding further please revise the figure at the end of this manual, which illustrates standard and optional connections of the instrument. This way you can familiarise yourself with the GMS^{plus} and the options you have received for connectivity.

The following items are required for a typical installation:

- Drill, drill bits, screws and tools for mounting or levelling
- Compass or building references for the axis orientation
- Latest version of GeoDAS software and manual (check also on our web site www.geosig.com)
- Computer with CD-ROM drive, serial (COM) port and Ethernet
- Any accessories delivered with the GMS^{plus} (refer also to the figure at the end of this manual)

We strongly recommend installing GeoDAS (see Step 8) on the computer prior going to the final installation site. Also it is a good practice to perform a first test of the entire system in the office in order to get familiar with it.

Step 3. Site Preparation

The installation site should be selected away from mechanical and electrical noises and interference sources. The distances must be evaluated for AC power source, GPS location, phone line etc.; in order to have sufficient cable lengths.

Make sure that:

- There is AC power near the instrument (either for GMS^{plus} operation or for the drill during installation).
- If no AC power is present, make sure you have the required tools for installation accordingly.
- Clean and free space is available on the foundation.

Step 4. Physical Installation

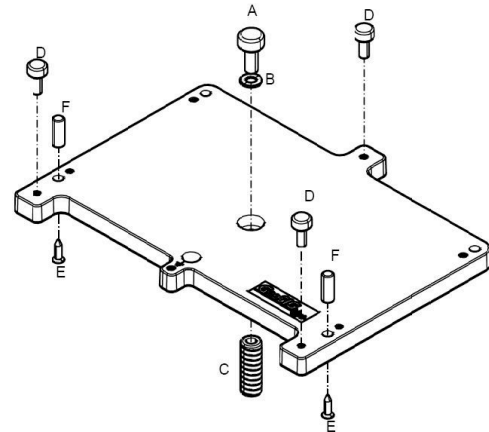


For your convenience a training video explaining the installation of the GMS-xx and GMS^{plus} is available at www.geosig.com → Support → 'How To ...' Videos

The GMS^{plus} has a base plate that must be first fixed to the ground where the instrument can be mounted on. For this purpose, the base plate has a central fixing hole (suitable for 8 mm screws) and three levelling screws.

Base plate preparation:

- Mount the 3 levelling screws (**D**).
- Check that the 4 M6 threads for the instrument fixing are free from dust.
- Mount the 2 polarization pins on the base plate on the sides where the connectors will be (**E/F**).



Drill an 11 mm hole in the concrete with a typical depth of 50 mm for the supplied M8 concrete anchor (**C**). Clean the whole area of dust. Insert the concrete anchor into the hole. Mount the plate in place and insert the M8 fixing screw (**A/B**) in its hole. Turn the plate so it is oriented according to the requirement. Make a coarse levelling of the plate (**D**). Start fixing the plate by tightening the M8 central screw (**A**). Check regularly the plate orientation and level till the plate is rigidly fixed (**D**). Remove the cover of the instrument and put it on the mounting plate using the 4 screws and washers to fix it. Take care about the 2 orientation pins on the plate (**E/F**).

Step 5. Power Connection

The instrument should be powered from 110 VAC up to 230 VAC, 50 or 60 Hz through the external AC/DC converter or any other option described at the end of this manual. The power cable is delivered usually with a suitable plug for the country (e.g. CH, EU, US). If not usable, the cable can be cut and an appropriate local power plug has to be purchased locally. The power plug must be wired by a qualified electrician as:

- Brown or Black wire → Phase
- Blue or White wire → Neutral

It is necessary to connect the \oplus M6 earth screw on the base plate, to the local earth. Make sure the green AC indicator is ON.

Step 6. GPS Connection

The GPS module should be fixed at a location where satellite signals could easily be received. If the GMS^{plus} is installed inside a building or a basement, the GPS module should be installed outside. Once fixed, the GPS can be connected to the GPS connector.

Step 7. GMS^{plus} Startup



Check the GMS User Manual chapter '6. Quick Start up' for a more detailed step-by-step procedure.

Remove the cover using the four screws on the top corners. Verify that the battery is correctly fixed and connected to the system. Let the cover open and connect your computer to the internal serial port ("CONSOLE") by using a standard RS-232 patch cable.

Open any terminal program and chose the appropriate COM port, baud rate is 115'200.

Switch on the instrument by pressing and holding the POWER button for 2 seconds. Press <Ctrl> + 'Z' as soon the message appears on the console to enter the test mode. Then Press 'N' to enter and adjust the network settings (Normally it is set to DHCP). Enter the IP and port of your data server as recovery server. Start the instrument by pressing '5' in the boot-loader menu.

The LED meanings are as follows:

- **AC** (Active Charge) illuminates when external power input is present at the POWER connector.
- **RUN** flashes when GMS^{plus} is running.
- **EVENT** illuminates during recording and flashes when there are events recorded in the memory.
- **LINK** flashes to indicate a problem with the connection to the server and is present during data transfer.
- **ERROR** flashes to indicate a warning condition and flashes faster to indicate an error condition.

Step 8. Software Installation

To install GeoDAS, a computer running Microsoft Windows™ operating system is needed. Insert the supplied CD in the computer. GeoSIG CD menu should appear shortly, from which you can select to install GeoDAS. If not, then launch setup.exe under the GeoDAS folder on the supplied CD.

Select the Normal mode installation at the prompt and enter the GeoDAS-DAP code when requested; (applicable if DAP option has been purchased). If you do not have a DAP code, simply enter 0 as serial number. In that case, the basic functions will be operational. You can later purchase and enter a valid DAP code to unlock the additional functions.

Step 9. First Connection

Once the GMS^{plus} is correctly operating and the GeoDAS is installed, connect the instrument and the computer to an existing Ethernet network. Launch GeoDAS, if it's the first time you launch GeoDAS, you should have a window asking if you would like to configure one or more stations, just answer yes and select the entry "My GMS instrument is connected to the local network":

My GMS instrument is connected to the local network

Enter the **Serial number** of the instrument and press **Login >**

If the instrument and the computer are in the same network the GMS^{plus} will be found and should appear in GeoDAS. In the window *Stations: General Information* make a **right click** on the station name of the added instrument and select **Instrument Setup**. The Web Interface will open in your default browser.

Login to the Web Interface with the user name **admin** and the password **123456**



All settings can be done in the Web Interface. At the beginning go to **File Transfer Settings** → Tick **Contact Remote Servers** → Enter the IP of your computer and click **Add Server with IP**. Save the configuration by clicking on **Save Configuration to Device**.

Now the instrument will periodically connect to your laptop to upload data or SOH files.

After the instrument has restarted it is ready for operation and can be configured according to the GMS^{plus} *User Manual*.



Before starting measurements, the GMS^{plus} should be switched on for 30 minutes to stabilise at the installation site climate. This is essential to allow the instrument to adapt and naturalise in the ambient conditions of the site where the measurements will take place. Failure to follow this advice may result in a higher offset drift.



Further information can be found in the product manuals under the Manuals folder on digital media or on our website www.geosig.com.

