SoilSense User Manual

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Installation

Step 1 : Begin By Selecting the site for installation

Spet 2: Once the site for the probe had been identified, clear the area of any obstructions such as rocks or other large debris and flatten a 1x1 square foot area.

Step 3: Dig a hole slightly wider than the diameter of the probe at a depth of approximately 2 feet deep. A post digger is recommended for this task. Store the dirt in a large container for mixing later.

Step 4: Check the depth by resting the box of the probe on the previously flattened ground. Re-flatten if necessary. The bottom of the probe box should be flush with the ground and the shaft should not be touching the sides of the hole being as close to the center as achievable to make it perfectly straight in the ground.

Step 5: In the large container containing the dirt mix in approximately 3 liters of water and mix to make mud.

Step 6: Before inserting the probe in the ground thoroughly cover in a layer of mud.

Step 7: Insert probe in the ground keeping it as parallel to the sides as possible.

Step 8: Rest the probe box on the ground and fill the hole with the previously made mud mixture burying the ph probe at an approximate depth of 3-4 inches. If the mud is too thick add more water.

Step 9: Let dry

Step 10: Remove all 4 screws on the lid, then proceed to remove the lid.

Step 11: Plug in the battery to its terminal.

Step 12 : Reattach lid ensuring a snug fit for watertight seal.

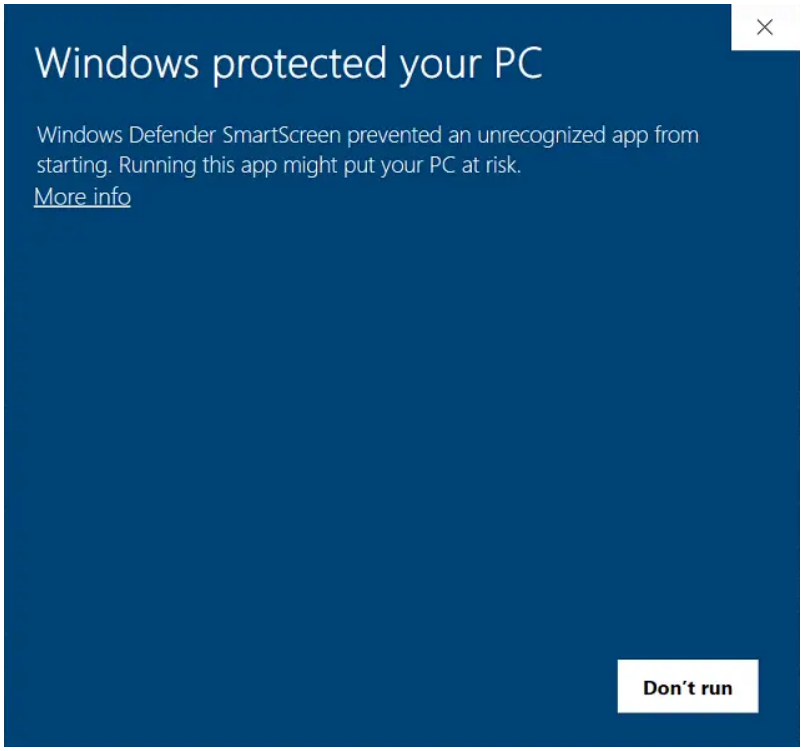
Software Setup

Step 1: Insert the provided USB drive into a Windows 7 or newer computer or download the SoilSense.exe file from the online google drive repository.

Step 2: Drag and drop the SoilSense.exe file onto the desktop.

Step 3: Plug in the receiver into the same computer that the SoilSense.exe file was saved on.

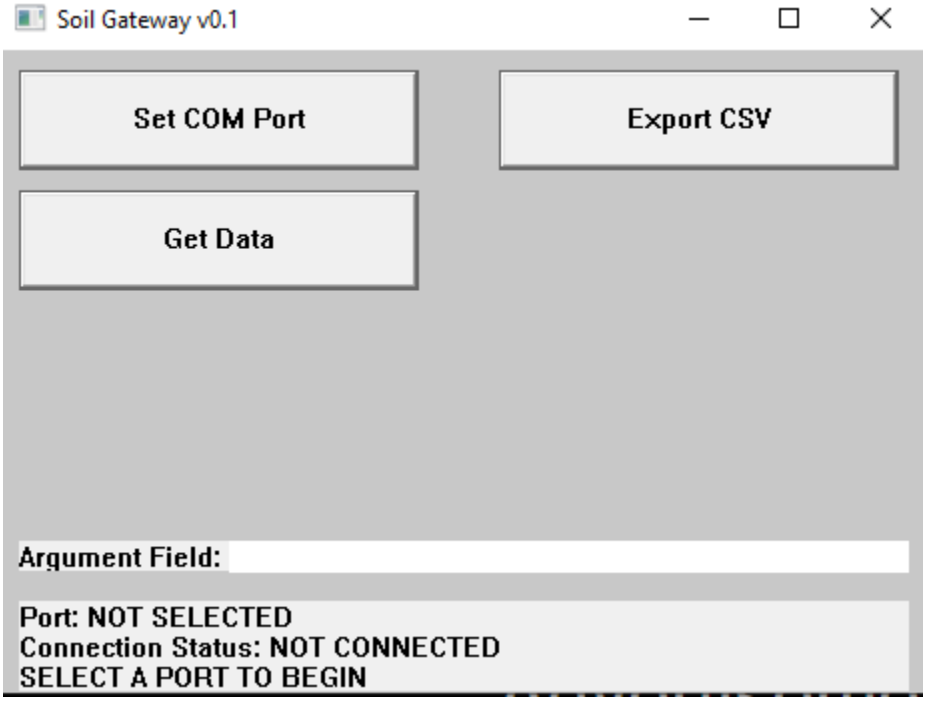
Step 4: Run the SoilSense.exe file by double clicking the file in your file explorer. You may encounter a windows pop-up screen that warns you against running the file. To fix this follow the steps below



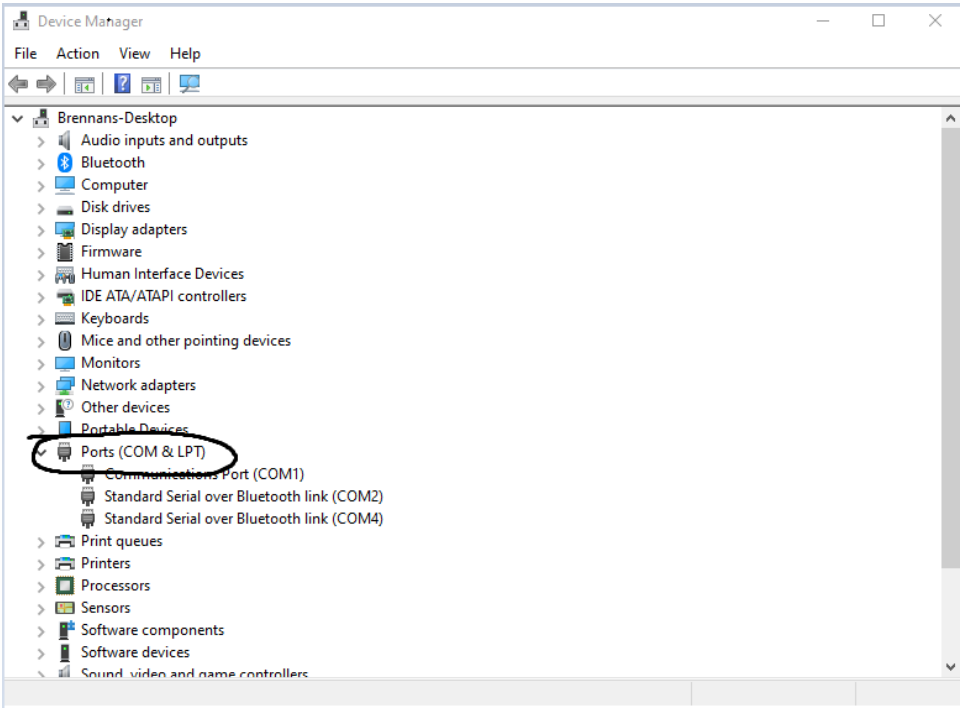
Step 5: Press More info on the pop-up pictured above. After more info has been clicked, an option to run anyway will appear to the left of the “dont run” option. After that it should then look like the picture below.

Using the Software

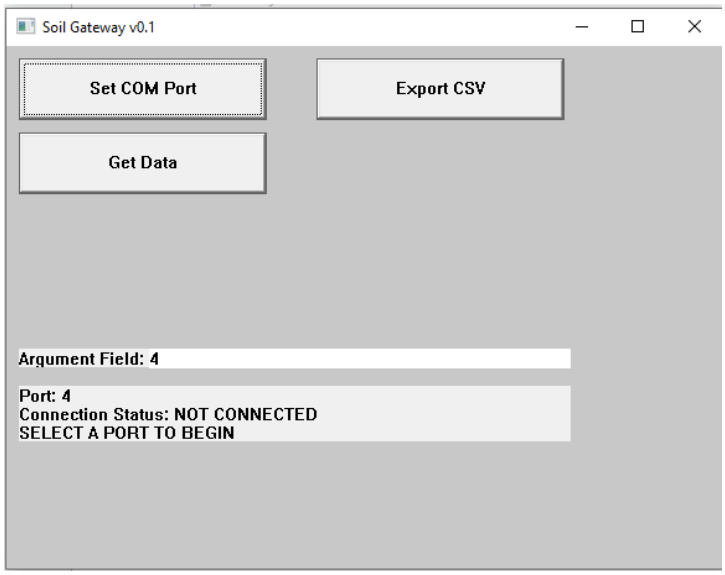
Step 1: After running the .exe file a screen should appear with three options: “Set COM Port”, “Export CSV” and “Get Data”.



Step 2: The next step is to find which COM port the device is connected to. To find this out open the windows search bar and type in “device manager”. In the device manager screen, navigate to the Ports (COM & LPT) sections and click the drop down menu.



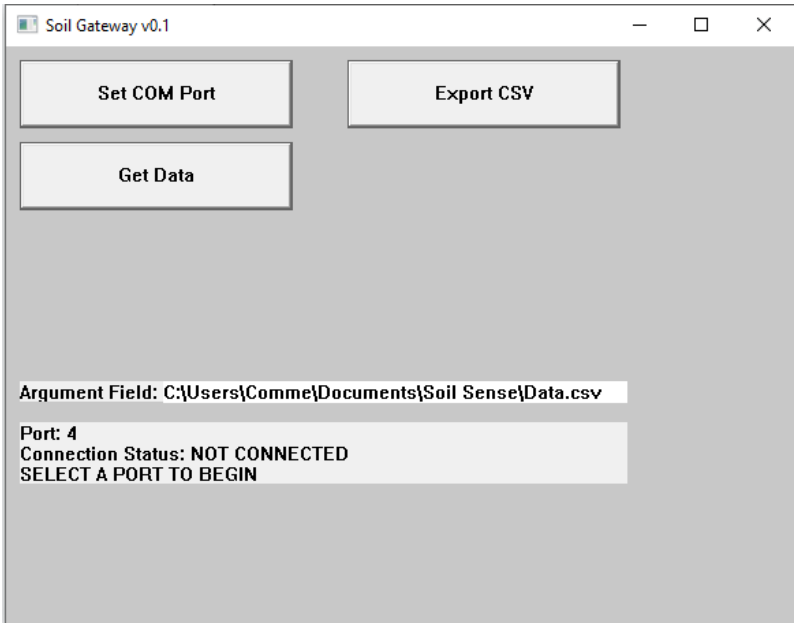
Step 3: Find the COM port that Arduino Uno is collected to, it should say Arduino Uno(COM xx). After finding out the COM Port connection go back to the user interface and enter the COM port number in the argument and press “Set COM PORT”. An example can be seen below with the COM Port set to 4. (Note: This will most likely not be the same COM Port for your device.)



Step 5: After the correct COM Port has been entered the Port number should populate in the field below and the connection status should change to : “Connected”.

Step 6: Making a file directory. Open your windows file explorer and navigate to “C:\Users\Comme\Documents” by either following the file path or copy and pasting the file path into the windows search bar. After you are in the correct directory, create a folder called “Soil Sensor”.

Step 7: Export Data. The file path should now be “C:\Users\Comme\Documents\Soil Sense\Data.csv”. Now press “Get Data” and then paste “C:\Users\Comme\Documents\Soil Sense\Data.csv” into the argument field of the Soil Gateway and press “Export CSV”.



Step 8: A .csv file should now appear in the Soil Sense folder containing all the sensor data collected up to that point.
Step 9: Happy gardening!