




OhmPi: learn how to build an open-source resistivity meter

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Abstract

In this workshop, we invite you to discover the inner workings of the open-source resistivity meter OhmPi (<https://gitlab.irstea.fr/reversaal/OhmPi>). The OhmPi is an instrument that can be used for resistivity surveys in the field as well as for lab work. In combination with a multiplexer, up to 64 electrodes can be addressed (v2024). The OhmPi project is open-hardware, meaning the documentation explains how to build the device using off the shelf electronic components that you can order online and assemble yourself. Schematics of the electronics are freely available in the repository. Similarly, the software used to operate the OhmPi is open-source and available on GitLab. In this workshop, we will first mount the components of the measurement board. This will help us understand the electronics behind doing a resistivity reading and the design choices made. Then, we will assemble the OhmPi with a multiplexer to do multi-electrode measurements. Finally, we will install the software on the Raspberry Pi to operate the OhmPi and go through the different interfaces (graphical, Python API, MQTT) that can be used to collect measurements. At the end of the workshop, we expect participants to be able to understand the ideas behind the electronics of the OhmPi and be more confident in building and operating one.

Link to the OhmPi GitLab page

Prerequisites: None

WORKSHOP

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