

FEVER lab scale demonstrator

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Introduction:

A lab demonstrator is currently being developed in the Mechatronics lab at the University of Southampton as an initial (~1/100th) scaled version of a FEVER charging station:

- Develop an energy management system to achieve maximum efficiency and reliability
- Testing system component, connection and communication
- Provide verification and validation of the suggested approaches and technologies
- Support experimental analysis and testing of hybrid energy storage systems.

Solar Power

PV power monitoring system for the solar panel installed at building 7, provide current and voltage reading

System Components:

Power Supply

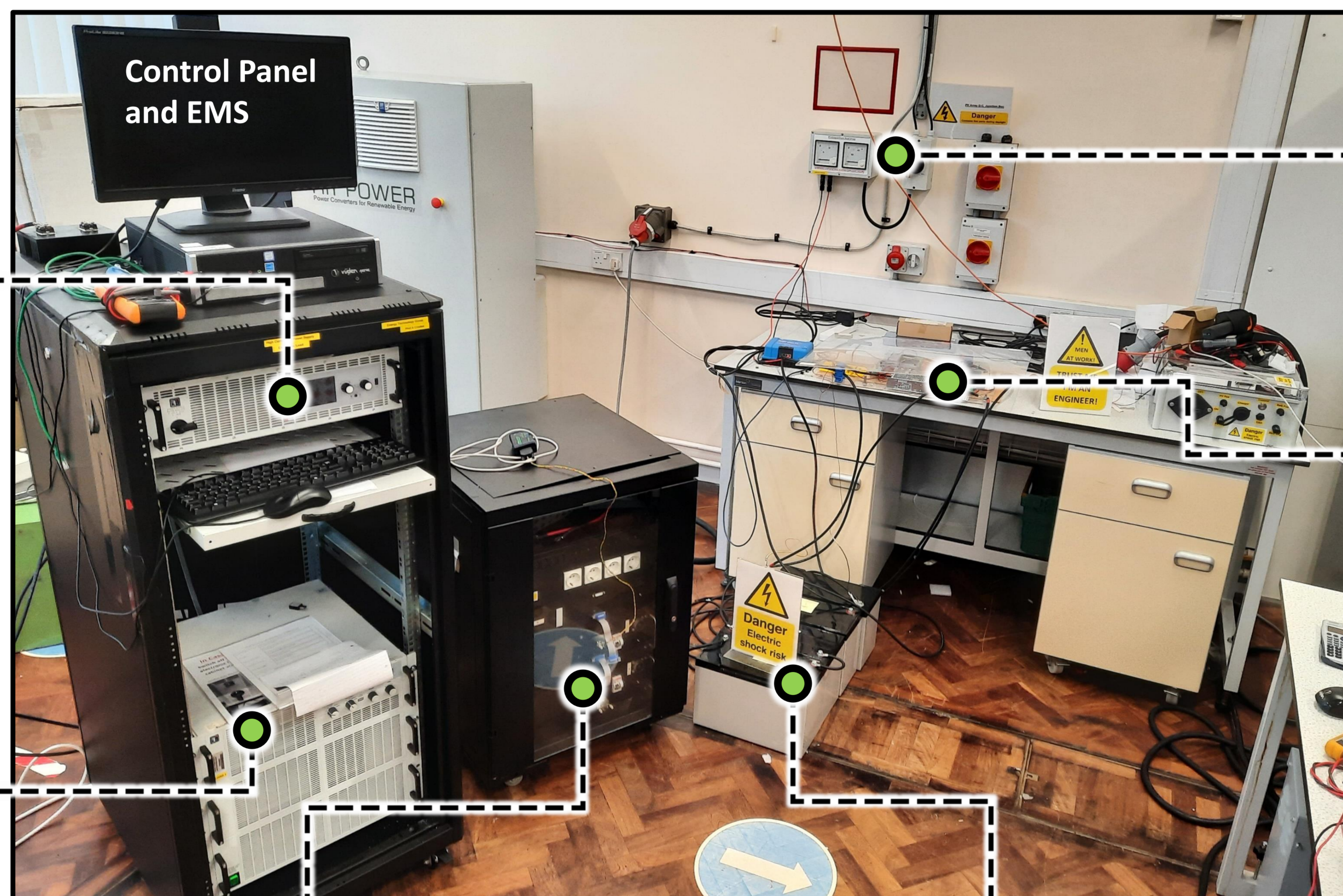
Electronic controlled power supply to charge the batteries.

Also to mimic different scenarios of: Wind, Solar or Wind + Solar generation

Electronic Load

A controlled electronic load via Matlab to discharge the batteries.

A load profile provided to represent the charging load of EV and can be adjusted to reflect different scenarios.



Li-ion battery

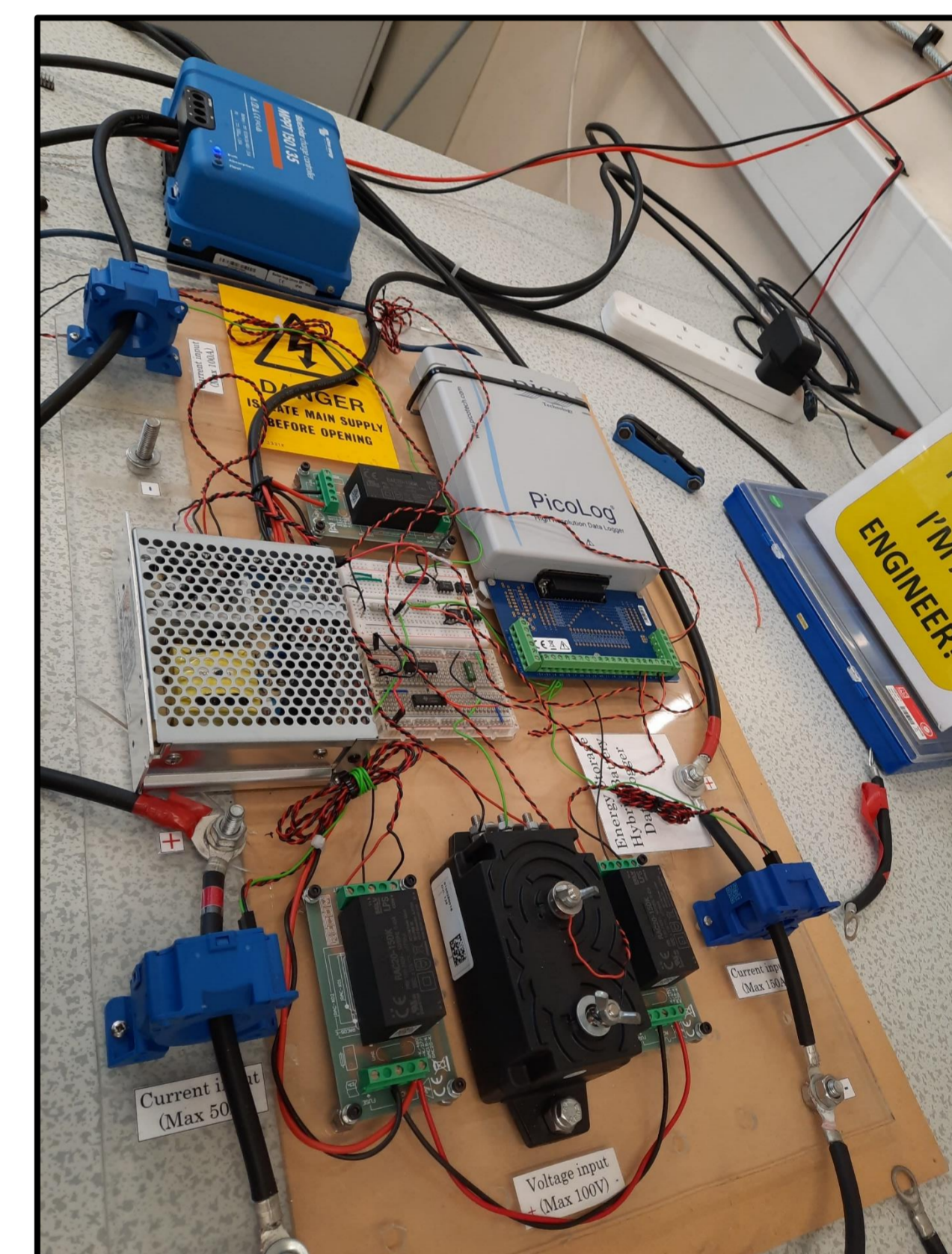
A 24v or 48v Li-ion battery with its own BMS.

Lead Acid batteries

12v to 48v lead acid battery

Data Acquisition

Contain the MPPT system, power supply and data logger connect to current and voltage sensors for system monitoring and data collection.



Development Stage:

— Current stage
— Next/Future Stage

