



Microgrid control victoria

Microgrid control victoria

The future of energy is local, modular, and thrill-seeking - meet the microgrid, the little grid with big dreams of transforming how your appliances are powered and how your community copes with extreme weather.

Out in rural Victoria, a motley team of solar panels, inverters and batteries have teamed up to power a dozen homes. Led by lab director Professor Glenmo - part mad scientist, part renewable rabble-rouser - this scrappy microgrid is writing its own rulebook when it comes to keeping the lights on. Peak hour surges, multi-day storms, grid failures - bring it on. By pushing the operational boundaries, this tiny grid is lighting the way for all of us.

Glenmo's relatively small 30 kW islanded grid-forming system currently controls 140 kW of connected solar panels scattered throughout the area on the microgrid. That's a lot of solar to control when the grid goes down, and nothing's left to soak up the excess solar power. In a recent video, Glenmo (AKA Glen Morris from Smart Energy Labs) explains how his microgrid system tames all those solar panels using Selectronic inverters and a clever trick from the Australian standard for grid-connected inverters to help out.

Microgrid: A local energy system that creates, stores, and shares electricity independently. It often uses renewable sources like solar and wind. Microgrids can run on their own and/or connect to the main power grid.

Grid-Forming: A power source, like a renewable energy system, that can set and maintain stable voltage and frequency levels. It synchronizes multiple energy sources, enabling a reliable power supply.

In the video below, check out Professor Glenmo explaining how his microgrid works, and then read on for more insights. If this piques your interest, Glen will be running an online "Microgrid Design Course" in January 2024. Details are provided at the end of the article.

Let's start with a breakdown of his grid-forming system components, which include 30 kW of battery inverters and an 80 kWh battery stack. Additionally, the microgrid connects to 140 kW of distributed solar generation.

Selectronic Powerchain is Selectronic's software-based solution for direct management of solar. It enables linking multiple SP PRO bi-directional battery inverters, whether single or multi-phase, on or off-grid.

The lesson with microgrids is you need to size the grid-forming system to cope with the maximum demand when there are no other sources available. Or, you have a backup generator system, which we do. We've got a 22kVA generator here as a backup solution.

So, you've got to size your sources to consider your grid-forming system first, how big it's going to be, and whether it can absorb and control the amount of connected generation.

The key information here is absorb and control the amount of connected generation. That's a Herculean task, considering the 30 kW grid-forming system has somehow to absorb a potential 140 kW of connected generation!

Australian standards get more of their fair share of rubbishing from the electrical industry, so it's refreshing to highlight an instance where a ruling is put in for good reason. Without it, this microgrid system may even be unworkable.

Contact us for free full report

Web: <https://www.sumthingtasty.co.za/contact-us/>

Email: energystorage2000@gmail.com

WhatsApp: 8613816583346

