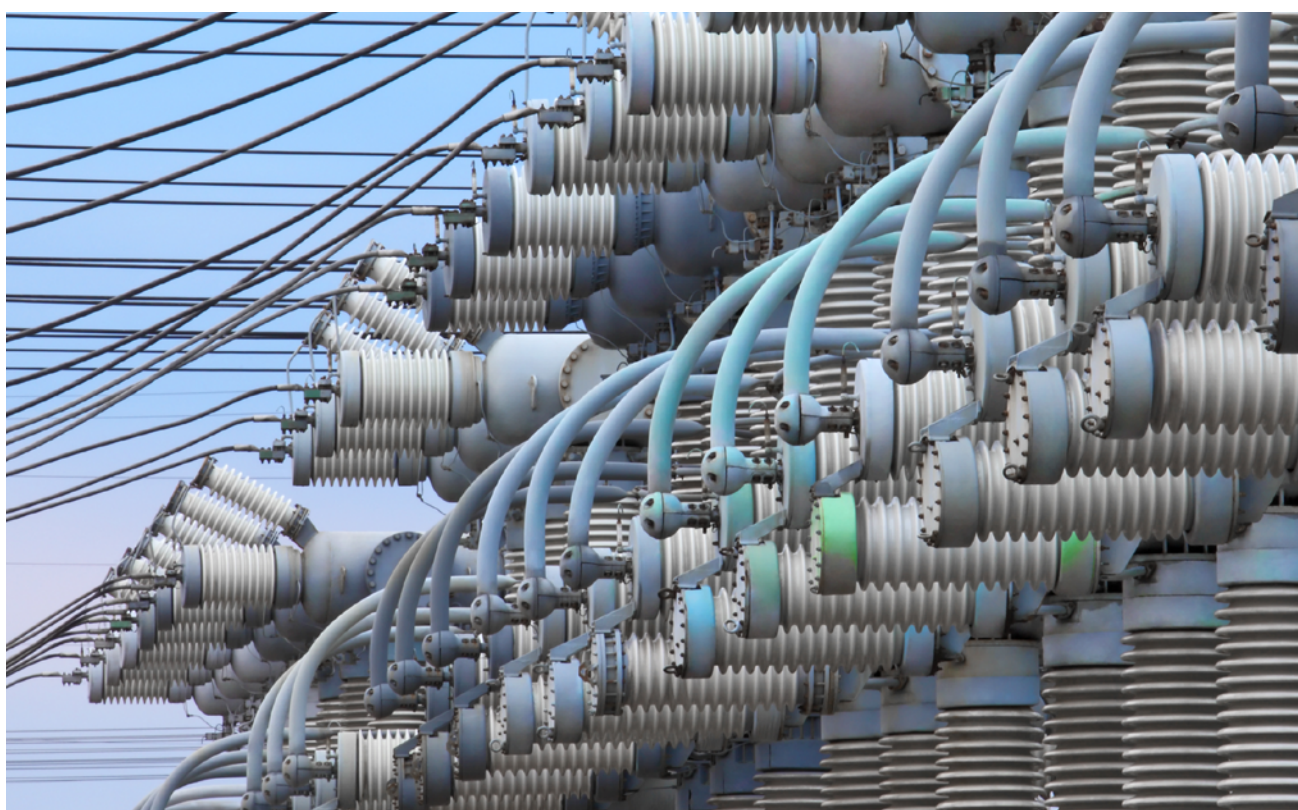


Control and Monitor Microgrids

An NI Industrial IoT Lab Demonstration



Microgrid topologies offer several advantages over large traditional grids including increased resiliency and easier integration of distributed renewables. But to reap these benefits, you need to overcome some challenges. The microgrid testbed focuses on open technology that can help monitor and control a microgrid at the edge while maintaining scalability and interoperability between different vendors and protocol standards.

DEMO FEATURES

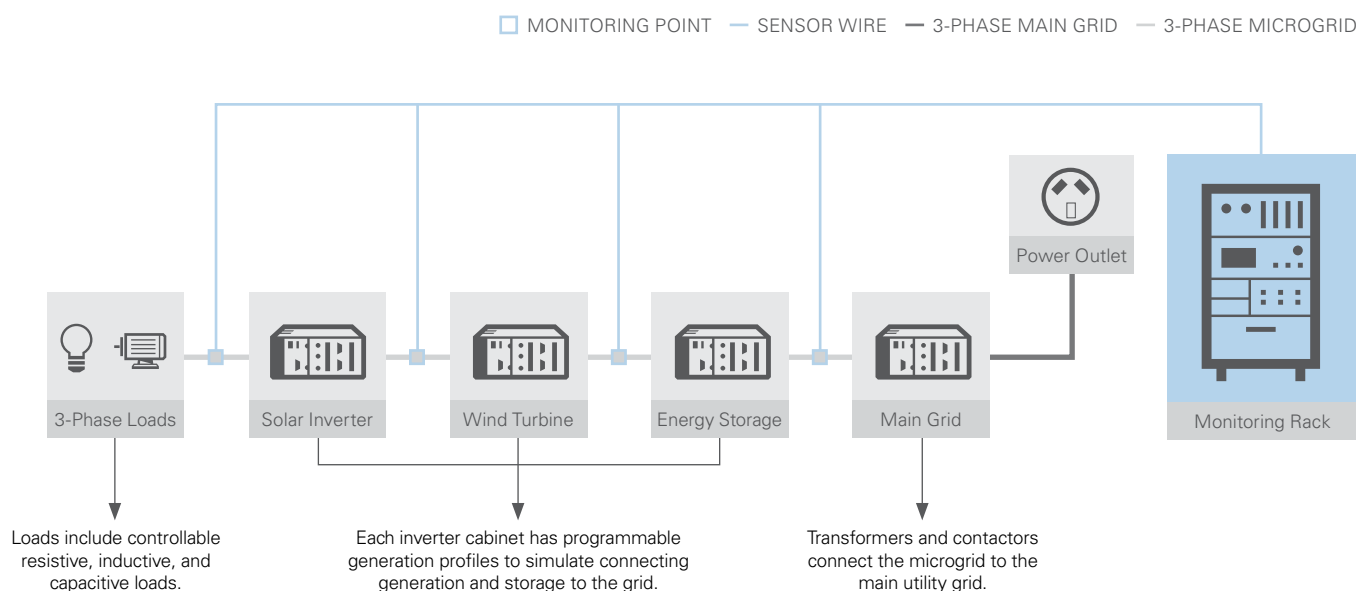


Programmable Switch/Recloser for Protection Scheme and Preventive Maintenance Research



Open, Flexible, Field-Deployable Equipment for Monitoring, Algorithm Design, and Communication to a Head-End System

DEMO BLOCK DIAGRAM



IIC Testbed Members

- National Instruments—Monitoring, edge processing and control, smart inverter controller design, software gateway services
- RTI—Data Distribution Service (DDS) communication technology and development tools
- Cisco—IT data communication infrastructure

Technology Demonstration Features

- 3-phase, low-voltage AC microgrid
- Instrumentation for power quality, monitoring, and phasor measurements
- Smart inverter controllers with Time Sensitive Networking (TSN) technology
- All inverter-powered grid (no synchronous generation needed)
- ActiveSync capability (reconnect from island mode without needing black start)

Learn more about NI and the IoT at ni.com/iiot-lab

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