

QUANSER ENERGY SYSTEMS BOARD

Prepare Students for Energy Systems Engineering Applications

Power electronics have long been a cornerstone topic of electrical and electronic engineering. However, it is often difficult to interact with power systems and signals in a meaningful way because the voltages involved are often dangerously high. The Quanser Energy Systems Board is intended to provide a safe, hands-on introduction to electrical power systems. The board uses scaled down power systems to offer students a reasonable benchtop form factor. Despite the smaller size, the electrical design and dynamics of the circuits and signals involved remain analogous to the larger systems they represent. Designed exclusively for the NI ELVIS III platform and LabVIEW™, the board also exposes students to industry-grade instrumentation, measurement and control fundamentals.

Features



NI Part No. 786523-01
NI ELVIS III sold separately



Complete System

Complete power system covering energy conversion topics from AC generation and rectification, to SMPS and inversion



Open and Customizable

Access and customize the interfacing and control software using LabVIEW FPGA



Comprehensive Courseware

Includes comprehensive ABET-aligned course resources and LabVIEW files



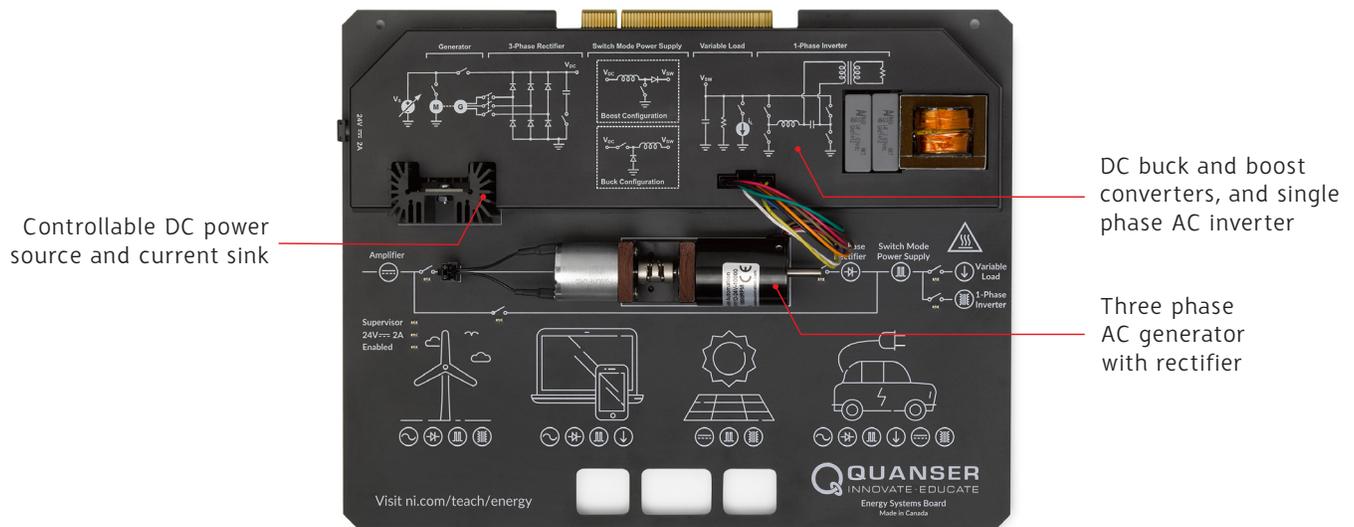
Accelerate Discovery

Learn the fundamentals of energy conversion concepts and power system design using a fully-instrumented power system

Courseware

- **DC Power:** Switched-mode power supplies, buck converters, boost converters, SMPS control
- **AC Power:** AC power generation, transformers
- **Converting AC to DC Power:** Rectifiers, power inverters
- **Power Systems:** Wind power, consumer power supplies, solar power, electric vehicles

Product Details



Device Specifications

- Linear 0-20 VDC variable power source
- DC motor coupled to three phase AC generator
- Single or three phase rectifier circuit with selectable output capacitance
- Buck and boost DC converters configurable to run off the DC supply or AC rectifier
- Controllable 0-250 mA DC current sink
- Single phase AC inverter with transformer and resistive load

ACCELERATE DISCOVERY WITH THE NI ELVIS III PLATFORM

For the full range of Quanser application boards, visit www.ni.com



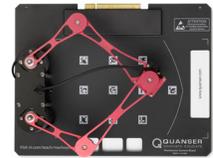
Mechatronic Sensors



Mechatronic Actuators



Controls



Mechatronic Systems

About Quanser:

Quanser is the world leader in education and research for real-time control design and implementation. We specialize in outfitting engineering control laboratories to help universities captivate the brightest minds, motivate them to success and produce graduates with industry-relevant skills. Universities worldwide implement Quanser's open architecture control solutions, industry-relevant curriculum and cutting-edge workstations to teach Introductory, Intermediate and Advanced controls to students in Electrical, Mechanical, Mechatronics, Robotics, Aerospace, Civil, and various other engineering disciplines.

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