

# QUANSER MECHATRONIC ACTUATORS BOARD

## Introduce Students to Actuators and their Applications

A mechatronic system must, by its very nature, interface between electronic and mechanical components. When an electronic system manipulates a mechanical component, an actuator is necessary. Due to cost and dynamic constraints, the vast majority of actuators used in mechatronics consist of some form of rotary drive connected to an armature. Understanding the various types of actuators which are available, as well as the differences between them is key to making informed design decisions. The Quanser Mechatronic Actuators Board provides hands-on experience controlling and measuring the performance of the four most common actuator types: brushed DC motors, brushless DC motors, stepper motors, and servo motors. Designed exclusively for the NI ELVIS III platform and LabVIEW™, the board also exposes students to industry-grade measurement and command fundamentals.

### Features



NI ELVIS III sold separately



#### Four Complete Actuator Systems

Brushed DC motor with linear and PWM amplifier, brushless DC motor, stepper motor, and servo motor



#### 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



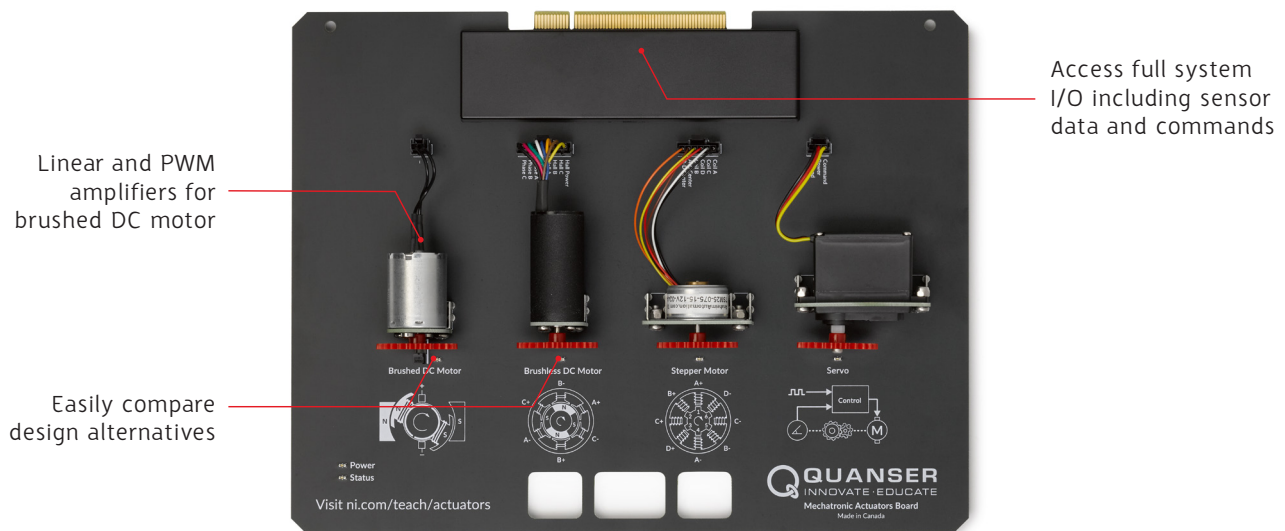
#### Accelerate Discovery

Learn the fundamentals of actuator theory, command, and design considerations

### Courseware

- **DC Motors:** Brushed DC motors, brushless DC motors, design considerations
- **Power Amplifiers:** Linear power amplifiers, pulse width modulation amplifier, design considerations
- **Position Controlled Actuators:** Stepper motors, servomechanical actuators, design considerations

## Product Details



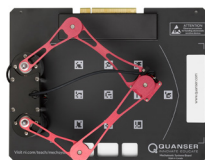
## Device Specifications

- Brushed DC motor with speed sensor and current sense
- Linear and PWM amplifier for brushed DC motor
- Brushless DC motor with access to Hall-effect sensor data
- Stepper motor with full, half, wave, and micro stepping configuration
- PWM-controlled analog servo motor

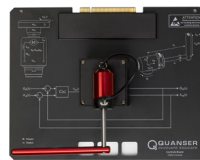
## ACCELERATE DISCOVERY WITH THE NI ELVIS III PLATFORM



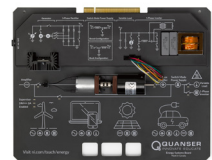
Mechatronic Sensors



Mechatronic Systems



Controls



Energy 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.

Products and/or services pictured and referred to herein and their accompanying specifications may be subject to change without notice. Products and/or services mentioned herein are trademarks or registered trademarks of Quanser Inc. and/or its affiliates. MATLAB® and Simulink® are registered trademarks of the MathWorks, Inc. ©2018-2021 Quanser Inc. All rights reserved.