

MECHATRONIC ACTUATORS TRAINER

Empower your students with industry-relevant mechatronic design skills, and accelerate project-based learning

The Mechatronic Actuators Trainer is an innovative actuator interface for use in your Mechatronics courses. The compact device provides an intuitive solution for driving up to four types of motors including brushed DC, brushless DC, stepper or servo motors, complete with rotational position and speed feedback, as well as current sense for each. This allows your students to learn the fundamental workings of these actuators and develop key skills in motor selection based on functionality and performance requirements. The courseware provided also explores applications such as controls and transmission mechanisms. This solution is ideal for teaching undergraduate mechatronics, and is accompanied by comprehensive fundamentals labs, integrated challenges, as well as industry relevant open-ended projects.

The ability to control up to four types of actuators allows you to integrate the Mechatronic Actuators Trainer as a core part of student projects such as mobile robots, manipulators, etc. These systems can also be powered and driven by, as well as integrated into other Quanser solutions such as the QBot Platform.

The complete Mechatronics Design Lab features the Actuators Trainer alongside the Mechatronic Sensors Trainer, for a comprehensive and exploratory understanding of hardware interfacing for undergraduate education.

Features



Course-ready

Comprehensive fundamentals labs, application challenges and industry relevant open-ended projects



Project-ready

Drive any combination of up to four types of motors with feedback



Outreach-ready

Intuitive user experience and interface in a compact unit promote interactive STEM education



Lab-ready

Cost-effective pricing and bundle options allow session-wide deployment across a course

Courseware

Fundamentals Labs

Actuators fundamentals labs covering the fundamentals of motors, as well as hardware interfacing and motor feedback

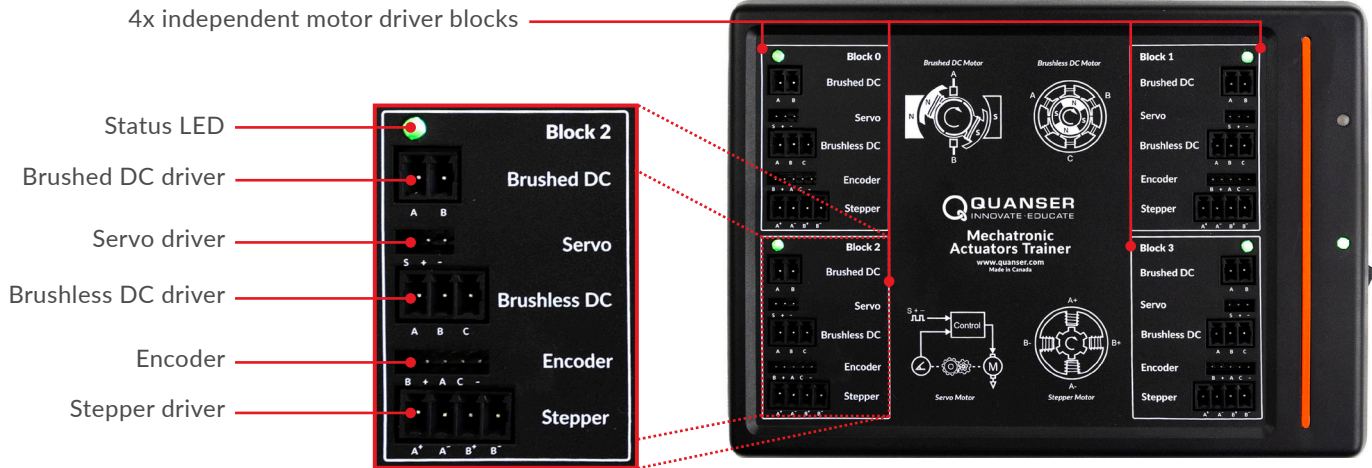
Integration Challenges

Guided challenges developing skills in motor selection based on functionality and performance and applications such as controls and transmission mechanisms

Projects

Industry-relevant open-ended projects with the Mechatronic Sensors Trainer, such as a mobile robot, smart home system, etc.

Product Details*



Device Specifications*

Dimensions	18 cm x 13 cm x 3 cm
Connection Interface	USB External power supply
Actuators Interface (motors included)	Brushed DC Motor Brushless DC Motor Stepper Motor Servo Motor
Actuator Feedback	Rotary position (encoder) Rotary speed (tachometer) Current sense
Language support	Python / C / MATLAB / Simulink

* Subject to change

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, or 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. ©2025 Quanser Inc. All rights reserved.