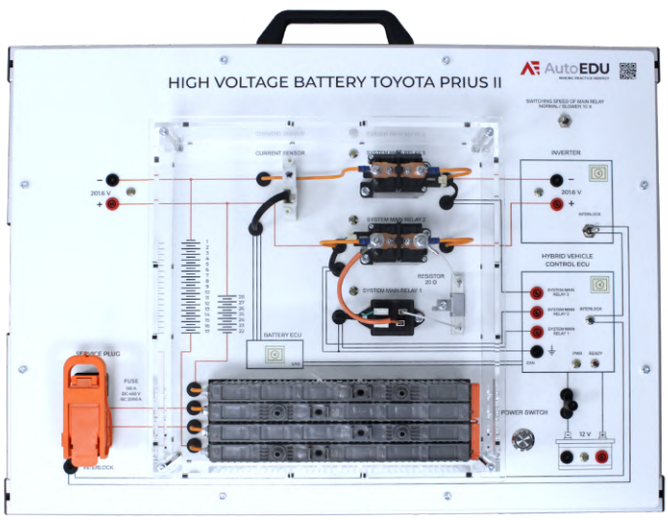
HIGH VOLTAGE BATTERY SYSTEM EDUCATIONAL TRAINER

L3

Product number

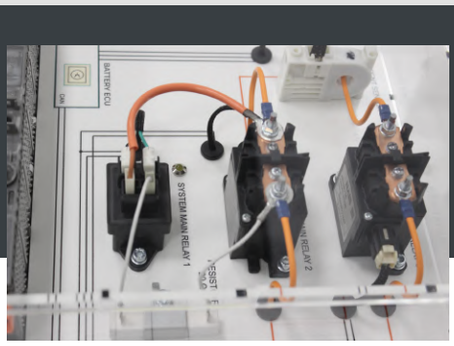
HYBBAT02

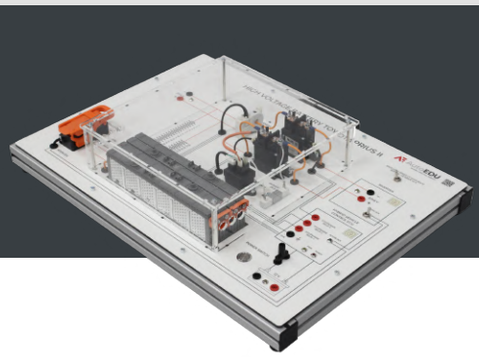
The High Voltage Battery Training System is a compact, interactive training unit designed for teaching high-voltage battery management and diagnostics, using components from the Toyota Prius II OEM model. It enables students to connect and disconnect service plugs, measure battery voltage under various conditions, and understand power transfer from the battery to the inverter. Equipped with a detailed wiring diagram and the ability to measure each battery cell separately, this trainer replicates real-world electric car conditions. The system includes LED indicators for monitoring relay and inverter status and offers a slowed start-up mode to facilitate step-by-step analysis of the activation sequence. All high-voltage components are safely enclosed under plexiglass for enhanced safety during hands-on training.



Features

- OEM based Toyota Prius II high voltage battery system.
- Service plug management with interlock connection and disconnection procedures.
- High voltage battery cells measurements in various scenarios within safe measuring points.
- Power transfer analysis from battery to inverter.
- Sequential activation of high-voltage relays, including soft-start relays and pre-charge circuits.
- All system components are clearly visible: service plug with interlock, high-voltage relays with soft launch relay, high-voltage cells and other necessary components.
- Each high-voltage battery cell can be measured individually.
- Detailed wiring diagram, all high-voltage battery cells and electrical connections, accurately reflecting the OEM electric vehicle configuration.
- All measurements replicate real-world scenarios.
- System startup sequence slow-motion feature (10x slower than normal) for detailed learning.
- LED indicators on relays and inverter for system status visualization.
- Safely enclosed under plexiglass, ensuring safety while maintaining visibility.



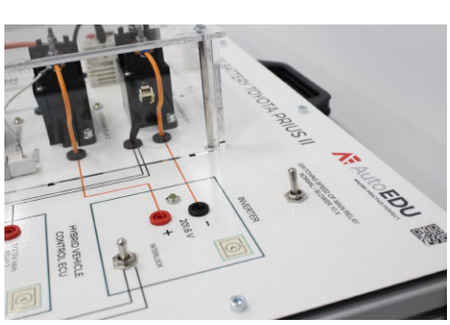


Value for Students

- Hands-on experience to understand and manage high voltage battery operations, including the service plug and interlock connection procedures, system launching sequence, safety procedures.
- Understand and manage service plug and interlock connecting and disconnecting procedures.
- Analyze and measure high-voltage battery voltage when the service plug is disconnected, to measure the high-voltage battery voltage itself.
- Ability to measure high-voltage battery voltage with the service plug connected, and determine how much voltage the battery transfers to the inverter.
- All measurements replicate real electric car measurements.
- Examine the steps or conditions a student should execute to transfer power from batteries to the inverter, including service plug connection, ignition, and inverter switch.
- Learn the turning-on sequence of high-voltage relays and soft launch relay.
- Ability to measure each high-voltage battery cell separately through dedicated measuring points.
- Precise wiring and high-voltage battery diagram, listing all cells and replicating a real OEM electric vehicle.
- Ability to examine all system-starting procedures at normal speed and at a 10-times slower speed to analyze each component's turning sequence in a learning-friendly pace. (Since the normal speed is very quick, the slower pace allows for detailed analysis.)
- Relays and inverter have LED indicators to show the status of the system.
- Ability to measure high-voltage relays, voltage parameters, and polarity.
- Learn electrical mass disable procedures in the correct sequence: turn off the system, disable the power source, or remove the power source banana plug, and then remove the service plug.

Value for Instructors

- OEM-based high voltage system from a Toyota Prius II for realistic and effective training in electric vehicle battery management.
- Designed for classroom and workshop integration, making complex concepts approachable with its compact and mobile structure.
- Engaging and interactive trainer for easy understanding of high-voltage battery system operation and management.
- LED indicators on relays and inverter, enabling clear visual view that assist in explaining complex processes to students.
- Allows instructors to demonstrate all steps involved in transferring power from batteries to the inverter, offering opportunities for practical observation and guided practice.
- Provides controlled scenarios with slowed-down starting sequences for instructional purposes.
- Plexiglass protective panels ensure safe handling during demonstrations while allowing visibility for learning purposes.
- Compact, mobile unit allows flexibility in lesson planning, easily shifting between theory and practical demonstration without additional setup.



Specifications

- Dimensions: 560 x 715 x 60 mm (22 in x 28.14 in x 2.36 in)
- Power supply: 230 V/110 V (US version)
- Product number: HYBBAT02