2.Pure electric vehicle integrated training system
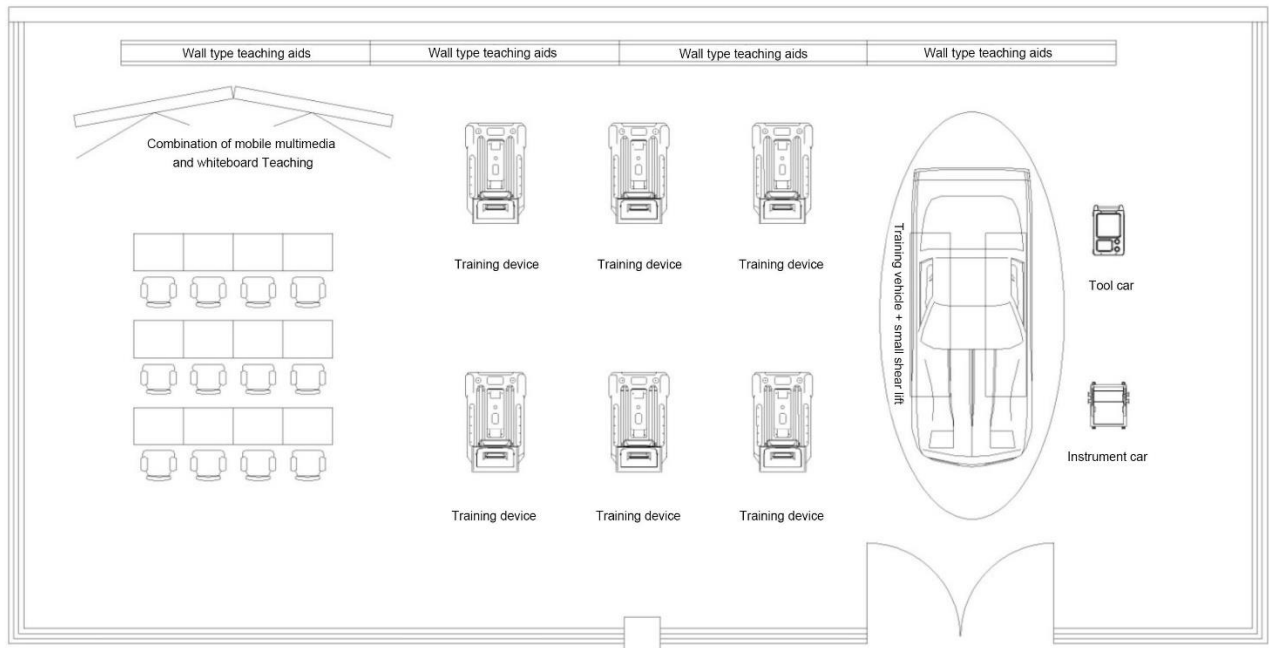**P.N.: GTAT-D0015-001**
Picture for reference:

laboratory layout :

| Wall type teaching aids | Wall type teaching aids | Wall type teaching aids | Wall type teaching aids |

Combination of mobile multimedia and whiteboard Teaching

Training device

Training device

Training device

Training device

Training device

Training device

Training vehicle + small shear lift

Tool car

Instrument car

Product description

The electric vehicle comprehensive training system is based on the modular design of the pure electric vehicle system, including the following six modules:

1. Battery management system module,

2. Motor drive system module,

3. Control system module,

4. Air conditioning system module,

5. Power steering system module,

6. Vehicle electrical system modul

The six modules are integrated and connected to each other, which can fully demonstrate the structural composition and working principle of each system of pure electric vehicles, allowing students to learn various technologies, structural design and maintenance skills of pure electric vehicles and ideal pure electric vehicle teaching equipment for colleges and universities.
Applicable models: BYD E5;

Product composition
1.BMS system module
Module P.N.: EVM01
Picture for reference:

Specification:
Size: 2400×1360×1350mm
Weight: about 300kg

Product description

The training platform is based on pure electric vehicle battery and management system, and truly demonstrates the structure, principle and work flow of electric vehicle battery and management system; it is equipped with an intelligent fault module, which can perform fault detection and diagnosis, fault simulation and troubleshooting. By connecting the evm02 motor drive system module and the evm03 control system module, the structure   and working process of the battery management system for pure electric vehicles can be demonstrated.

It is suitable for the practical teaching needs of various colleges and training institutions for the theory and maintenance training of automobile batteries.

Product composition

NO	Name	Spec	Quantity
1	Battery pack	According to car model	1
2	Battery management ECU	According to car model	1
3	High voltage connection line	According to car model	1
5	Low voltage connection line	According to car model	1
17	Color Circuit Schematic Panel	According to car model	1
6	Intelligent assessment fault setting module	GTEE	1
7	Training bench	Square tube size : 50×50×2.0	1
8	Swivel caster with brake	Diameter 75mm, width 35mm	8

Training Courses:

1. Power battery safety operation training
2. Power battery structure understanding training
3. Power battery BMS structure understanding training
4. Disassembly and assembly training of power battery sealing strip
5. Power battery pack replacement training
6. Power battery safety inspection
7. Power battery tightness test
8. Power battery voltage detection
9. Power battery temperature detection
10. Power battery capacity test, capacity data analysis experiment.
11. Data analysis of power battery discharge current and charging current.
12. Power battery temperature test, over temperature protection test.
13. BMS data diagnosis, data analysis, data monitoring experiments.
14. Lithium battery charge and discharge experiment

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2. Motor drive system module
Module P.N..: EVM02
Picture for reference:

Specification:
Size: 1600×1450×1350mm
Weight: about 500kg

Product description:
This bench is based on the original drive motor system of pure electric vehicles, and truly shows the structure, principle and working process of the electric vehicle drive motor system; it is equipped with an intelligent fault module, which can perform fault diagnosis, fault simulation and troubleshooting. Practical practice of fault detection and diagnosis, fault simulation and troubleshooting. Connected with the evm01 battery management system module and the evm3 control system module, the working process of the electric vehicle motor drive system can be demonstrated.

It is suitable for various colleges and training institutions to meet the practical teaching needs of pure electric vehicle motor drive system theory and maintenance training.

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Product composition

NO	Name	Spec	Quantity
1	Drive motor with transmission	According to car model	1
2	Drive half shaft	According to car model	1
3	Brake cylinder	According to car model	1
4	Brake pipe	According to car model	1
5	Brake claw assembly	According to car model	1
6	Brake pedal	According to car model	1
7	Brake vacuum pump	According to car model	1
8	Brake booster drum	According to car model	1
9	ABS master cylinder	According to car model	1
10	Cooling water tank and fan	According to car model	1
11	High voltage connection line	According to car model	1
12	Instrument assembly	According to car model	1
13	Gear lever	According to car model	1
14	One-button start	According to car model	1
15	OBD diagnostic seat	According to car model	1
16	Low voltage connection line	According to car model	1
17	Color Circuit Schematic Panel	According to car model	1
18	Intelligent assessment fault setting module	GTEE	1
19	Training bench	Square tube size 50×50×2.0	1
20	Swivel caster with brake	Diameter 75mm, width 35mm	8

Training Courses:
1. Disassembly and assembly of the motor assembly;
2. Disassembly and assembly of mechanical transmission assembly;
3. Familiar with the name, structure and principle of each part;
4. Drive system working signal voltage detection
5. Detection of the working speed signal of the drive motor
6. Fault diagnosis and detection of drive system
7. Drive motor temperature signal detection

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3.Control system module
Module P.N..: EVM03
Picture for reference:

Specification:
Size: 1300×1000×1350mm
Weight: about 300kg

Product description

The training platform is based on the original control system of pure electric vehicles, and truly demonstrates the structure, principle and working process of the electric vehicle control system; it is equipped with an intelligent fault module, which can perform fault diagnosis, fault simulation and troubleshooting. It can be connected with the evm01 battery management system module and the evm02 motor drive system module to demonstrate the working process of the pure electric vehicle control system. It is suitable for all kinds of colleges and training institutions to meet the practical teaching needs of pure electric vehicle control system theory and maintenance training.

Product composition

NO	Name	Spec	Quantity
1	Four-in-one inverter	According to car model	1
2	Charging port	According to car model	1
3	High voltage connection line	According to car model	1
5	Low voltage connection line	According to car model	1
6	High Voltage Relay	According to car model	1
7	Color Circuit Schematic Panel	According to car model	1
8	Intelligent assessment fault setting module	GTEE	1
9	Training bench	Square tube size 50×50×2.0	1
10	Swivel caster with brake	Diameter 75mm, width 35mm	8

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Training Courses:

1. The control system is connected to the power battery and the wiring harness of the drive system

2. Teaching the principles of control system construction

3. Signal detection of control system

4. Diagnosis and testing of control system

4. Air conditioning system module
Module P.N.: EVM04
Picture for reference:

Specification:
Size: 1300×1000×1350mm

Weight: about 150kg

Product description

Based on the original pure electric vehicle air conditioning system, the training bench truly demonstrates the structure, principle and working process of the electric vehicle air conditioning system; it is equipped with an intelligent fault module, which can perform fault diagnosis, fault simulation and troubleshooting. Connected with the evm01 battery management system module, it can demonstrate the working process of the pure electric vehicle air conditioning system. It is suitable for the practical teaching needs of various colleges and training institutions for the theory and maintenance training of electric vehicle
air conditioning systems.

Product composition

NO	Name	Spec	Quantity
1	Evaporation box assembly	According to car model	1
2	Air conditioning pipe	According to car model	1
3	Condenser	According to car model	1
4	Cooling fan	According to car model	1
5	Compressor	According to car model	1
6	Pressure Sensor	According to car model	1
7	Heater	According to car model	1
8	Circulating pump	According to car model	1
9	Air conditioning control panel	According to car model	1
10	High voltage connection line	According to car model	1
11	Low voltage connection line	According to car model	1
12	Color Circuit Schematic Panel	According to car model	1
13	Intelligent assessment fault setting module	GTEE	1
14	Training bench	Square tube size 50×50×2.0	1
15	Swivel caster with brake	Diameter 75mm, width 35mm	8

Training Courses:

1. Master the structure principle and working principle of electric vehicle air conditioning system
2. Air conditioning pipeline disassembly and assembly training

3. Air conditioning compressor disassembly and assembly training

4. Air conditioning refrigerant emptying and filling training

5. Air-conditioning compressor working voltage detection

6. Data and signal detection of air conditioning control unit

7. Refrigeration and heating control signal detection of air-conditioning system

8. Fault diagnosis and detection of air-conditioning system

5. Power steering system module
Module P.N.: EVM05
Picture for reference:

Specification:
Size: 2000×1150×1350mm

Weight: about 150kg

Product description

Based on the original power steering system of pure electric vehicles, the training bench truly demonstrates the structure, principle and working process of the front axle and power steering system of electric vehicles; it is equipped with an intelligent fault module, which can perform fault diagnosis, fault simulation and fault diagnosis. exclude. Connect the evm01 battery management system module to demonstrate the working process of the pure electric vehicle power steering system. It is suitable for the practical teaching needs of various colleges and training institutions for the theory and maintenance training of electric vehicle power steering system.

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Product composition

NO	Name	Spec	Quantity
1	Steering wheel	According to car model	1
2	Steering column	According to car model	1
3	Steering machine	According to car model	1
4	Front axle	According to car model	1
5	Tire	According to car model	2
6	Brake claw assembly	According to car model	2
7	Steering sensor	According to car model	1
8	Steering motor	According to car model	1
9	Low voltage connection line	According to car model	1
10	Color Circuit Schematic Panel	According to car model	1
11	Intelligent assessment fault setting module	GTEE	1
12	Training bench	Square tube size 40×40×2.0	1
13	Swivel caster with brake	Diameter 75mm, width 35mm	8

Training Courses:

1. Understand the structure of electric power steering (EPS);

2. Understand the function of each structure of electric power steering (EPS);

3. Familiar with the difference between EPS and mechanical hydraulic power;

6.The entire electrical system module
Module P.N.: EVM06
Picture for reference:

Specification:
Size: Training Vehicle: BYD E5: 4680×1765×1500mm
Training platform: 1800×700×1800mm
Weight: about 800kg

Product description

Based on the original electric body electrical system of the pure electric vehicle, the body is cut to fully display the composition and work flow of the vehicle instrument system, lighting system, wiper system, horn system, power window system, and power door lock. Electric rear-view mirror, audio system, etc., and equipped with a training panel for students to learn the function of circuit terminal detection. Equipped with intelligent fault module for fault diagnosis, fault simulation and troubleshooting. Connect with the evm01 battery management system module to demonstrate the working process of the electric system of pure electric vehicles. It is suitable for the practical teaching needs of various colleges and training institutions for the theory and maintenance training of electric vehicle power steering system.

Product compositi

NO	Name	spec	Quantity
1	Anatomical car body	According to car model	1
2	Left headlight	According to car model	1
3	Right headlight	According to car model	1
4	Left fog light	According to car model	1
5	Right fog light	According to car model	1
6	Left rear tail light	According to car model	1
7	Right rear tail light	According to car model	1
8	Combination Switch	According to car model	1
9	Left front door	According to car model	1
10	Right front door	According to car model	1
11	Left rear door	According to car model	1
12	Right rear door	According to car model	1
13	Door lock motor	According to car model	1
14	Window motor	According to car model	1
15	Window switch	According to car model	1
16	Low voltage connection line	According to car model	1
17	Low voltage battery	According to car model	1
18	Fuse box	According to car model	1
19	Body computer	According to car model	1
20	Wiper motor	According to car model	1
21	Wiper water jet motor	According to car model	1
22	Test bench	According to car model	1
23	Intelligent assessment fault setting module	GTEE	1
24	Training bench	Square tube size 40×40×2.0	1
25	Swivel caster with brake	Diameter 75mm, width 35mm	8

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Training Courses:

1. Disassembly and assembly of lighting system

2. Disassembly and assembly of central control door locks and windows

3. Disassembly and assembly of the water jet wiper

4. Disassembly and assembly of car audio system

5. Disassembly and assembly of electric rearview mirror

6. Understand the circuit layout and control principle of the vehicle

7. Headlamp Inspection

8. Rear tail light detection

9. Central control door lock detection

10. Water spray wiper detection

11. Sound detection

12. Electric rearview mirror detection

13. Body CAN-bus signal detection

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