

CUSTOM ATLAS OF TEACHING INSTRUMENTS

Automotive Training Overall Solution Designer

Tesca Technologies Pvt. Ltd.



INDEX

9	A	UTOMOTIVE CHASSIS SERIES18-26
01	A	Automotive ABS Brake System Training platform 18
	A	Automotive ABS Brake System Teaching Board18
02	A	Automotive Electric Power Steering System Training Platform
02	>	Automotive Hydraulic Power Steering System
03		Training Platform19
03	>	Automotive Electric Control Hydraulic Power Steering System Training Platform20
04	A	Automobile Whole Vehicle Chassis System Training Platform (with Engine)20
04	A	Automobile Whole Vehicle Chassis System Training Platform (without Engine)
05	٨	Automotive Four-Wheel Drive System Training Platform
05	۶	Automotive Manual Transmission Training Platform
06	٨	Automotive Automatic Transmission Training Platform
07	٨	Automotive Front Wheel Drive System Training Platform23
07 08	٨	Automotive Manual Transmission Disassembly and Assembly Training Platform23
08	٨	Automotive Automatic Transmission Disassembly and Assembly Training Platform24
09	٨	Automotive Hydraulic Brake System Training Platform
17	A	Automotive Air Pressure Brake System Training Platform25
10	٨	Automotive ABS/EBD/TCR System Training Platform
11		Hydraulic Clutch Training Platform
12		
12	N	EW ENERGY SERIES27-54
12	~	Pure Electric Vehicle Drive System Training
13		Bench
	٨	Pure Electric Vehicle Integrated Training System27
13	۶	BMS System Module28
14	>	Control System Module
14	>	Electric Motor Drive System Module
15	٨	Air Conditioning System Module
15	4	Power Steering System Module
16	۶	Whole electrical System Module29
10	A	Pure Electric Vehicle Drive Motor Disassembly and Assembly Trainer
10	>	Pure Electric Vehicle, Vehicle Controller and
17		Disassembly Trainer

Α	UTOMOTIVE ENGINE SERIES01-09
۶	Gasoline engine training platform01
٨	Gasoline Engine with Manual Transmission — Training Platform02
٨	Gasoline Engine with Automatic Transmission Training Platform02
۶	Diesel Engine Training Platform03
٨	Diesel Engine with Manual Transmission Training Platform03
4	Diesel Engine with Automatic Transmission Training Platform04
٨	Gasoline Engine Electronic Control System Instruction Board04
٨	Diesel Common Rail Engine Electronic Control System Instruction Board05
>	Engine ECU System Programming Training Platform05
۶	Gasoline Engine Anatomy display Stand06
۶	Diesel Engine Anatomy display Stand06
۶	Gasoline Engine Disassembly Training Platform07
۶	Diesel Engine Disassembly Training Platform07
۶	Engine Lubrication System Instruction Board08
۶	Engine Cooling System Instruction Board08
A	Engine Ignition Advance Demonstration Teaching Board09
A	UTOMOBILE ELECTRIC APPLIANCE SERIES .10-17
۶	Whole Vehicle Electric Training Platform10
>	Automobile CAN-BUS System Instruction Board11
۶	Ignition System Teaching Board11
۶	External Light System Teaching Board12
>	Electric Seat System Instruction Board12
4	Electric Door, Window and Door Lock System Instruction Board13
A	Control Door Lock, Anti-Theft System Teaching Board
A	Cruise Control System Instruction Board14
>	Charging System Instruction Board14
~	Engine Start System Teaching Board15

- > Auto Engine Anti-Theft System instruction Board
- > Automotive Airbag System Instruction Board
- > Automotive Air Conditioning System Training platform
- Automotive Manual Air Conditioning System Training platform



۶	Automotive Hybrid Engine Trainer
٨	Hybrid System Engine Transmission System Anatomy Display Stand31
٨	Steel Contour Car Detection System
۶	Vehicle Anatomy Detection System
۶	Pure Electric Vehicle Driving System Assembly and Testing Technology Platform
۶	Pure Battery Assembly and Testing Technology Platform
۶	Intelligent Training Platform for Charging Equipment Assembly and Debugging34
٨	Original Car, High-Voltage Control Box Assembly Disassembly Inspection Platform
٨	Original Car, High-Voltage Control Box Assembly Disassembly Inspection Trainer
4	Original Car, DC/AC Assembly Disassembly Test Platform
۶	Pure Electric Vehicle Chassis System Trainer35
۶	Hydrogen Fuel Cell Training Platform
٨	New Energy Vehicle Electrical and Electronics Teaching assessment System
۶	High Voltage Control and Safety Protection Training Platform
۶	Power Battery Showcase
4	High Voltage Components and Connector Showcase
•	High and Low Voltage Electronic Components Showcase
4	Drive Motor Dissection Display Stand40
۶	Drive Motor Controller Anatomy Display Stand40
۶	New Energy Electronic Simulation Training Box36
•	Electric Air Conditioning System Teaching and Training Platform41
A	New Energy Vehicle ABS System Training Platform41
4	AC Charging System Training Platform42
A	AC and DC Charging System Training Platform42
A	DC Charging System Training Platform43
~	New Energy Steering System Training Platform43
A	Electric Vehicle Motor Control System Training Platform
4	Electric Vehicle Battery Management System (BMS) Training Platform45
A	New Energy Vehicle Lighting System Training Platform
A	New Energy Vehicle Comfort System Training Platform47
A	New Energy Vehicle Structure Cognition and

INDEX

	Disassembly and Assembly Simulation Teaching Software
~	New Energy Vehicle Battery Virtual Principal Simulation Teaching Software
R	New Energy Vehicle Motor Virtual Structure Principal Simulation Teaching Software
~	New Energy Modification Teaching Vehicle Supporting Vehicle Testing Training System449
A	New Energy Modification Teaching Vehicle Supporting Vehicle Control System and Maintenance Training
-	Platform
A	New Energy Vehicle Battery Pack Test Training Platform
>	New Energy Vehicle Power Battery BMS Management and AC/DC Charging Teaching Platform
4	Intelligent Testing Platform for New Energy High- Voltage Electric Control Assessment System54
A	NATOMICAL MODEL SERIES55-56
۶	Recirculating Ball Power Steering Gear Anatomical Model55
۶	Rack and Pinion Steering Gear Anatomical Model55
≻	High Pressure Oil Pump Anatomical Model
٨	Electrically Controlled Fuel Pump Anatomical Model
≻	Turbocharger Anatomical Model55
≻	Starter Anatomical Model55
>	Exhaust Gas Recirculation Anatomical Model55
>	Three-Way Purifier Anatomical Model
≻	Throttle Valve Anatomical Model55
≻	Torque Converter Anatomical Model
≻	Planetary Gear Transmission Anatomical Model55
>	Caliper Disc Brake Anatomical Model
>	Drum Brake Anatomical Model
>	Main Reducation Differential Anatomical Model56
٨	Anatomical Model of Suspension Assembly with A- Arms, Drive Shaft and Disc Brakes
>	Pure Electric Vehicle Motor Anatomical Model56
~	Air Conditioning Compressor Anatomical Model 56
>	Air Suspension Assembly Anatomical Model
>	Cylinder Head Anatomy Model
~	Automotive Manual Transmission Anatomy Trainer
>	Automotive Automatic Transmission Anatomy
	Trainer
Þ	Electric Car Cutaway Didactic Equipment



GASOLINE ENGINE TRAINING PLATFORM

Order Code - AETE01

The equipment is composed of two parts: the fixed platform of the electronic gasoline engine assembly and the sunning accessories and the platform of the running test control panel The engine can be started, accelerated, decelerated and other normal conditions of the practical operation, real display of the electronic control gasoline engine structure and working process.

Features

- The panel of the platform is equipped with automobile instrument, fule pressure gauge and vacuum pressure gauge, which can display the change of engine speed and other parameters in real time.
- The panel of the training platform is painted with color UV flat-panel inkjet circuit diagram. Students can
 directly compare the circuit diagram with the engin object to understand and analyze the working principle
 of the control system.
- Real running electronically controlled gasoline engine, fully display the composition of the electronically controlled gasoline engine structure and working process, the engine can be started, accelerated, decelerated t and other normal conditions of the practical operation.
- The training platform is equipment with a diagnosis seat, which can be connected to special or general cehical decoder, and carry out self-diagnosis functions such as reading fault codes, clearing fualt codes and reading data streams for the engine electronics control system

Technical Specification

Working power supply		DC 12V (battery: 60AH 12)
Fuel label		depending on engine type
Tank capacity		10L
Operating temperature		-40°C ~+50°C
Steel pipe	:	40*60*3mm
Panel cabinet	:	1.5mm cold plate stamping
Moving casters	:	120*80mm
Shape		1500*1000*1700mm







GASOLINE ENGINE WITH MANUAL TRANSMISSION TRAINING PLATFORM

Order Code - AETE02

Product Introduction

Using electronic control engine and manual transmission as the basis, the engine can be started, acceleration, deceleration and other conditions of practice operation, manual transmission can be the gear shift and other conditions of practice operation experiment, It can show the structure and working process of electric control gasoline engine and manual transmission

Technical Specification

Working power supply		DC 12V
Fuel label		depending on engine type
Tank capacity		10L
Operating temperature		-40°C ~ +50°C
Steel pipe	:	40*60*3mm
Panel cabinet		1.5mm cold plate stamping.
Moving casters		120*60mm
Shape		1700*1000*1700mm

GASOLINE ENGINE WITH AUTOMATIC TRANSMISSION TRAINING PLATFORM

Order Code - AETE03



Product Introduction

Using electronic control engine and automatic transmission as the basis, the engine can be started, acceleration, deceleration and other conditions of the practice operation, automatic transmission can be gear display, neutral starting, forward and reverse operation and other conditions of the practice operation and do Stall experiment, it can show the real structure and working process of the electronic control gasoline engine and automatic transmission.

Technical Specification

Working power supply: DC 12V Fuel label: depending on engine type Tank capacity: 10L Operating temperature: -40°C ~ +50°C Steel pipe: 60*40*3mm Panel cabinet: 1.5mm cold plate stamping. Moving casters: 120*80mm shape: 1700*1000*1700mm



DIESEL ENGINE TRAINING SYSTEM

Order Code - AETE04

Product Introduction

The electronic diesel common rail engine training platform is based on the electronic diesel engine, which can carry out practical operation on the engine starting, accelerating, decelerating and other conditions, and truly show the composition structure and working process of the electronic diesel engine.

Technical Specification

Dimensions	:	1500*1000x1700mm
Working power supply	:	DC 12V
Fuel label	:	depending on engine type
Tank capacity	:	10L
Operating temperature	:	-40°C ~ +50°C
Steel pipe	:	60*40*3mm
Panel cabinet	:	1.5mm cold plate stamping.
Moving casters	:	120*80mm



DIESEL ENGINE WITH MANUAL TRANSMISSION TRAINING PLATFORM

Order Code - AETE05



Product Introduction

Electronically controlled diesel common rail engine with manual transmission training platform using electronically controlled diesel engine as the basis, the engine can be started, acceleration, deceleration, shift and other conditions of the Practical operation, truly show the composition of the electronic diesel engine and transmission structure and working process.

Technical Specification

Dimension (L*W* H) Working power supply Fuel label Tank capacity Operating temperature Steel pipe Panel cabinet

Moving casters

- :1500*1000*1700mm
- : DC 12V
- : depending on engine type
- : 10L
- : -40°C ~ +50°C
- : 60*40*4mm
- : 1.5mm cold plate stamping
- : 120*80mm



DIESEL ENGINE WITH AUTOMATIC TRANSMISSION TRAINING PLATFORM

Order Code - AETE06

Product Introduction

Electronically controlled diesel common rail engine with automatic transmission training platform using electronically controlled diesel engine as the basis, the engine can be started, acceleration, deceleration, shift and other conditions of the practical operation, the real display of the electronic diesel engine and transmission structure and working process.

Technical Specification

Dimensions		1500*1000*1700mmi(L*W *H)
Working power supply	:	DC 12V
Fuel label	:	depending on engine type
Tank capacity	:	10L
Operating temperature	:	-40°C ~ +50°C
Steel pipe	:	60*40"3mm
Panel cabinet	:	15mm cold plate stamping.
Moving casters	:	120*80mm



GASOLINE ENGINE ELECTRONIC CONTROL SYSTEM INSTRUCTION BOARD



Product Introduction -

The teaching board of automobile engine electronic control system uses the real parts of the engine electronic control system to fully demonstrate the composition and working process of the engine electronic control system.

Technical Specification

- Overall dimension (approx.) : 100*600*1700mm External power supply Operating voltage Operating temperature Fuel pressure gauge Steel pipe Cabinet Moving casters
- - : AC 220V ±10% 50Hz
 - : DC12V
 - : -40°C~+50°C
 - : 0 ~ 10kg/psi
 - : 60*40*3mm
 - : 1.5mm cold plate stamping

Order Code - AETE07

: 100*60mm

Functional characteristics

The real operational engine electronic control system simulates the operation af the engine crankshaft, which can produce spark plug ignition, fuel pump operation, injector oil injection and other executive components, fully displaying the composition and working process of the engine electronic control system.



DIESEL CCOMMON RAIL ENGINE ELECTRONIC CONTROL SYSTEM INSTRUCTION BOARD

Order Code - AETE08

Product Introduction

Common rail diesel engine electronic fuel injection system teaching board is made of common rail diesel engine electronic fuel injection system, fully display the composition of common rail diesel engine electronic fuel injection system structure and working process.

Technical Specification

Overall dimensions (approx.): 1240*600*1700mmExternal power supply: AC 220V ±10% 50HzOperating voltage: DC 12VOperating temperature: -40°C ~ +50°CSteel pipe: 60*40*3mmCabinet: 1.5mm cold plate stampingMoving casters: 100*60mm

Functional characteristics

Real operational common rail diesel engine fuel injection system, fully demonstrate the composition of the fuel injection system and working Process. The motor drives the crankshaft position signal wheel to demonstrate the operation of electronic fuel injection.



ENGINE ECU SYSTEM PROGRAMMING TRAINING PLATFORM

Order Code - AETE09

Product Introduction

- 1. Real engine and electric control system.
- 2. By ECU programming, you can change the ECU to calculate fuel injection volume.
- 3. The engine running speed can be controlled by the real opening of the accelerator pedal.
- 4. The equipment is equipped with LED indicator to indicate the injection state of the engine injector and Spark plug.

Technical Specification

Working power supply: DC 12V (Battery: 60AH 12V) Fuel label: depending on engine type Tank capacity: 10L Operating temperature: -40°C ~ +50°C Steel pipe: 60*40*4mm Panel cabinet: 1.5mm cold plate stamping Moving casters: 120*80mm Dimension (L*W* H): 1500*1000*1700mm



GASOLINE ENGINE ANATOMY DISPLAY STAND

Order Code - AETE10

Product Introduction

The equipment uses electronically controlled gasoline engine assembly Profile processing, each component is complete, the profile position is reasonable, can fully show the gasoline engine internal and external structure and component movement, suitable for gasoline engine principle and mechanical mechanism teaching.

Technical Specification

Power supply	:	220V ±10% 50Hz	
Single-phase gear reduction motor:			
Rated voltage	:	AC 220V 50Hz	
Rated power	:	250W	
Rated speed	:	0-15 RPM	
Operating temperature	:	-40°C~+50°C	
Steal pipe	:	60*40*3mm	
Dimensions	:	800*600*1200mm	

DIESEL ENGINE ANATOMY DISPLAY STAND

Order Code - AETE11



Product Introduction

- Diesel engine assembly (easy to disassemble and assemble), assembled in the special engine disassembly and assembly flip frame.in order to improve safety performance, the engine uses 2 side fixed rollover.
- The decelerating and turning mechanism can make the engine rotate at any Angle and lock at any position, which is convenient far students to disassemble and assemble from different angles.

Technical Specification

Equipment appearance: 1200*600*1100mm

Steel pipe: 40*40*3mm

Universal casters

The first two universal casters with lacking function

The rear two universal casters

Casters and pedestals are fixed with M6*4 screws to facilitate equipment repair and maintenance.

Caster: 60mmx50mm (diameter x width)

Caster support: 1.0T Reducer: MOPA70; 1:70





GASOLINE ENGINE DISASSEMBLY TRAINING PLATFORM

Order Code - AETE12

Product Introduction

- The electronically controlled gasoline engine assembly (easy to disassemble and assemble) is assembled on the special engine disassembly and assembly flip frame.
- The decelerating and turning mechanism can make the engine rotate at any Angle and lock at any position, which is convenient for students ta disassemble and assemble from different angles in order to improve safety performance, the engine uses 2 side fixed rollover,

Technical Specification

Equipment appearance : 1200*600*1100mm Universal casters The first two universal casters with locking function The rear two universal casters Casters and pedestals are fixed with M6*4 screws to facilitate equipment repair and maintenance Caster : 60mmx50mm(D x W) Caster support : 1.07 Reducer : MOPA70; 1:70



DIESEL ENGINE DISASSEMBLY TRAINING PLATFORM

Order Code - AETE13

Technical Specification

Equipment appearance : 1200*600*1100mm Steel pipe : 40*40*3mm

Steer pipe . 40 · 40 · 3iii

Universal casters

The first two universal casters with locking function

The rear two universal casters

Casters. and pedestals. are fixed with M6*4 screws to facilitate equipment repair and maintenance.

Caster : 60mm*50mm

Caster support : 1.0T

Reducer : MOPA70; 1:70

Product Introduction

- > Diesel engine assembly (easy to disassemble and assemble), assembled in the special engine disassembly and assembly flip frame. In order to improve safety performance, the engine uses 2 side fixed rollover.
- The decelerating and turning mechanism can make the engine rotate at any Angle and lock at any position, which is convenient for students to disassemble and assemble from different angles.



¹¹ Engine Interination syste

ENGINE LUBRICATION SYSTEM INSTRUCTION BOARD

Order Code - AETE14

Product Introduction

The device uses the gasoline engine lubrication system for anatomy processing, and fully displays the internal and external structure of the engine lubrication system (all components are complete and the profile position is reasonable). And with color engine lubrication system structure schematic, can effectively enhance the teaching effect.

Technical Specification

Overall dimensions (approx.): 1240*600*1700mm External power supply: AC 220V±10% 50Hz Operating voltage: DC 12V Operating temperature: -40°C ~ +50°C Steel pipe: 60°40*3mm Cabinet: 1.5mm cold plate stamping Moving casters: 100*60mm

Technical characteristics

- > Dissect the lubrication system and spray different colors on each section to fully display the internal and external structure of the engine lubrication system.
- > The surface of the teaching board is made of advanced alurminurn-plastic board which is resistant to impact, pollution, fire and morsture, and the surface is treated by special process spraying primer; Panel printing has colorless circuit diagram and working principle diagram that will never fade; Students can understand and analyze the working principle of engine lubrication system by directly comparing the structural schematic diagram and the actual abject.

DIESEL ENGINE ANATOMY DISPLAY STAND

Order Code - AETE15



Product Introduction

The automobile engine cooling system teaching board equipment adopts gasoline engine assembly for anatomy processing, and fully displays the internal and external structure of the engine cooling system (each component is complete and the profile position is reasonable). And with color engine cooling system structure schematic, can effectively enhance the teaching effect.

Technical Specification

- Overall dimensions (approx.) : 1240%600x1700mm External power supply : AC 220V ±10% 50Hz Operating voltage : DC 12V Operating temperature : -40°C ~ +509C
- Steel pipe
- Cabinet
- Moving casters

- - : 60*40*3mm
 - : 1.5mm cold plate stamping
 - : 100*60mm





ENGINE IGNITION ADVANCE DEMONSTRATION TEACHING BOARD

Order Code - AETE101

Product Introduction

The simulator is housed in a wide metal case with a color printed circuit lab panel (20*60*10 cm) that ensures easy operation and visibility of components and simulated parts, The simulator includes real components and simulated component modules. The lab panel includes a system drawing with test points and banana sackets. The simulator can be operated as a stand-alone system without 4 PC and can be operated under the guidance of the lab manual using the built-in oscilloscope or an external oscilloscope.

The simulator can be connected to a PC via USB communication using CBT courseware and D-SCOPE software to display signals. A record of student progress can be recorded on the student PC using the optional DCML software and can be accessed by the teacher for monitoring, course management, and to record if a local area network (not provided) is available.



Automobile Electric Trainers

WHOLE VEHICLE ELECTRIC TRAINING PLATFORM

Order Code - AET16

Product Introduction

The whole vehicle electrical training platform is based on the vehicle electrical object, fully display the automobile engine anti-theft system, instrument system, lighting system, wiper system, horn system, ignition system, electric window system, electric door lock, sound system, starting system, and charging system and other automotive electrical systems of the composition of the structure and working process,

Technical Specification

Power supply: three-phase four-wire (or three-phase five-wire) 380V ±10% 50Hz Operating voltage: DC 12V, Operating temperature: 40°C ~ +50°C Three phase synchronous motor voltage : AC 220V /380V Power 2.2KW, Rotational Speed : 1420r/min Steel pipe : 40*40*3mm Cabinet : 1.5mm cold plats is pressed and formed, and a maintenance door is set on the back

Moving casters : 100*60mm

Features

- The Equipment panel is made of advance aluminum-plastic plate which is resistence to impact, pollution, fire and moisture, and the surface is treated by special process spraying primer: Panel printed with color circuit diagrams that never fade; Students can directly compare the circuit diagram and the object, understand and analyze the working principle of the electrical system of the vehicle.
- > The panel part of the equipment adopts 1.5mm cold plate stamping structure beautiful appearance.
- Detection terminals are installed on the panel of the teaching board, which can directly detect the electrical signals of the circuit components of the electrical system of the vehicle such as resistence, voltage current frequency signals, etc.
- > The bottom frame is welded with steel structure, and the surface is sprayed with self-locking caster device.
- > A diagnostic seat is installed on the device panel which can be connected to special or general vehicle decoder, and carry out ECU coding query fault code reading fault code clearing data stream reading component testing, parameter setting waveform analysis key matching and other self-diagnostic function for engine control unit combined instrument and comfort system unit.

Functional Characteristics

The real and operational electrical system of the whole vehicle fully demonstrates the composition and structure of the whole vehicle electrical system. Switch on the power, control all kinds of electrical switches and buttons on the teaching board, real demonstration of automotive engine electronic control system, instrument system, lighting system, wiper system, horn system, ignition system, electric window system, electric door lock, sound system, starting system and charging system) and other automotive electrical systems working process.





Automobile Electric Trainers

Canbus System Trianer

AUTOMOBILE CAN-BUS SYSTEM INSTRUCTION BOARD

Order Code - AET17

Product Introduction

Based on CAN data transmission network system, the composition structure and working process of CAN data transmission network system are fully displayed.

Technical Specification

Overall size (about)	:	2400*700*1800mm
External power supply	:	AC 220V ±10% 50HZ
Working voltage	:	DC 12
Working temperature	:	-40°C ~ +50°C
Steel pipe	:	60*40*3mm
Cabinet	:	1.5mm cold plate stamping
Moving casters		100*60mm



The real and operational CAN data transmission network

system fully demonstrates the composition structure of the vehicle network system.

The control of various data transmission signal circuit components, such as gear switch, throttle signal, speed signal, water temperature signal, anti-theft signal, electric window switch signal, door lock signal, real demonstration CAN data transmission network system working process.



IGNITION SYSTEM TEACHING BOARD

Order Code - AET18

Product introduction

The device adopts six typical components of the engine ignition system (namely: contact ignition system, Hall electronic ignition system, magnetic induction ignition system and non-distributor grouped ignition system, photoelectric fire system), and fully displays the composition and working process of the engine ignition system.

Technical specification

Overall size	:	1740*700*1700mm
External power supply	:	AC 220V $\pm 10\%$ SOHz
Working voltage	:,	DC 12V
Working temperature	÷	-40°C ~ +50°C
steel pipe	:	60*40*3mm
Cabinet	:	15mm cold plate
		stamping.
Moving casters	:	100*60mm

Product characteristics

Six real and operational typical engine ignition systems can fully demonstrate the composition and working process of contact ignition system, Hall type electronic ignition system, magnetic induction ignition system, non-distributor group ignition system and photoelectric ignition system.



EXTERNAL LIGHT SYSTEM TEACHING BOARD

Order Code - AET19

Product Introduction

The equipment uses the automobile external lighting system physical as the basis, fully display the automobile external lighting system structure and working process.

Technical Specification

Overall size		1240*600*1700mm
External power supply		AC 220V ±10% 50Hz
working temperature		-40°C ~ +50°C
Steel pipe	:	60*40*2mm
Working voltage	:	DC 12
Cabinet	:	1.5mm cold plate stamping
Moving casters	:	100*60mm



Functional Characteristics

Electric seat system instruction board

रेरेरी झांझा झा छा रा

- The real and operational automobile external lighting system fully displays the composition and structure of the automobile external lighting system.
- Operate a variety of light switches, can be a real demonstration of the car external lighting system working pracess.

ELECTRIC SEAT SYSTEM INSTRUCTION BOARD

Order Code - AET20

Product Introduction

Based on the original electric seat on the driver's side of the car, the device fully displays the composition Structure and working process of the electric seat with memory function. it applicable to the teaching needs of middle and higher vocational and technical colleges, general education colleges and training Institutions for the theory and maintenance training of automobile electric seat

Technical Specification

Dimensions	: 1240*650*1700mm
External power supply	: AC 220V ±10% 50Hz
Operating voltage	: DC 12V
Operating temperature	:-40°C <mark>~+</mark> 50°C
Operating voltage	: DC 12V
Operating temperature	: -40°C ~+50°C
Steel pipe	: 60°40" 3mm
Cabinet	: 1.5mm cald plate stamping
Moving casters	: 100*60mm



Automobile Electric Trainers

ELECTRIC DOOR, WINDOW AND DOOR LOCK SYSTEM INSTRUCTION BOARD

Order Code - AET21

Product Introduction

The device uses the automobile electric window, central control door lock and rearview mirror system as the physical Basis, fully display the automobile electric window, central control door lock and rearview mirror system structure and working process. It is Suitable for the teaching needs of the theory and maintenance training of automobile electric window, central control door lock and rearview mirror system in schools.

Functional characteristics

- > Real and operational automotive electric window, central control door lock and rearview mirror system, fully display the composition structure of automotive electric window, central control door lack and rearview mirror system.
- > Operate the power window switch, central control door lock switch and rearview mirror switch, which can truly demonstrate the working process of the car electric window, central control door lock and rearview mirror system.

Technical Specification

External power supply Operating voltage Operating temperature Steel pipe Cabinet Moving casters

Overall dimension (approx.) : 1740«600«1700mm(L*W*H) : AC 220V ±10% 50Hz : DC 12V : -40°C ~ +50°C : 60°40"3mm : 1.5mm cold plate stamping : 100*60mm



CONTROL DOOR LOCK, ANTI-THEFT SYSTEM TEACHING BOARD

Order Code - AET22



Product introduction

The device uses the automobile central control and anti-theft system physical basis, fully display the automobile central control and antitheft system structure and working process.

Technical specification

Dimensions	:	1600*600*1700mm
External power supply		AC 220V ±10% 50Hz
Operating voltage	:	DC 12V
Operating temperature	1	-40°C ~ +50°C
Steel pipe	:	60*40*3mm
Cabinet	-	1.5mm cold plate stamping
Moving casters		100*60mm

Functional Characteristics

- > Real and operational automotive electric window, central control door lock and rearview mirror system, fully display the composition structure of automotive electric window, central control door lock and rearview mirror system.
- Operate the power window switch, central control door lock switch and rearview mirror switch, which can truly demonstrate the

working process of the car electric window, central control door lock and rearview mirror system.



Cruise control system instruction board

CRUISE CONTROL SYSTEM INSTRUCTION BOARD

Order Code - AET23

Product Introduction

The equipment is based on the automobile electronic automobile cruise system and fully displays the composition structure and working process of the automobile cruise system.

Technical Specification

Dimensions	:	1240*600*1 700mm
External power supply	:	AC 220V+10% 50Hz
Operating voltage	:	DC 12V
Operating temperature	:	-40°C~+50°C
Steel pipe	:	60*40*3mm
Cabinet	:	1.5mm cold plate stamping
Moving casters	:	100*60mm

Functional Characteristics

- The real and operational automobile electronic cruise system fully displays the composition structure of automobile electronic cruise system.
- The throttle valve opening can Ge adjusted by controlling the throttle pedal position sensor, and the working principle and working process of the electronic throttle can be truly displayed. Control the cruise control switch and speed signal, set the-cruise state, the engine control unit can adjust the throttle opening, real demonstration of the automobile electronic cruise system working process and working principle.

ELECTRIC SEAT SYSTEM INSTRUCTION BOARD

Order Code - AET24

Auto Charging System Electrical Training Board



Product Introduction

The teaching board of the car charging system is based on the real car charging system, and fully displays the composition structure and working process of the car charging system.

- > The real and operational charging system fully demonstrates the composition and structure of the car charging system.
- > Turn on the ignition switch, trigger the three-phase motor to run, drive the generator to work, the charging indicator is off, the battery terminal voltage rises, real demonstration of the working process of the car charging system, The value of charging current and battery voltage can be observed through the ammeter and voltmeter on the panel.



Automobile Electric Trainers

ENGINE START SYSTEM TEACHING BOARD

Order Code - AET25

Product Introduction

The teaching board of the automobile starting system is based an the automobile starting system, which fully displays the composition and working process of the automobile starting system.

Functional characteristics

- > The real running starting system fully displays the composition and structure of the car starting system.
- Operate the starting switch and start motor to demonstrate the working process of the car starting system, The change process of starting current and battery voltage can be observed through the ammeter and voltmeter on the panel.

Technical Specification

:	1240%600*1700mm
: {	AC 220V±10% 50HZ
:	DC 12V
:	-40°C ~ +50°C
:	60*40*3mm
:	1.5mm cold plate stamping
:	100*60mm



AUTO ENGINE ANTI-THEFT SYSTEM INSTRUCTION BOARD

Order Code - AET26



Product introduction

The engine anti-theft system instruction board is based on the automobile engine anti-theft system, which fully displays the composition and working process of the engine anti-theft system.

Technical Specification

Overall dimensions:1240*600*1700mm (L*W*H)External power supply:AC 220V ±10% 50HzOperating voltage :DC 12VOperating temperature:-40°C ~ 450°CSteel pipe :60*40*3mmCabinet :1.5mm cold plate stampingMoving casters :100*60mm

- > The real and operational automobile engine anti-theft system fully demonstrates the composition and structure of automobile engine anti-theft system.
- The legal key and illegal key can be used respectively to start the equipment, turn the crankshaft and signal wheel, the legal key can make the engine electronic control system produce fuel injection, spark plug ignition, oil pump work, etc., the illegal key is lacked the engine electronic control system, a teal demonstration of the engine anti-theft system working process.



AUTOMOTIVE AIRBAG SYSTEM INSTRUCTION BOARD

Order Code - AET27

Product Introduction

Based on the automobile airbag system, the composition structure and working process of the automobile airbag system are fully displayed.

Technical Specification

Overall dimension	:	1240*600*1700mm
External power supply	:	AC 220V ±10% 50Hz
Operating voltage	:	DC 12V
Operating temperature	:	-40°C ~ +50°C
Steel pipe	:	60*40*3mm
Cabinet	:	1.5mm cold plate stamping
Moving casters	:	100*60mm

Functional Characteristics

- The real and operational automobile airbag system fully displays the composition and structure of automobile airbag system,
- Manipulate the collision car to simulate the process of car collision, and simulate the rapid inflation and expansion of the airbag on the left and right side to demonstrate the working process of the car's airbag system.



AUTOMOTIVE AIR CONDITIONING SYSTEM TRAINING PLATFORM

Order Code - AET28



Product Introduction

The automatic air conditioning training platform adopts the original auto automatic air conditioning system as the basis, fully demonstrating the auto automatic air conditioning system composition structure and working process.

Technical specification

ecinical specification			
Dimension	:	1500=7000=1700mm(LsWH	I)
Power supply	:	three-phase four-wire (or	three-phase
		five-wire) 380V ±10% 50Hz	
External power supply	:	AC 220V ±10% 50HZ	
Working voltage	1	DC 12V	
Refrigerant		R1 34a	
Operating temperature	1	-40°C ~ +50°C	
High pressure gauge	+	0 ~ 3.5MPa	
Low pressure gauge	:	0~1.5MPa	

- The real runnable auto automatic air conditioning system, fully demonstrate the composition of the auto automatic air conditioning system structure and work process.
- By the three-phase motor as a power source, drive the air conditioning compressor work, Operate the air conditioning control panel to demonstrate the working process and working principle of the auto automatic air conditioning system.



Flataforme de formación acbre sistema de a re acondicionado manual Volkswagen Santaña

AUTOMOTIVE MANUAL AIR CONDITIONING SYSTEM TRAINING PLATFORM

Order Code - AET29

Product Introduction

The automotive manual air conditioning training platform equipment adopts Soiree the original automotive manual air conditioning system as the basis, fully demonstrating the composition structure and working process of the automotive manual air conditioning system.

Technical Characteristics

- The real runnable automotive manual air conditioning system, fully demonstrating the composition of the structure and working process of the automotive manual air Conditioning system.
- By the three-phase motor as the power source, drive the air conditioning compressor work, Operate the air conditioning control panel to demonstrate the working process of the car manual air conditioning system and the working principle.



AUTOMOTIVE ABS BRAKE SYSTEM TRAINING PLATFORM

Order Code - ACE30

Product Introduction

The ABS braking system training platform is based on the ABS braking system of the car, with ABS system working principle diagram, real display of emergency braking ABS System work process. Meet the structure of ABS brake system, action demonstration and other teaching functions.

Functional Characteristics

- Based on the real car ABS braking system object, complete display of the composition of the ABS braking system structure.
- The three-phase asynchronous motor drives the front and rear axle rotation, simulating the car driving. When the brake pedal is pressed in an emergency, the ABS system begins to work, the front and rear brake discs maintain a trace of rotation, the brake pedal can feel the constant popping foot, a real demonstration of the work process of the car ABS system.





AUTOMOTIVE ABS BRAKE SYSTEM TEACHING BOARD

Order Code - ACE31

Product Introduction

The equipment is mace of ABS brake system in kind, fully demonstrating the composition structure and working process of ABS brake system.

Technical specification

Dimension	:	1600*600*1700mm
External power supply	:	AC 220V ±10% 50Hz
Working voltage	:	DC 12V
Working temperature	:	-40°C~+50°C
steel tube	:	60*40*3mm
Cabinet	4	1.5mm cold plate stamping
		and forming
Mobile casters	:	100 * 60mm

Functional Characteristics

The real ABS brake system can be run, fully demonstrate the composition of the ABS brake system structure and work process, Operation control all kinds of switches, can demonstrate the moving ABS brake electronic control system (solenoid valve conditions, etc.) work process.



Automobile Chassis Equipment

AUTOMOTIVE ELECTRIC POWER STEERING SYSTEM TRAINING PLATFORM

Order Code - ACE32

Product Introduction

The equipment adopts electric power steering car front axle assembly as the basis, comprehensively demonstrates the electric power steering system, front axle suspension system composition structure and working process.

Functional characteristics

- The real running car electronically controlled power steering system, fully demonstrate the composition structure of the electronically controlled power steering system.
- Adjust the engine speed and speed output simulation knob, simulate the change of speed, turn the steering wheel left and right, and fully demonstrate the working process of electronically controlled power steering.

AUTOMOTIVE HYDRAULIC POWER STEERING SYSTEM TRAINING PLATFORM

Order Code - ACE33



Product introduction

The equipment adopts automobile front axle assembly as the basis, a comprehensive display of the power steering system, front axle suspension system composition structure and work process, Suitable for secondary and higher vocational schools and training institutions for automotive power steering, front axle suspension theory and maintenance of practical training needs, fully meet the front axle system structure display, work simulation, disassembly and installation of practical training and other teaching functions.

Technical Specification

Dimension	:	1700*900*1100mm
Power supply	:	three-phase four-wire (three
		phase five-wire 380V ±10% 50Hz
Working temperature	:	-40°C~+50°C
Oil pressure gauge	:	0~ 100kg/ psi
Three-phase asynch	11	onous motor:
Voltage	:	AC 220V/380V
Power	:	1.5Kw
Rotational speed	:	1400r/min
Working temperature	:	-40°C~+50°C
Steel pipe	:	60*40*3mm
Mobile casters	1	100*50mm

- The real runnable car steering system and front axle suspension components, fully demonstrate the power steering and independent suspension composition structure.
- > By the three-phase motor as a power source to drive the power pump work, manipulate the steering wheel, areal demonstration of the work of the car power steering process.



AUTOMOTIVE ELECTRIC CONTROL HYDRAULIC POWER STEERING SYSTEM TRAINING PLATFORM

Order Code - ACE34

Product Introduction

The equipment adopts the automobile front axle assembly as the basis, cormrehensively demonstrates the composition structure and working process of the electronically controlled power steering system and front axle suspension system.

Functional Characteristics

- The real runnable car electronically controlled power steering system, fully demonstrating the composition structure of the electronically controlled power steering system.
- By the three-phase motor as a power source to drive the power pump work, manipulate the steering wheel, adjust the speed and speed signal simulation knob, complete demonstration of the work process of electronically controlled power steering.

AUTOMOBILE WHOLE VEHICLE CHASSIS SYSTEM TRAINING PLATFORM (WITH ENGINE)

Order Code - ACE35

Product Introduction

The equipment adapts the automobile chassis systems as the basis, fully demonstrating the composition structure of the automobile chassis systems. Including the front and rear suspension system, steering system, transmission system, manual transmission and gear mechanism, braking system and other systems. Applicable to the teaching needs of the school for the theory and maintenance of the chassis systems practical training.

Install the real car chassis systems (including front and rear suspension system, steering system, transmission system, manual transmission and gear mechanism, braking system), fully demonstrate the composition structure of the car chassis systems

Technical specification

	Dimension	:	2500*1600*15
F	Power supply	:	220V
١	Vorking temperature	:	-40°C ~ +50°C
H	lost		the original dev
E	Electric motor	:	220V/250W 15
L	eakage protection switch	:	DZ47LE-32
5	Steel pipe	:	60*40"3mm
Γ	Aobile casters	:	100*50mm



- Install the real car chassis systems (including front and rear suspension system, steering system, transmission system, manual transmission and gear mechanism, braking system), fully demonstrate the composition structure of the car chassis systems
- > Can be true to the car chassis systems show and disassembly training.
- The dissected manual transmission can be dynamic demonstration and testing reducer motor input power, the transmission can be shifted and dynamic testing four wheel contact with the ground can be slow driving demonstration.
- > Motor-driven directional power pump, real demonstration of power steering work process.



AUTOMOBILE WHOLE VEHICLE CHASSIS SYSTEM TRAINING PLATFORM (WITHOUT ENGINE)

Order Code - ACE36

Product Introduction

The equipment adopts the automobile chassis systems as the basis, fully demonstrating the composition structure of the automobile chassis systems.

Including the front and rear suspension system, steering system, transmission system, Manual transmission and gear mechanism, braking system and other systems, the Installation of casters and other components of the removable table, Applicable to the teaching needs of the school for the theory and maintenance of the chassis systems practical training.

Technical Specification

Dimension	:	2500*1600*1500mm(LxWH)
Power supply	:	220V
Working temperature	:	-40°C ~ +50°C
Hast	:	the original device
Electric motor	:	220V/250W 15rpm
Leakage protection switch	:	DZ47LE-32
Steel pipe	:	60*40*3mm
Mobile casters	:	100*50mm



Functional characteristics

- Install the real car chassis systems (including front and rear suspension system, steering system, transmission system, manual transmission and gear mechanism, braking system), fully demon start the composition structure of the car chassis systems.
- > Can be true to the car chassis systems show and disassembly training.
- > Motor-driven directional power pump, real demonstration of Power steering work process.

AUTOMOTIVE FOUR-WHEEL DRIVE SYSTEM TRAINING PLATFORM

Order Code - ACE37



Product introduction

The equipment adopts the automobile chassis systems as the basis, Tully demonstrate the composition of the automobile four-wheel drive system structure.

Including the front and rear suspension system, steering system, transmission system, manual transmission and gear mechanism, braking system and other systems, the installation of casters and other components of the removable table.

- Install the real car chassis systems (including front and rear suspension system, steering system, transmission system, manual transmission and gear mechanism, braking system), fully demonstrate the composition structure of the car chassis systems.
- > Can be true to the car chassis systems show and disassembly training.
- The dissected manual transmission can be dynamic demonstration and testing, reducer motor input power the transmission can be shifted and dynamic testing, four wheel contact with the ground can be slow driving demonstration.



AUTOMOTIVE MANUAL TRANSMISSION TRAINING PLATFORM

Order Code - ACE38

Product Introduction

Using manual transmission for profiling, the components are complete, the locaticn of the profile is reasonable, which can fully display the internal structure and movement of the components, suitable for teaching the principle of manual transmission and mechanical mechanism.

Each mechanical section of the transmission is painted with different colors of paint.

Technical specification

Dimension	:	1400*600*800mm (LxWxH)
Power supply	:	single-phase
Single-phase reduce	er m	iotor:
Voltage	- : - :	AC 220V
Power	:	250KW
Rotation speed	:	15 rpm
Working temperature	:	-40°C ~ +50″
Steel pipe	:	60*40*3mm
Mobile casters	:	100*50mm



AUTOMOTIVE AUTOMATIC TRANSMISSION TRAINING PLATFORM

Order Code - ACE39



The equipment uses the automatic transmission total becomes the basis, adjustable speed three-phase asynchronous motor as the power source, the automatic transmission for gear display, neutral start, forward gear and reverse gear operation and other working conditions practice operation. Real display of electric automatic transmission composition structure and work process.

- The real can run the electric automatic transmission, driven by adjustable speed three-phase asynchronous motor, can be gear display, neutral start, forward gear running, reverse gear running and other working conditions practice operation, fully demonstrate the automatic transmission structure and work process.
- The motor drives the transmission directly, and the motor and transmission are fixed directly through the coupling.
- The rated current value specified on the motor nameplate can be set by the inverter, afd the electronic thermal overload relay can be used to prevent the motor from being overloaded, and the acceleration/deceleration can be set by the inverter in order to prevent the shock during the start/stop of the mechanical equipment.



AUTOMOTIVE FRONT WHEEL DRIVE SYSTEM TRAINING PLATFORM

Order Code - ACE42

Product Introduction

The automobile front wheel drive system practical training platform adopts the dissected transmission and transmission system in kind as the basis, and comprehensively displays the composition structure of transmission and transmission system.

The comprehensive training platform of automobile drive and transmission system is suitable far the teaching needs of automobile transmission system theory teaching and disassembly and assembly training.

Functional characteristics

- Using real transmission and transmission system components, fully display the composition of the transmission and transmission system structure.
- By the three-phase motor drive reducer, reducer drive transmission to do low-speed operation, real demonstration from the transmission to the drive wheel power transmission process.



AUTOMOTIVE MANUAL TRANSMISSION DISASSEMBLY AND ASSEMBLY TRAINING PLATFORM

Order Code - ACE44



Product introduction

Using manual transmission assembly {complete accessories, easy to disassemble), and mounted on & special flip frame. The use of reducer flip mechanism, can Make the transmission rotate at any angle, and can be locked at any position, so that students can easily disassemble and assemble from different angles.

The bottom is placed in the oil receiving tray, which is convenient for the centralized storage of small parts or screws.

Technical specification

- Equipment shape
- : 1000x600x1100mm (LxWxH)
- Steel pipe
- : 60*40*3mm
- i pipe

Universal casters

The first two universal casters with lacking function

Two universal casters at the back

The casters are fixed with the table frame by M6*4 screws, which is convenient for equipment repair and maintenance,

Casters	×	60*50mm
Caster support	×	1.0T
Speed reducer	1	MOPA70; 1:70



Automobile Chassis Equipment

AUTOMOTIVE AUTOMATIC TRANSMISSION DISASSEMBLY AND ASSEMBLY TRAINING PLATFORM

Order Code - ACE45

Product Introduction

Using automatic transmission assembly (complete accessories, easy to disassemble), and mounted on a special flip frame. The use of reducer flip mechanism, can make the transmission rotate at any angle, and can be locked at any position, so that students can easily disassemble and assemble from different angles.

The bottom is placed in the oil receiving tray, which is convenient for the centralized storage of small parts or screws. The tilting frame is made of high-strength steel structure welded, and the surface is treated by spraying process. The bottom of the flip frame is equipped with self-locking casters, which is movable and convenient for teaching.

Technical specification

Equipment shape

: 1000x600x1100mm (LxWxH) : 60*40*3mm

Universal casters

Steel pipe

The first two universal casters with lacking function

Two universal casters at the back

The casters are fixed with the table frame by M6*4 screws,

which is convenient for equipment repair and maintenance,

Casters Caster support : 60*50mm : 1.0T

AUTOMOTIVE HYDRAULIC BRAKE SYSTEM TRAINING PLATFORM

Order Code - ACE47



Product introduction

Using the car hydraulic brake system assembly (complete accessories, easy to disassemble}, and mounted on a removable table. Installed according to the original car layout, easy for students to disassemble and assemble from different analyze. The table frame is welded with high-strength steel structure, and the surface is treated by spraying process. The bottom with self-locking casters, movable type, convenient for teaching.

Technical specification

Equipment shape	~	1000*500*1100mm (LxWxH)
Steel tube	:	60*40*3mm
Universal casters		
The first two univer	sal ca	sters with locking function
Two universal caste	rs at	the back
The casters are fixe	d witl	n the table frame by M6*4 screws,
which is convenient	fare	quipment repair and maintenance
Casters diameter	X	60*50mm
Caster support	N.	1.07



AUTOMOTIVE AIR PRESSURE BRAKE SYSTEM TRAINING PLATFORM

Order Code - ACE48

Functional Characteristics

Using the complete automobile pneumatic brake system as the basis, students can fully understand the working principle of the pneumatic brake system and its working process by observing the external structure of the training platform and running the training platform practice, analyzing the direction of the gas in the braking process.

The mobile table is welded with high strength steel structure, and the surface is treated by spraying process. The bottom of the mobile stand with self-locking casters device, mobile, convenient for teaching.

Applicable to the school's automotive brake system theory and maintenance of practical training needs, fully meet the automotive brake system structure display, work simulation, disassembly and assembly of practical training and other teaching functions. This experimental equipment is fully functional, easy to operate, safe and reliable.

Technical specification

Dimensions	:	1700 x 1300 * 700mm (LW x H}
External power supply	:	AC 220V ±10% 50Hz
Working temperature	:	-40°C ~ +50°C
Air machine	:	0.75KW
Air pressure gauge	:	0-1000kFa
Steel pipe	:	50*50*3mm
Mobile casters	:	150*100mm

AUTOMOTIVE ABS/EBD/TCR SYSTEM TRAINING PLATFORM

Order Code - ACE49

Product introduction

The equipment is based on automotive ABS/ASR/ESP braking system, with ABS/ASR/ESP system working principle diagram, real display of emergency braking ABS/ASR/ESP system work process, Meet the ABS/ASR/ESP braking system structure composition, action demonstration and other teaching functions.

Technical Specifications

- Real car ABS/ASR/ESP brake system based on physical, complete display of ABS/ASR/ESP brake system composition structure.
- The three-phase asynchronous motor drives the front and rear axle rotation, simulating the car driving. When the brake pedalis pressed in an emergency, the ABS/ASR/ESP system starts to work, the front and rear brake discs keep a trace of rotation, and the brake pedal can feel the constant bouncing foot, which truly demonstrates the working process of the car ABS/ASR/ESP system.



Automobile Chassis Equipment

HYDRAULIC CLUTCH TRAINING PLATFORM

Order Code - ACE141

Product Introduction

The hydraulic clutch training platform is based on the real automobile hydraulic clutch. it has complete components and reasonable layout. it can fully display the internal structure and movement of the clutch components, and is suitable for the teaching needs of clutch theory and practical operation.

Technical specification

Dimensions	:	1000*500*600mm
Working temperature	:	-40°C ~ 450°C
Steel pipe	:	60*40*3mm
Mobile casters	:	100*50mm

- It uses real automobile hydraulic clutch components to fully display the internal and external structure of the automobile hydraulic clutch.
- Hand-crank the input shaft to simulate the rotation of the engine flywheel, and step on the clutch pedal to truly demonstrate the working process of the automobile clutch.





PURE ELECTRIC VEHICLE DRIVE SYSTEM TRAINING BENCH

Order Code - NEE50

Product Introduction

Based on the real pure electric vehicle drive system, it can truly display the composition structure and working process of the pure electric vehicle drive system. it is suitable for the teaching needs of schools on the drive system of pure electric vehicles. This equipment meets the teaching needs of automotive new energy and energy saving training courses.

Functional characteristics

- The training platform is equipped with installation protection devices such as a main power switch and a protective cover for rotating parts
- The training platform is equipped with an electronic throttle control device, which can accelerate and decelerate the pure electric vehicle drive system.
- The real and operational pure electric vehicle drive system fully demonstrates the composition structure and working process of the pure electric vehicle drive system.
- There are detection terminals Installed on the panel of the training platform, which can directly detect the electrical signals of the pins of each control unit on the panel,

Technical specification

Working power supply	:	HV iron phosphate ion power battery pack
Working temperature	:	-46°C-+50C
Equipment steel pipe	:	60*40*3mm
Equipment cabinet	:	1.5mm cold plate stamping
Mobile casters	:	100*60mm
Dimensions	:	1740*1200*1700mm



PURE ELECTRIC VEHICLE INTEGRATED TRAINING SYSTEM

Order Code - NEE51

Product introduction

The product adapts the original vehicle components, which can truly present the composition of the system and the shape of each component, 2, The detection panel is tiled, and the terminal arrangement diagram of

the original car wiring harness connector is printed with UV en the detection panel.

The training platform converts the protocol data information through the US8 device to realize MINIPC data transmission. The equipment is equipped with a 21.5-inch high-definition multimedia display screen and equipped with an intelligent teaching system to facilitate better teaching and learning far teachers and students

The product can measure the electrical signals of low-voltage lines, and students can use multimeters, oscilloscopes and other equipment to detect each test point.

Functional characteristics

- After each training platform is connected with other system training platforms, demonstrate the operating principle and control mode of the training platform.
- Demonstrate the working principle and control process of each system 3, Realize the view and detection of the composition and structure of each system



- Understand the operating characteristics and diagnostic methods of each system through the teaching board Realize system fault setting and diagnosis analysis
- Master the safety operation specifications for each system maintenance

Product Composition

- Module 1: BMS system module
- Module 2: Control system module
- Module 3: Electric motor drive system module
- Module 4: Air conditioning system module
- Module 5: Power steering system module
- Module 6: Whole electrical system module



MODULE 1 - BMS SYSTEM MODULE

Order Code - NEE51-M1

Product Introduction

Using automatic transmission assembly (complete accessories, easy to disassemble), and mounted on a special flip frame.

The use of reducer flip mechanism, can make the transmission rotate at any angle, and can be locked at any position, so that students can easily disassemble and assemble from different angles.

The bottom is placed in the oil receiving tray, which is convenient for the centralized storage of small parts or screws. The tilting frame is made of high-strength steel structure welded, and the surface is treated by spraying process. The bottom of the flip frame is equipped with self-locking casters, which is movable and convenient for teaching.

Skill Training Project

- > Power battery safety operation training
- > Power battery structure understanding raining
- > Power battery BMS structure understanding raining
- > Power battery sealing strip disassembly training
- > Power battery pack replacement training

Testing Teaching Project

- > Power battery safety testing items
- > Power battery sealing test items

Werener gammannan

- > power battery voltage detection items
- > Power battery temperature detection items



MODULE 2 - CONTROL SYSTEM MODULE

Order Code - NEE51-M2

Skill Training Items

- The charging system and other system wiring harness connection operation training project
- The charging system construction principle teaching training project

Skill Teaching Items

- > Charging system signal detection teaching project
- > Charging system diagnosis and testing teaching project

MODULE 3 - ELECTRIC MOTOR DRIVE SYSTEM MODULE

Order Code - NEE51-M3

Testing Training Items

Основное управлени

- > Disassembly and assembly training project of motor assembly
- Disassembly and assembly training project of mechanical transmission assembly
- > Familiar with the name, structure and principle of each component

Testing Teaching Items

- > Teaching project of driving system working signal voltage detection
- > Teaching project of driving motor working speed signal detection
- > Teaching project of fault diagnosis and testing of driving system
- > Driving motor temperature signal detection teaching project





MODULE 4 - AIR CONDITIONING SYSTEM MODULE

Order Code - NEE51-M4

Testing Training Items

- Master the structural principle and working principle of the electric vehicle air-conditioning system
- Dismantle and assemble the air-conditioning pipeline training project
 Disassembly and assembly training project of air-conditioning
- compressor
 Training project of air-conditioning refrigerant evacuation and filling

Testing Teaching Items

- > Teaching of working voltage detection of air-conditioning compressor
- > Teaching of data and signal detection of air-conditioning control unit
- > Air-conditioning system refrigeration and heating control signal detection teaching
- > Air-conditioning system fault diagnosis and detection teaching

MODULE 5 - POWER STEERING SYSTEM MODULE

ロフ敦区

Кондиционер

Order Code - NEE51-M5



Testing Training Items

- Master the 'structural principle and working principle of the electric vehicle steering system
- The disassembly and assembly training project of the electric vehicle steering system
- Dismantling and assembly training project of electric vehicle steering gear
- > 4. Comparison training project with or without power steering

Testing Teaching Items

- > Electric power steering gear working voltage detection teaching
- > Steering control unit data and signal detection teaching
- > Steering system control signal detection teaching
- Steering system fault diagnosis and detection teaching

MODULE 6 - WHOLE ELECTRICAL SYSTEM MODULE

Order Code - NEE51-M6

Product Introduction

The equipment is based on pure electric vehicle body electrical appliances, which fully demonstrates the composition, structure and working process of the body electrical appliances, Applicable to secondary and higher vocational technical colleges, The teaching needs of general education colleges and training institutions for pure electric vehicle body electrical theory and maintenance training





PURE ELECTRIC VEHICLE DRIVE MOTOR DISASSEMBLY AND ASSEMBLY TRAINER

Order Code - NEE52

Product Introduction

The deceleration and turning mechanism is adapted, which can make the transmission rotate at any angle and lock at any position, which is convenient far students to disassemble and assemble from different angles.

The overturning frame is welded with high-strength steel structure, and the surface is treated by spraying process. There are self-locking casters at the bottom of the turning frame, which is movable and convenient for teaching.

The new energy vehicle drive motor assembly (complete accessories, easy to disassemble) is adapted, and installed on a special flip frame.

An oil pan is placed of the bottom, which is convenient for centralized storage of small parts or probe wires,

Technical Specification

Steel pipe	- :	60*40*3MM
Reducer: MOPA70	:	1:70
Casters	:	60*50mm (c
Equipment shape	:	1000*600*1
Universal casters	:	the first two

- 0mm (diameter X width)
- *600*1100mm
 - rst two universal casters with locking function and
 - the rear two universal casters, The casters and the stand are fixed with M6*4 screws, which is convenient for equipment repair and maintenance.

PURE ELECTRIC VEHICLE VEHICLE CONTROLLER AND DISASSEMBLY TRAINER

Order Code - NEE53



Product introduction

The turning frame is welded with high-strength steel structure, and the surface is treated by spraying process, There are self-lacking casters at the bottom of the turning frame, which is movable and convenient for teaching.

The deceleration and turning mechanism is adopted, which can make the transmission rotate at any angle and lock at any position, which is convenient for students to disassemble and assemble from different angles,

It adopts the three-in-one controller assembly of new energy vehicles (complete accessories, easy to disassemble), and is installed on a special flip frame.

An oil pan |s placed at the bottom, which is convenient for centralized storage of small parts or screws

Technical Specifications

Steel pipe	1	60*40*3MM
Reducer	:	MOPA70; 1:70
Casters	:	60*50mm (diameter X width)
Equipment shape	:	1000*600*1100mm (L*W*H)
Universal casters	:	the first two universal casters with
		locking function and the rear two
		universal casters. The casters and the
		stand are fixed with M6*4 screws, which
		is convenient for equipment repair and
		maintenance.



AUTOMOTIVE HYBRID ENGINE TRAINER

Order Code - NEE54

Product Introduction

This equipment is based on the original vehicle's gasoline-electric hybrid engine and electronic transmission axle. It can perform practical operations on the engine and electronic transmission axle such as starting, acceleration, and deceleration, and truly demonstrates the composition and working process of the gasoline-electric hybrid engine.

Functional characteristics

- A real operational gasoline-electric hybrid engine, fully demonstrating the composition and working process of a gasoline-electric hybrid engine.
- The panel of the training platform is mace of 4mm thick. highgrade aluminum-plastic plate, and the panel is printed with a color-fast circuit diagram: trainees can visually compare the circuit diagram with the actual gasoline-electric hybrid engine to understand and analyze the working principle of the control system.
- The panel of the training platform is equipped with automobile instruments and multi-function display screens, which can display the power transmission process, vehicle speed, etc.,



electronic control system fault indicator lights and other parameter changes in real time.

HYBRID SYSTEM ENGINE TRANSMISSION SYSTEM ANATOMY DISPLAY STAND

Order Code - NEE55



Product introduction

This equipment adopts the refurbished hybrid system (including: engine, generator and motor, etc.) assembly for cross-section processing. The components are complete and the cross-section position is reasonable. It can fully display the internal and external structure and components of the hybrid system. Movement conditions, and the MCU control system can be used to simulate the operating status of the hybrid system under six working conditions: starting, low-speed driving, normal driving, full-speed driving, deceleration driving and parking, 50 as to grasp the hybrid system more intuitively How the power system works.

Functional characteristics

- > Use the original hybrid power system (including: engine, generator and electric motor, etc.) to perform mechanical cut-outs to fully demonstrate the internal and external structures af the hybrid vehicle power system.
- Spray the mechanical sections of the hybrid system with different colors of paint.

The three-phase gear reduction induction motor drives the engine crankshaft and motor drive shaft to operate at low speeds under various working conditions; truly demonstrating the movement process of the internal mechanical components of the hybrid system,



STEEL CONTOUR CAR DETECTION SYSTEM

Order Code - NEE56

Product Introduction

This new energy frame perspective vehicle online inspection system is based on new energy vehicles. it is also. equipped with six detection boards, which can detect the status of each system in real time. Working status of sensors and actuators. This product can intuitively understand the system composition of pure electric vehicles, which is closer to the real vehicle environment than other types of training platforms. Easier to teach than a real car.

Technical Specification

: 4700*1800*1600mm Product size Working power supply : 12VDC

Functional characteristics

- > It can be connected to a dedicated or general-purpose car decoder, and implement self-diagnosis functions such as obtaining fault codes, clearing fault codes, and obtaining data streams for the entire vehicle system.
- A running water lamp is installed to indicate the direction of energy flow. The fast charging state, slow charging state, and discharging state are marked with lights of different colors and speeds.
- The measurement panel of the training platform is made of high-strength acrylic plate spray-painted, which has the characteristics of large temperature difference
- > resistance, wear resistance, moisture resistance, corrosion resistance, not easy to deform, long service life, bright colors, and not easy ta fade.
- > Based on the complete pure electric vehicle, the covering parts of the original car except the load-bearing structural parts are fully dissected and removed, and 2 one-to-one skeleton of the original car is made with steel bars. The relative positions of the original car accessories remain unchanged, and All functions of the original car are retained, and it can be driven on the ground.

Product introduction

VEHICLE ANATOMY DETECTION SYSTEM

of each system in real time. This product can intuitively understand the system structure of pure electric vehicles, is closer to the real vehicle environment, and

Order Code - NEE57



is more convenient for teaching than real vehicles.

Functional characteristics

- > Based on the complete pure electric vehicle, a large area of the body covering of the original vehicle is cut. The body and chassis are not separated, and the power and high-voltage system components of the original vehicle are not damaged (the power system and high-voltage system components are not cut), after dissection, the entire highvoltage system and high-voltage components are exposed as much as possible for easy observation. The relative installation positions of the original vehicle accessories remain unchanged, and all functions of the original vehicle are retained, and the vehicle can be driven on the ground.
- Install a vehicle circuit detection part. Each detection port is connected to a matching detection bench, which can test the battery management system, charging system, drive system, air conditioning system, steering system, ABS system, lighting system, and wiper system. Wait for signal detection, The detection table panel is printed with a complete circuit schematic diagram and is equipped with detection terminals. Multimeters and oscilloscopes can be used to detect the resistance, voltage, frequency, waveform, etc. of each sensor and actuator.
- 3. It can be connected to a special or general automobile decoder ta perform self-diagnostic functions such as reading fault codes, clearing fault codes, and reading data
- streams for the entire vehicle system.

Technical Specifications

: 4700*1800*1600mm Product size Working power supply : 12VDC/original vehicle high-valtage battery pack



PURE ELECTRIC VEHICLE DRIVING SYSTEM ASSEMBLY AND TESTING TECHNOLOGY PLATFORM

Order Code - NEE59

Product Introduction

The training platform is developed around the new energy vehicle motor and control system, and is equipped with a vehicle motor controller and a high-voltage distribution box.

The platform is designed with a screw mechanism for separating the motor from the gearbox and a 360" random flip structure of the gearbox, which makes the disassembly and assembly of the power train easy and fast.

The motor type is a three-phase permanent magnet AC

synchronous motor, the maximum output torque of the motor is 310N.m, the rated torque is T60N.m, the maximum input power is 160kW, the rated power is 80kW, and the maximum output speed is 12000rpm.

Functional characteristics

> The driving energy supply platform is equipped with a 21.5-inch super large touch liquid display

- Equipped with a car-level motor controller, after the device is powered on, it can dynamically display the forward and reverse state of the motor.
- Supporting super large storage drawers, the drawers are fixed by solid double-row ball silent buffer damping guide rails, smooth pulling and strong balance
- The platform is equipped with a motor line interface, a motor resolver sensor interface and a ground wire interface, which can be easily connected to an intelligent information collection and detection box to supply power to the motor.
- The equipment is equipped with motor three-phase voltage signal and motor resolver signal detection point, and the signal waveform can be diagnosed and analyzed with the help of oscilloscope and other equipment.

Technical Specifications

Powertrain disassembly and assembly training platform, intelligent information collection and detection box, drive energy supply platform, three-phase high-woltage connection cable, low-voltage communication connection cable

PURE BATTERY ASSEMBLY AND TESTING TECHNOLOGY PLATFORM

Order Code - NEE60



Product Introduction

The intelligent teaching system can calibrate and dynamically detect the assembled battery pack, and can graphically control the power battery PACK training platform through the human-computer interaction interface, so that students can analyze and calibrate the battery pack date.

When the system starts, it enters the self test state, respectively detects the communication modules such as M1203 and CAN equipment, and judges the test results, The abnormality is marked in red, and the port matching can be confirmed by opening the button on the right, and the normal one is marked in green , the system can be started when the test result is normal.

The software has contactor detection function. And the collected data can be fed back to the teaching system in real time through the canbus, It can detect the total positive relay, total negative relay, pre-charge relay, discharge relay, slow charge relay fast charge relay, etc. in real time.



INTELLIGENT TRAINING PLATFORM FOR CHARGING EQUIPMENT ASSEMBLY AND DEBUGGING

Order Code - NEE61

Technical Specification

- The operating workbench is anti-static to prevent damage to components. After the installation is completed and before the high-valtage power is connected, the insulation, withstand voltage, short circuit and self-protection of emergency failure equipment are tested in strict accordance with the requirements of the national standard to fully ensure the personal safety of the students.
- The training platform has complete safety protection functions, including input side over voltage protection, undervoltage protection, overcut protection, short circuit protection, grounding protection, over temperature Protection, over current protection, low temperature protection, lightning protection, emergency stop protection, Leakage protection, etc.
- The training platform adopts a cabinet structure, and the accessories and power wires can be disassembled and used repeatedly, After the charging equipment connection and debugging are completed, the charging plug is connected to the vehicle end of its own national standard AC charging socket, and the correctness of the wiring can be verified,
- > Workbench size; 1000*800*450mm (L*W*H)

ORIGINAL CAR, HIGH-VOLTAGE CONTROL BOX ASSEMBLY DISASSEMBLY INSPECTION PLATFORM

Order Code - NEE62



Functional characteristics

- > Understand the working principle of the high voltage control box
- > Understand the structure principle of high voltage control box
- Compare the characteristics of different high-voltage control boxes
- Disassembly and assembly skills training of high voltage control box
- Measurement and detection of high-voltage control box components

Technical Specifications

- The equipment adopts aluminum-shaped steel to make a frame structure bench or welded with high-strength National standard steel structure, The surface is treated by spraying process, which can bear 300-400 kg weight of the workbench to ensure sufficient load-bearing and balance capacity ta ensure safety, There are 2 fixed wheels and 2 universal wheels (with locking device) among the mobile casters, so that it can be moved and fixed securely.
- The equipment is disassembled and overhauled with the physical assembly of the original high-voltage control box of the new energy vehicle for teaching assessment.
- > Size: 1200*700*1800mm (length, width and height)

ORIGINAL CAR, HIGH-VOLTAGE CONTROL BOX ASSEMBLY DISASSEMBLY INSPECTION TRAINER

Product Introduction

Order Code - NEE63

- The equipment adopts aluminum-shaped steel to make a frame structure bench or welded with high-strength national standard steel structure. The surface is treated by spraying process, which can bear 300-400 kg weight workbench to ensure sufficient load-bearing and balance capacity to ensure safety Among the mobile casters, 2 are fixed wheels and 2 are universal wheels (with locking device), which are convenient to move and securely fixed.
- The equipment is disassembled and overhauled with the physical assembly of the original car charger of the new energy vehicle far teaching assessment.
- > Size:=1200*700*1800mm (length, width and height)

Technical Specifications

- > Understand the working principle
- > Understand the structural principle
- > On-board charger disassembly skills training
- > Measurement and detection of on-board charger components
- > Compare the performance characteristics of different on-board chargers





ORIGINAL CAR, DC/AC ASSEMBLY DISASSEMBLY TEST PLATFORM

Order Code - NEE64

Product Introduction

Size: 1200*700*1800mm (length, width and height)

The equipment is disassembled and overhauled with the original car DC\DC physical assembly of the new energy vehicle for teaching assessment.

The equipment adopts aluminum-shaped steel to make a frame structure bench or welds it with high-strength national standard steel structure. The surface is treated by spraying process, which can bear 300-400 kg weight of the workbench, ensuring sufficient leveling and balancing capabilities to ensure safety. Two of the mobile casters are fixed wheels and the other two are universal wheels (with locking device), which are convenient for moving and securely fixed.

Functional Characteristics

- > Understand the working principle
- > Understand the structural principle
- > Compare the characteristics of different DC/DC
- > DC/DC disassembly skills training
- > Measurement and detection of OC/DC component



PURE ELECTRIC VEHICLE CHASSIS SYSTEM TRAINER

Order Code - NEE65



Product Introduction

The comprehensive chassis training equipment for pure electric vehicles adopts the BYD E5 pure electric vehicle with the body shell removed, retaining the original vehicle chassis power and other systems, including complete chassis power and other system component, it fully demonstrator the internally and externally structure of each system of the car, and all system components are complete. , cut open and remove the car smell, you can clearly observe the movement of the car's internal structure and components and car complete chassis system can actually operate. It is suitable for teaching needs of pure electrical vehicle construction theory and maintenance practice.

Functional Characteristics

1, The complete chassis system of a real pure electric vehicle can actually aperate.

2, The movement process of each main component can be clearly seen, and each system is painted in different colors for easy distinction.

3, Ability to teach pure electric chassis structure, basic working principles, disassembly, assembly and maintenance.

4. The chassis system is fully configured (including steering system, braking system, front and rear axles and wheels, motor drive system, motor control unit, battery pack, driver sheet steering system etc.).

5. The lighting, instrumentation, electrical appliances, and air-conditioning systems are complete and operational

6. During the testing and training, the chassis system training platform can operate under normal road driving conditions.
 7 Install a fault simulation system to realize fault setting and diagnosis and elimination of low-voltage circuit systems, It can set the settings of common faults and assess fault points 24

8. Supporting teaching materials such as practical training (experiment) instructions, including working principles, practical training projects, fault settings and analysis and other key points.

9. Install safety protection devices: emergency stop switch, mechanical main power switch, maintenance switch, protective cover for rotating parts, high-voltage safety protection devices and warming prompts

Technical Specifications

- Working power supply: original vehicle:
- Working temperature :-50°C ~ + 50°C
- Car chassis: length*width*height: 4730*1700*1400mm
- Inspection table moving casters: 100*60mm



HYDROGEN FUEL CELL TRAINING PLATFORM

Order Code - NEE66

Product Introduction

It is made-of hydrogen fuel reactor system components. It is required to demon- Strate the structure and working principle of the automobile fuel cell (hydrogen) system, and to dynamically simulate the working process of the fuel cell (hydrogen) system to deepen students' understanding of the structure and working principle of the hydrgen fuel system. Understanding of working principles. It is suitable for the teaching needs of various types of colleges and training institutions for theoretical learning and maintenance training of automobile fuel cell (hydrogen) systems.

Technical Specifications

Product size: 1230*600*1780 mm (L x W x H)Input power: AC 220V 50HzWorking temperature: -35°C ~ 40°COverall machine weight: 70 kg

Functional Characteristics

1. This equipment fully demonstrates the working principle of the fuel cell vehicle energy system and can dynamically simulate the operating status of the fuel cell vehicle energy system under resistive, inductive and other load conditions;

2. By using 4 intelligent monitoring terminals and a 4.3-inch display screen, the principle animation of the interactive operating status of core components related to the fuel cell is collected in real time;

3. The intelligent monitoring terminal collects real-time information on the fuel cell's conversion process from hydrogen into the stack through the diffusion layer, catalyst, proton exchange membrane, oxygen inthe air, and catalyst conversion to form the electrical energy output conversion process.

4. The panel-mounted analog drive motor is used to represent the output of hydrogen from the hydrogen storage tank to the fuel cell stack;

5. it can dynamically simulate five working conditions such as fuel cell stack gas supply, stack power generation, power supply boost, capacitor charging and normal

driving. There are LED running lights to reflect the energy flow state;

NEW ENERGY ELECTRONIC SIMULATION TRAINING BOX

Order Code - NEE74



Product Introduction

The new energy vehicle electronic simulation experiment box is suitable far new energy vehicle professional electronic technology courses in middle and high vocational colleges. The experiment box is equipped with a mobile adjustable power supply, detection instruments, new energy vehicle tiree-electric system, etc, and has 4 mature protection scheme, It can carry out principle teaching and simulation experiments to cultivate students' practical application ability and innovation ability,

DC 1 1 2.

Technical Specifications

Working power supply	:	
Safety protection	¥	

Product size Detection panel Detection part System software

DCT12,
over current, over voltage, short circuit
protection;
>50*25*15CM

- silk screen circuit schematic diagram;
- 2mm inner diameter detection port:
- equipped with upper computer
 - monitoring software, and the terminal adapts a \geq 4.3-inch display screen.

1

5



NEW ENERGY VEHICLE ELECTRICAL AND ELECTRONICS TEACHING ASSESSMENT SYSTEM

Order Code - NEE67

Product Introduction

The new energy vehicle electrical and electronics teaching assessment can enable students to master basic electrical knowledge and electrical engineering foundations, learn common electrical and electronic knowledge through modules, and meet the basic teaching requirements for basic electrical applications of new energy vehicles

Functional Characteristics

- > The new energy vehicle electrical and electronics teaching training and assessment platform adopts modular R&D and production. Each module can be trained individually or in-series and parallel,
- The new energy vehicle electrical and electronics teaching training and assessment platform is divided into electronic and electrical basic modules, electronic and electrical sensor modules, and electronic and electrical actuator modules. The assessment module allows for immediate learning, practice, and examination to consolidate knowledge points.
- The practical training part is completed on the measurement circuit board, which is convenient and fast to operate and easy to replace. It is close to the actual work scene and it is easy to generate extended practical training projects. Combined with actual measurements, the practical training is closer to the actual fault, so that the students' practical training can be more realistic.
- > Overcurrent, overvoltage, temperature protection: The whole process monitoring device is overlaaded or short-circuited. Once the above situation occurs, the power supply will be automatically cut off. Only after the fault is eliminated, the working power supply can be restarted to ensure the safety of the equipment and operators

Technical Specifications

- 1. Stand size is about: 1600*800*1750mm
- 2. Power supply type: AC 220V
- 3. Working temperature: -35°C ~ 40°C
- 4, Equipment weight approximately: 100KG

Supporting Testing Instrument Set

Multimeter Oscilloscope Electric soldering iron set Special cable





HIGH VOLTAGE CONTROL AND SAFETY PROTECTION TRAINING PLATFORM

Order Code - NEE68

Practical Training Functions That The Equipment Can Achieve

- Understand the use of high-voltage protective equipment and basic knowledge training and assessment
- Cardiopulmonary resuscitation training, teaching and assessment
- Electric shock simulation and protective operation training teaching and assessment
- High voltage safety warning identification practical training teaching and assessment
- Practical training teaching and assessment of pilot principles and high-voltage interlocking
- On-board potential equalization control practical training teaching and assessment
- Practical training, teaching and assessment on the principles of powering an and off high-voltage power systems
- Practical training, teaching and assessment of insulation monitoring and measurement methods
- Practical training, teaching and assessment of new energy vehicle safety strategies.



POWER BATTERY SHOWCASE

Order Code - NEE69



Product Introduction

This product is mainly used to display battery assemblies of different types, materials, and structures. It can be used to teach and understand the structure and materials of battery types. In order to promote teaching, acrylic printing is used on the sides of Different batteries to print the meanings of their components. The multimedia display screen loops through video animations recognizing the structure and working principles of new energy vehicles. This product can be used in exhibition halls of secondary and higher vocational colleges and related automobile service industry exhibition halls.

Technical Requirements for Showcase

- Multi-layer cabinet design: (left cabinet, middle cabinet, right cabinet)
- > Overall size (mm): 1600*400*2000
- Side cabinet tempered glass door: Made of 5mm tempered glass, all glass doors have lacks
- Laminate requirements; Use 8mm tempered glass laminate, fixed with glass clips
- Cabinet requirements: The cabinet is made of wood and the surface is sprayed with white five-point glass paint.
- Lighting requirements: 12W white light installed on the lintel
- Install a multimedia display device in the middle, no less than 27 inches



HIGH VOLTAGE COMPONENTS AND CONNECTOR SHOWCASE

Order Code - NEE70

Product Introduction

This product is mainly used to display mew energy vehicle highvoltage connectors of different types, different

models, and different structures. It can be used to teach the structure and materials of high-voltage connector

types, and at the same time, to gain understanding of new energy vehicle high-voltage connectors. To promote teaching, acrylic printing is used on the sides of different high-voltage connectors to paint the meanings of their components. The multimedia display screen loops a video animation far understanding the structure and working principles of new energy vehicles. This product can: be applied to exhibition halls of secondary and higher vocational colleges and related automotive services. Used in industry exhibition halls.

Technical Requirements for Showcase

- Multi-layer cabinet design: (left cabinet, middle cabinet, right cabinet)
- > Overall size (mm): 1600*400*2000
- Side cabinet tempered glass door: Made of Sm tempered glass, all glass doors have lacks
- Laminate requirements: Use 8mm tempered glass laminate, fixed with glass clips
- Cabinet requirements: The cabinet is made of wood and the surface is sprayed with white five-point gloss paint.
- > Lighting requirements: 12W white light installed on the lintel
- > Install a multimedia display device in the middle, no less than 27 inches

High and Low Voltage Electronic Components Showcase

Order Code - NEE71



Product Introduction

This product is mainly. used to display high and low-voltage components of new energy vehicles of different types, models, and structures. It can be used to teach the structure and materials of high and low-voltage component types, and at the same time, to gain understanding of high and tow-voltage components of new energy vehicles. To promote teaching, acrylic printing is used on the sides of different high and low voltage components to print their component meanings. The multimedia display screen loops a video animation to recognize the structure and working principles of new energy vehicles. This product can be applied to. exhibition halls of secondary and higher vocational colleges and related automotive services. Used in industry exhibition halls.

Technical Requirements for Showcase

- > Multi-layer cabinet design: (left cabinet, middle cabinet, right cabinet}
- > Overall size (mm): 1600*400*2000
- Side cabinet tempered glass door: Made of 5mm tempered glass, all glass doors have locks
- > Laminate requirements: Use 8mm tempered glass laminate, fixed with glass clips
- Cabinet requirements: The cabinet is made of wood and the surface is sprayed with white five-point gloss paint.
- Lighting requirements: 12W white light installed on the lintel
- > Install a multimedia display device in the middle, no less than 27 inches





DRIVE MOTOR DISSECTION DISPLAY STAND

Order Code - NEE72

Product Introduction

The drive motor anatomy display stand is used to support students' understanding of the structure and working principles of electric vehicle drive motors. The anatomy display stand is equipped with professional teaching applications and can truly and intuitively teach the working principles of the main controller.

Functional Characteristics

This product is based on the BYD e5 original permanent magnet synchronous drive motor assembly. The drive motor assembly and differential assembly are dissected. The sections are sprayed with different colors of paint, and the dissected sections are sealed with transparent acrylic. Protect, The dissected parts are installed on a mobile base, which is constructed of integrated all-aluminum alloy profiles, which is oil-resistant, corrosion-resistant and easy to clean.

Technical Specifications

- The size of the bench is approximately: 800mm*800mm*1200mm
- > Working temperature: -35°C ~ 40°C
- > Equipment weight is approximately: 120Kg

DRIVE MOTOR CONTROLLER ANATOMY DISPLAY STAND

Order Code - NEE73

Product Introduction

The drive motor controller anatomy display stand is used to support students' structural understanding and working principles of electric vehicle drive motor controllers.

Functional Characteristics

- This product is based on the original drive motor controller assembly, The drive motor controller assembly is dissected, and the crass sections are sprayed with paint of different colors. The dissected surfaces are sealed and protected with transparent acrylic.
- The dissected parts are installed on a mobile base, which is constructed of integrated all-alurninum alloy profiles, which is oil-resistant, corrosion-resistant and easy to clean.

Technical Specifications

- > The size of the bench is approximately:
- 800mm*800mm*1 200mm
- Working temperature: -35°C ~ 40°C
- Equipment weight is approximately: 45KG.



ELECTRIC AIR CONDITIONING SYSTEM TEACHING AND TRAINING PLATFORM

Order Code - NEE75

Product Introduction

The pure BYD Qin EV electric air conditioning system is used as a basis, including the evaporator box assembly, air conditioning controller assembly condenser assembly, high and low pressure pipeline expansion valve assembly, etc., ta simulate various engineering projects of the electric air conditioning system. It is suitable for the teaching needs of the principles of pure electric air conditioning systems in secondary and higher vocational colleges.

It consists of electric. air conditioning system, detection panel, electric compressor integrated machine, air conditioning highpressure control components, PTC heating control, mobile bench, three-layer tool cart (clamp multimeter, thermometer, psychrometer, pressure gauge set, electronic halogen detection it consists of leakage meter, anemometer, evaporator cleaning special kit, etc.

Functional Characteristics

- > This product uses an electric air conditioning system
- Areal and operable electric air-conditioning system, fully demonstrating the structure and working process of the electric air-conditioning system.
- Operating the air conditioning control panel can truly operate the working process and working principle of the electric air conditioning system.



NEW ENERGY VEHICLE ABS SYSTEM TRAINING PLATFORM

Order Code - NEE76

Product Introduction

This product is made based on the ABS/EBD braking system components of electric vehicles and is deeply optimized in accordance with the teaching steps and course requirements. It uses a three-phase asynchronous motor to drive a set of rollers that simulate road conditions and match the pneumatic tires.

It can truly simulate the driving inertia of the vehicle on the road. The operation of the motor is controlled by a professional digital frequency converter, which can realize the simulation of different driving speeds. It also has output power adjustment and overload protection functions, thus ensuring the safety of the equipment. Stable. When the tire rotates and the brake pedal is pressed urgently the ABS/EBD system starts to work. You can feel the constant spring on the brake pedal and observe that the tire maintains a slight rotation. The equipment has 6 pressure gauges.

It-can display the pressure of the brake master cylinder and the hydraulic changes of the brake cylinders of the four wheel cylinders in real time during the braking

process, It can truly demonstrate the working process of the automobile ABS/EBD system. It can be connected to the equipment diagnostic socket for ECU coding query, Diagnostic test functions such as reading fault codes and data streams, waveform analysis, actuator testing, system login, ete.





AC CHARGING SYSTEM TRAINING PLATFORM

Order Code - NEE77

Product Introduction

Based on the actual electric vehicle AC charging pile system, it consists of a mobile platform and a teaching panel. It can meet the teaching needs of the structure, working principle and diagnosis of electric vehicle charging management system.

The charging management system consists of leakage protection switches, lightning arresters, Smart meters, main controllers, high-power relays, switching power supplies, emergency switches, charging guns, and integrated application management machines.

Practical Training Projects

- > It-tan demonstrate the working status and operating principle of the charging pile when charging
- Can demonstrate the background operation and management platform of charging piles
- > Understand the structural: composition of the charging pile, the structure and working principle of each component
- Can demonstrate the impact of faults on the work of charging piles and troubleshoot



AC AND DC CHARGING SYSTEM TRAINING PLATFORM

Order Code - NEE78



Product Introduction

Based on the actual AC/DC charging pile system of electric vehicles, it consists of a mobile platform and a teaching panel. It can meet the teaching needs of the structure, working principle and diagnosis of electric vehicle charging management system.

The charging management system consists of leakage protection switches, lightning arresters, smart meters, main controllers, high-power relays, switching power supplies, emergency switches, charging guns, and integrated application management machines.

Technical Specifications

- Stand size is about: 640*500*1650 (mm)
- > Charging pile type: fast charging
- Charging pile power: 7.2KW

- > Output current: ≥32A
- Input voltage: 220V AC ±20%
- Communication function: supports RS485, Ethernet, GPRS wireless communication, and CAN communication
- Protection level: Ip54

Practical Training Projects

- > It can demonstrate the working status and operating principle of the charging pile when charging
- > Can demonstrate the background operation and management platform of charging piles
- Understand the structural composition of the charging pile, the structure and working principle of each component
- > Can demonstrate the impact of faults on the work of charging piles and troubleshoot



ro didáctico de pila de carga CC para

DC CHARGING SYSTEM TRAINING PLATFORM

Order Code - NEE79

Product Introduction

Based on the actual OC charging pile system of electric vehicles, it consists of a mobile platform and a teaching panel It can meet the teaching needs of the structure, working principle and diagnosis of electric vehicle charging management system.

The charging management system consists of leakage protection switches, lightning arresters, smart meters, main controllers, high-power relays, switching power supplies, emergency switches, charging guns, and integrated application management machines.

Technical Specifications

- Stand size is about: 640*500*1650 (mm)
- > Charging pile type: fast charging
- Charging pile power: 7.2KW
- > Output current: ≤324
- Input voltage: 220V AC ±20%
- Communication function: supports Rs485,
- Ethernet, GPRS wireless communication, and CAN communication
- Protection level: Ip54

Practical Training Projects

- > It can demonstrate the working status and operating principle of the charging pile when charging.
- > Can demonstrate the background operation and management platform of charging piles.
- Understand the structural composition of the charging pile, the structure and working principle of each component.
- > Can demonstrate the impact of faults on the work of charging piles and troubleshoot.

NEW ENERGY STEERING SYSTEM TRAINING PLATFORM

Order Code - NEE80

Product Introduction

This product is made based on the actual accessories of BYD's original electric steering power steering teaching system. It is deeply developed based on the complete vehicle accessories as a platform, which can ensure the complete matching of equipment accessories and greatly improve the safety and stability of the equipment. Understand the EPS electric power steering system af BYD pure electric vehicles, and provide teaching and training on the structure and working process of the electric power steering system.

Technical Specifications

- The size of the bench is approximately: 1500mm*1000mm*1750mm
- > Working temperature: -35°C ~ 40°C
- > Equipment weight is approximately: 150Kg





ELECTRIC VEHICLE MOTOR CONTROL SYSTEM TRAINING PLATFORM

Order Code - NEE81

Product Introduction

Use basic principles such as the performance characteristics and structure of electric vehicle drive motors and motor controllers to understand the basic structure of the AC motor control system, master the working principles of the AC motor control system, master the basic control circuits of the AC motor control system, and demonstrate the AC motor control system. Work process, view the circuit diagram, and analyze the interrelationship between various

components.

Technical specifications

- Mater type: three-phase asynchronous motor
- Rated power: 4K
- Rated voltage: 72V
- Rated speed: 3000rpm
- Number of phases: 3 phases
- Peak speed: 6000rpm
- > Controller type: AC controller
- Rated voltage: 72V
- > Input voltage range: 55~86V DC
- Rated current: 120A
- Peak current: 275A
- > Output frequency range: 0-400Hz
- > Efficiency: 98%
- Communication method: CAN2.0 communication
- Gear lever type: rear switch type:
- > Working voltage: 12V DC
- Instrument type: mechanical and electronic hybrid instrument.

Practical Training Projects

- Simulate the acceleration experiment of the drive motor through the throttle.
- Simulate the deceleration experiment of the drive motor through braking.
- > Simulate the hydraulic braking system's braking experiment on the drive motor.
- > Simulate the experiment of forward and reverse rotation of the motor through the gear lever.
- > Simulate the experimental state of vehicle driving at normal speed.
- > Simulate the high-speed driving state of the vehicle.
- > Simulate the low-speed driving state of the vehicle.
- > Understand the structure and composition of motors and motor controllers.
- > Understand the basic working principles of motors and motor controllers.



ELECTRIC VEHICLE BATTERY MANAGEMENT SYSTEM (BMS) TRAINING PLATFORM

Order Code - NEE82

Product Introduction

Using the basic principles of performance characteristics and structure of electric vehicle drive motors and motor controllers, understand the basic structure of AC motor control systems, master the working principles of AC motor control systems, and master the basic control circuits of AC motor control systems. By demonstrating the working process of AC motor control systems, reviewing circuit diagrams, and analyzing the interrelationships between various components.

The system consists of lithium iron phosphate battery box, battery management system (BMS), intelligent onboard charger (OBC), BC/DC conversion module, charging relay, discharge relay, discharge relay, discharge resistor, manual maintenance switch (MSD), It consists of Hall current sensor, ignition switch, 10-inch touch display screen, national standard mode 2 charging gun, national standard AC charging stand, and 12V starter battery.

Technical Specifications

- > Battery type: lithium iron phosphate battery
- battery cell voltage: 3.2V
- battery pack nominal voltage: 76.8V
- battery pack string number: 24 strings
- > control relay: 3 channels
- > temperature acquisition channels: 4 channels
- balancing current: 100mA
- touch screen: 10 inches
- charger input voltage: 85~265V AC
- charger output voltage: 48~96V DC,
- > charger conversion efficiency: ≥95%,
- DC input voltage: 48~96V DC,
- > DC output voltage: 13.8V DC,
- > OC full load efficiency: ≥88%,
- System operating voltage: 12V DC,
- > Communication method: CAN communication, Rs485



NEW ENERGY VEHICLE LIGHTING SYSTEM TRAINING PLATFORM

Order Code - NEE83

Product Introduction

The lighting system training platform is designed and developed by our company based on Volkswagen D.4 interior and exterior lighting. Students can directly complete practical training on the structural recognition, detection, diagnosis and maintenance of new energy vehicle lighting systems on the training platform. Teaching and assessment. Students can simulate relevant circuit faults through the fault setter an the training platform. After fault simulation, students can directly measure

on-site signals at the detection terminals corresponding to the detection panel of the training platform.

Technical Specifications

- The dimensions of the whole machine are 1500*700*1700 mm
- > Teaching panel size: 1400*730*4mm
- > Working voltage: Input 220V AC 50HZ Working: 12V DC

Practical Training Function

- Practical training teaching and assessment. of new energy vehicle body electrical system cognition.
- Practical training teaching and assessment on vehicle exterior lighting detection, diagnosis and maintenance.
- Practical training teaching and assessment on vehicle interior lighting detection, diagnosis and maintenance.
- Central electrical control system detection, diagnosis and maintenance training teaching and assessment.

Software Interface

> Practical training, teaching and assessment of fuse relay detection, diagnosis and maintenance.

EQUIPPED WITH LIGHTING SYSTEM TEACHING RESOURCES



Composition Of Teaching Resources

Project 1. System cognition

- Battery awareness
- > Ignition switch; Relay awareness
- Cognition and working principle of the body control module
- > Cognition and working principle of instrument cluster
- Cognition and working principle of combination switch
- > Cognition and working principle of headlight switch
- > Cognition and working principle of headlight assembly
- Cognition and working principle of tail light assembly
- Cognition and working principle of emergency light switch
- Cognition and working principle of turn signal
- Cognition and working principle of fog lights Cognition and working principle of the reversing light switch
- Cognition and working principle of brake light switch
- Cognition and working principle of reading lights
- Cognition and working principle of license plate light

Project 2: Lighting system fault diagnosis and troubleshooting

- Troubleshooting of low beam lights
- > Troubleshooting of high beam lights
- > Troubleshooting of width indicator light
- > Steering; Troubleshooting of Emergency Lights
- Troubleshooting of fog lights
- Reading lamp troubleshooting
- Brake light troubleshooting
- Troubleshooting of reversing lights



NEW ENERGY VEHICLE COMFORT SYSTEM TRAINING PLATFORM

Order Code - NEE84

Product Introduction

The comfort system training platform is designed and developed by our company based an the Volkswagen ID.4 new energy pure electric vehicle comfort system. The comfort system training platform and the lighting system training platform must be used in conjunction to complete the new energy vehicle central door locking system, electric rearview mirror, window lift control system, one-button start structural awareness, detection, diagnosis and maintenance, etc. Practical training teaching and assessment.

Students can directly perform relevant circuit fault simulation settings through the fault setter on the training platform. After fault simulation, students can directly measure signals on the corresponding detection terminals of the detection panel on the training platform, The comfort system training platform can meet the needs of detecting, diagnosing and repairing locking and antitheft systems; detecting, diagnosing and repairing body comfort systems; detecting, diagnosing and repairing infotainment systems; detecting, diagnosing and repairing practical training



and teaching in network-connected architecture learning situations assessment.

Technical Specifications

- > The dimensions of the whole machine are 1900"700"°1 700mm
- > Teaching panel size: 1400*730*4mm (length*width*thickness);
- Working voltage: Input AC220V 50HZ Working: OC/12V

Practical Training Function

- > Cognitive fuse relay detection and diagnosis training teaching and assessment
- > Detection and diagnosis of window lift inoperability, practical training, teaching and assessment
- > The electric rearview mirror cannot be adjusted. Detection and diagnosis training teaching and assessment
- > Central door lock working abnormality detection and diagnosis practical training teaching and assessment
- > One-click Start of practical training teaching and assessment of functional failure detection and diagnosis
- > The central display screen cannot display the detection and diagnosis training teaching and assessment
- > The diagnostic system cannot communicate with the detection and diagnosis training,

EQUIPPED WITH LIGHTING SYSTEM TEACHING RESOURCES



Software Interface

Composition Of Teaching Resources Project 1. System cognition

- Battery awareness
- > Awareness of the ignition switch
- Cognition and working principle of fuse box
- Cognition of main body ECU
- > Cognition and working principle of window glass regulator
- Cognition and working principle of car door lock assembly
- Cognition and working principle of the main switch of the window lifter

Composition Of Teaching Resources

Project 2: Lighting system fault diagnosis and troubleshooting

- > Troubleshooting when the diagnostic instrument cannat communicate
- > Troubleshooting when the left front window motor is not working
- Troubleshooting of poor left rear door lock
- Troubleshooting when the left reardew mirror does not work
- Troubleshooting when the right rearview mitror does not work



NEW ENERGY VEHICLE STRUCTURE COGNITION AND DISASSEMBLY AND ASSEMBLY SIMULATION TEACHING SOFTWARE

Order Code - NEE85

Overall Design Requirements

- The various models provided by the scene need to be modeled according to 1:1, which is closer to reality
- The software can observe a variety of models, and observe the details of each part in detail from multiple angles through operations such as translation, rotation, 200m in, and zoom out
- The software can learn, disassemble and assemble, and demonstrate principles of various components of new energy vehicles
- The simulation scene operation has corresponding step text prompts, voice prompts, precautions, error prompts, model edge highlighting during disassembly and assembly, etc.



- The disassembly and assembly training scene needs to contain supporting maintenance tools, mainly including: lift, parts truck, complete vehicle, wheel blocks, interior three-piece set, fender cloth/frant grille cloth, tire rack, Power lift vehicles, etc.
- Click the disassembly button in the software to disassemble the components and explain each part individually and explain the working principle of new energy vehicle components through a 30 model animation demonstration in a virtual reality environment.

NEW ENERGY VEHICLE BATTERY VIRTUAL PRINCIPAL SIMULATION TEACHING SOFTWARE

Order Code - NEE86



Overall Design Requirements

- > Teachers can use the software to conduct demonstration teaching, and students can use the software to practice independently.
- > A virtual training system that can be carried out locally on the computer.
- > The experiment runs smoothly, and the realtime running frame number is not less than 25 frames/second.
- The software is developed using the world's leading 3D engine and adopts C/S architecture to enable smooth 3D virtual interactive operations.
- > The system provides 4 step prompt function during. the

training process. Through step-by-step text prompts, it can inspire students to think and guide students to operate.

- > The system developed car farms to the following principles: security, practicality, openness, scalability, standardization, and ease of operation.
- Model according to 1:1, and the operating procedures of various instruments must be close to reality.
- Roaming: It can realize independent control and roam along any path in the virtual environment, with high simulation degree.
- > Simulation scene: Use virtual reality technology to simulate the entire scene.
- > Sound prompts: Sound prompts are added to the scene to improve the fun and operability of the experiment.
- > Meet the requirements of practical operation training and be able to operate safely and for 4 long period of time.

NEW ENERGY VEHICLE MOTOR VIRTUAL STRUCTURE PRINCIPAL SIMULATION TEACHING SOFTWARE

Order Code - NEE87

Overall Design Requirements

- Teachers can use the software to conduct demonstration teaching, and students can use the saftware to practice independently.
- A virtual training system that can be carried out locally on the computer.
- > The experiment runs smoothly, and the real-time running frame number is not less than 25 trames/second:
- The software is developed using the world's leading 3D engine and adapts C/S architecture to enable smooth 30 virtual interactive operations.
- The system provides 4 step prompt function during the training process. Through Step-by-step text prompts, it can inspire students to think and guide students to operate.





NEW ENERGY MODIFICATION TEACHING VEHICLE SUPPORTING VEHICLE TESTING TRAINING SYSTEM

Order Code - NEE88

Product Introduction

The product consists of a detection module, a manual setting module, a wireless fault collection system, a lossless jumper harness, a display system and the main frame of the bench; Supports two fault setting methods: manual fault setting and intelligent terminal wireless fault setting.

Technical Specifications

- The vehicle fault setting and detection connection platform is developed based on pure electric vehicles and designed according to the standard teaching concept of new energy vehicle fault diagnosis. It is a comprehensive teaching product including software and hardware systems to meet the technical fault diagnosis and practical training of new energy vehicles. need,
- > Configure the original adapter to achieve lossless and fast connection with the entire vehicle.
- Able to perform low-voltage power management of new energy vehicles such as body electrical module (BCM), battery management (BMS), motor control (PEU), air conditioning system module (thermal management), on-board charger (OBC), fast charging interface, and slow charging Interface, vehicle control unit (VCU), chassis management electronic handbrake control system, electronic power steering system and other system testing.
- On the detection panel, the socket measurement function completely follows the same pin arrangement and shape of the original car module and the wiring harness plug terminal, and multi-dimensional measurement is interactive in real time.
- > It has wireless fault setting function, with a single fault point of no less than 100 channels.
- Fault settings such as line breakage, excessive line resistance (i.e, series resistance), line-to-positive grounding, line-to-graund grounding, and line channeling on a single component plug can be quickly performed on the back of the platform (the number of fault points is not less than 200 route),

Practical Tasks That can Be Practiced

Project 1: Routine maintenance of new energy vehicles

- > Task 1: The necessity of new eneray vehicle maintenance and car owners' self-maintenance projects
- > Task 2: Routine maintenance projects in new energy vehicle stores

Project 2: Regular maintenance of new energy vehicles

> Task 1: Maintenance cycles and contents of pure electric vehicles

Project 3: Fault diagnosis of new energy vehicles

- > Task 1: Operation and fault diagnosis process of new energy vehicle diagnostic equipment
- > Task 2: Troubleshooting high-voltage drive components
- > Task 3: New energy vehicle troubleshooting
- > Task 4: Troubleshooting of charging system
- > Task 5: Troubleshooting the battery management system
- > Task 6: Troubleshooting of vehicle controller
- Task 7: Troubleshooting of vehicle electrical power distribution system





NEW ENERGY MODIFICATION TEACHING VEHICLE SUPPORTING VEHICLE CONTROL SYSTEM AND MAINTENANCE TRAINING PLATFORM

Order Code - NEE89



ahi de concertionvellide testino tranino system

Product Functions

- > The vehicle is normal under all working conditions and can start, drive, and operate various system functions, etc.; it can read vehicle information, code query, read fault codes, high-voltage data flow, and execute component testing through the original factory diagnostic computer and diagnostic socket, Other test functions are truly close to the work and content of the maintenance front line.
- > High-voltage maintenance based on the entire vehicle can truly reflect the diagnosis and maintenance status. When implementing the diagnostic maintenance process as a standard, it is necessary to place high-voltage warning lines and high-voltage warning signs on the high-voltage system to demonstrate maintenance professionalism and high-voltage safety awareness.
- In order to ensure the efficient operation of the equipment, the battery management system (BMS), AC charging unit (OBC), and motor controller (M1) are directly designed for dedicated external connections. After vehicle modification, rapid measurement and diagnosis module replacement can be achieved through lossless connections.

Practical Training Function

- > Practical training, teaching and assessment on vehicle system cognition and use of maintenance manual.
- > New energy vehicle diagnosis and data flow reading practical training teaching and assessment.
- > Guided functional query and high-voltage system data training, teaching and assessment.
- > Practical training teaching and assessment of vehicle failure diagnosis and maintenance.
- Practical training teaching and assessment of fault diagnosis and maintenance of the vehicle that cannot be powered on.
- > Practical training teaching and assessment of vehicle inoperability fault diagnosis and maintenance.
- > Practical training, teaching and assessment of vehicle electrical system fault diagnosis and maintenance.

Product Specifications

- > The dimensions of the whole machine are 1500*700*1700mm (length*width*height)
- > Teaching panel size: 1400*730*4mm (length*width*thickness)



NEW ENERGY VEHICLE BATTERY PACK TEST TRAINING PLATFORM

Order Code - NEE90

Product Introduction

Based on automobile parts, it can perform power management core component detection system, single cell capacity classification, sorting, battery module assembly, system assembly functional verification, etc., to meet the needs of cognitive testing and daily teaching and training. New energy vehicle power management system diagnosis.

Product Functional Requirements

Equipped with a special assembly and adjustment insulation workbench, parts assembly and line connection training of the power management system can be carried out on the insulation workbench.



- The lithium iron phosphate power battery is equipped with a special base and connection terminals to meet the repeated disassembly and assembly training of the power battery. Using 6 single cells as a unit module, there are 4 modules in total.
- Using vehicle-grade maintenance switches, maintenance switch assembly and circuit wiring training can be carried out;
- The BMS management system adopts the national standard communication protocol to dynamically collect data such as 24-cell cell voltage and battery pack temperature in real time. It uses data bus, touch screen, and digital software to collect SOC value, cell voltage, charging capacity, discharge current, and power battery data. The total voltage, temperature and other data of the group are transmitted to the 10-inch multimedia terminal display, and the data can be displayed dynamically in real time.
- > The internal resistance tester can be used to sort single cells, and the battery balancer can be used to perform balance training of single cells.
- Equipped with national standard charging interface and vehicle charging module, the charger can be installed and adjusted, After installation and debugging, the system can be charged through the charging pile.
- Equipped with charging and discharging high-valtage contactors, teaching and training on high-voltage contactor installation and wiring can be carried out.
- Equipped with OC/DC module, DC/DC module installation and wiring teaching and training can be carried out.
- Equipped with precharge resistor and precharge contactor, teaching and training of precharge circuit wiring can be carried out.



Disassembly and Assembly Tools



Supporting

Consumables



Detection Tools

Supporting Consumables



NEW ENERGY VEHICLE POWER BATTERY BMS MANAGEMENT AND AC/DC CHARGING TEACHING PLATFORM

Order Code - NEE95



New Energy Pack Battery Intelligent Integrated Teaching And Training System

AC/DC Charging Intelligent Training Platform

Product Functions

The power battery pack testing training platform is based on new energy vehicle component and can perform power management system core component testing, single battery capacity classification, sorting, battery module assembly, system testing, function verification, etc. It meets the daily teaching needs for new energy vehicle power management system cognitive testing and diagnosis teaching and training.

Product Composition

The system consists of a lithium iron phosphate battery box, a battery management system (BMS battery management system includes a main board and a cluster board, an intelligent on-board charger (OBC), a DC/DC Conversion module, a charging relay, a total positive relay, a total negative relay a DC pre-charge relay a DC relay, a OC pre-charge resistor, a pre-charge relay, a precharge resistor, 2 Manual maintenance swatch (MSD), a Hall current sensor, an ignition switch, a touch screen, a WINDOWS host computer, a national standard mode 2 charging gun, a national standard AC charging seat, a national standard DC charging seat, 12V starting battery, and a detection panel It 5 equipped with a 43-inch touch all-in-one computer, an intelligent fault setting system, a smart detection terminal, and disassembly and assembly detection tools,

Teaching and Training Tasks

- > Sorting of single cells
- > Assembly of battery modules
- > Power management system component inspection
- Battery management system
- > Installation of maintenance switch
- Installation of onboard charger and charging socket
- Installation of high-voltage contactor
- Installation of current sensor
- Installation of BMS module
- Installation of DC/DC module
- Installation of pre-charge resistor and pre-charge contactor



Product Specifications

- Battery pack voltage : DC 76.8V
- > High voltage contact specifications: Battery pack output 120A, charging and pre-charging 30A
- > Working voltage: DC 12V
- Standard size: 1600*850*1700 (mm)

Product Requirements

The AC/DC charging intelligent platform needs to be equipped with national standard AC charging and OC charging modules, which can charge the training platform or system with AC or DC. And intelligent fault setting system.

Teaching Takes

- Be able to judge the power of the charging pile according to the nameplate or charging qun head-of the charging pile.
- > Be able to master the internal structure of the AC charging pile and the connection status of each component.
- > Be able to master the internal structure of the DC charging pile and the connection status of Each component.
- Be able to master the working principle of each component inside the AC charging pile and the role of each module.
- > Master the working principle and control principle of the AC charging pile.
- > Master the working principle and control principle of the DC charging pile.
- > Be able to analyze common faults according to the changes in various data streams of the charging pile.
- > Fault diagnosis and analysis of over voltage and undervoltage of the input of the AC charger.
- > Fault diagnosis and analysis of over voltage and under voltage of the output of the AC charger.
- > Fault diagnosis and analysis of poor communication of the AC meter.
- > Fault diagnosis and analysis of poor communication of the DC meter.
- > Fault diagnosis and analysis of poor communication of the AC and DC contactor.
- > Fault diagnosis and analysis of poor communication of the AC and DC emergency control.
- > Fault diagnosis of overheating of AC and OC charging.
- > Be able to master the communication principle of AC and DC charging piles.

Product Specifications

- Equipment size: 7600*850*1700mm
- > Equipment temperature: Working temperature: -20°~+40°



INTELLIGENT TESTING PLATFORM FOR NEW ENERGY HIGH-VOLTAGE ELECTRIC CONTROL ASSESSMENT SYSTEM

Order Code - NEE96

Product Requirements

The intelligent test platform of the new energy high-voltage electric control assessment system conducts multi-degree-of-freecom simulation tests on new energy vehicles. The simulation can more intuitively observe various systems and various actions and phenomena of various working conditions through the test bench, and measure the vehicle simulation working condition test through the host computer. Let the students have a deeper understanding of the mechanism and control strategy of new energy vehicles.

The test bench can be used as a verification test platform for the development of the three electric system of new energy vehicles, which is of great help to improve the development capabilities of engineers and complete the three-electric joint debugging experiment.

Features

- The new energy vehicle electrical control system test bench is a customized device for simulating the new energy vehicle electronic control system, which is used in the research and development, teaching and practice of the new energy electric vehicle. The bench contains the three core electronic controls of new energy vehicle, the vehicle controller VCU, the motor controller MCU, and the battery management system BMS, and provides the hardware schematics and software source code of the VCU MCU BMS respectively. Student or engineers can modify the code based on the software and hardware platform for the secondary development and verification.
- It has 36 strings of lithium iron phosphate batteries and is equipped with a self-developed BMS, which can complete the BMS's function of the monitoring the voltage, temperature and current of lithium batteries.
- It contains a motor-to-motor platform with the ability to run the motor in four phases. The motor-to-motor platform is equipped with a dynamic torque sensor that can dynamically measure the torque, speed, power, efficiency and other key parameters of the motor.
- The VCU MCU BMS of the bench adopts the industry-leading V-shaped development process, and the algorithm part is modeled in MATLAB and generates code. It meets the requirements of rapid development and iteration in the automotive industry. Equipped with wireless fault setting system, intelligent detection terminal and other software to enable



Composition of the New Energy Test Bench

- The new energy test bench is built based on real automobile parts and aluminium and iron materials to simulate the body.
- The operation panel adopts a simulation teaching-style easy-to-understand operation panel, integrating various operation switches and analog knobs to achieve the test of some special working conditions.
- The new energy vehicle controller adopts the self-developed, advanced NXP 32-bit MPC5744 as the mein chip for modeling and development

Technical Requirements

- > The test bench controller can complete data monitoring on the host computer.
- The test bench can simulate various working conditions.
- The control panel has corresponding working indicator lights and measuring holes, and the working order and status of each workpiece can be understood according to the indicator lights: The actual voltage of the wires on the schematic diagram can be measured with a multimeter according to the measuring port.
- > The schematic diagram on the operation panel needs to be linked to the physical controller.



Anatomical Cut Models



Order Code - ACM200

Recirculating Ball Power Steering Gear Anatomical Model



Order Code - ACM201

Rack and Pinion Steering Gear Anatomical Model



Order Code - ACM204

High Pressure Oil Pump Anatomical Model



Order Code - ACM206

Electrically Controlled Fule Pump Anatomical Model



Order Code - ACM207

Turbocharger Anatomical Model



Order Code - ACM208

Starter Anatomical Model



Exhaust Gas Recirculation

Anatomical Model

Order Code - ACM213

Torque Converter

Anatomical Model



Order Code - ACM210 Order Code - ACM211

Three-Way Purifier Anatomical Model





Planetary Gear Transmission Anatomical Model



Throttle Valve Anatomical Model



Order Code - ACM215

Caliper Disc Brake Anatomical Model



Order Code - ACM216

Drum Brake Anatomical Model



Order Code - ACM217

Main Reducation Differential Anatomical Model





Order Code - ACM218

Anatomical Model of Suspension Assembly with A-Arms, Drive Shaft and Disc Brakes



Order Code - ACM223

Pure Electric Vehicle Motor Anatomical Model



Order Code - ACM224

Air Conditioning Compressor Anatomical Model



Order Code - ACM225

Air Suspension Assembly Anatomical Model



Order Code - ACM231

Cylinder Head Anatomy Model



Order Code - ACM240

Automotive Manual Transmission Anatomy



Order Code - ACM241

Automotive Automatic Transmission Anatomy Trainer



Order Code - ACM258

Electric Car Cutaway Didactic Equipment



CUSTOM ATLAS OF TEACHING INSTRUMENTS

Automotive Training Overall Solution Designer

Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India, Tel: +91-9829132777; Email: info@tesca.in, tesca.technologies@gmail.com Website: www.tescaglobal.com

