

**Product Name :**  
Electronic and Electric Drive Training System for Electrotechnics

**Product Code :**  
CIVIL-EET-165-0001



**Description :**

Electronic and Electric Drive Training System for Electrotechnics

**Technical Specification :**

**Overview of the electronic and electric drive training system**

This system is designed for training with and studying analog and digital electronics, circuit principles and motor drag experiments. The training system consists of two parts, a workbench (including the power control panel) and experimental modules.

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## Technical parameter of the electronic and electric drive training system

Input power : three-phase, five-wire 380V $\pm$ 10% 50Hz/60Hz

Output power : AC 0~450V , AC 380V , AC 220V , DC 1.25 ~30V Two-way adjustable DC power supply,  
DC 0 ~ 500mA Adjustable constant current source , AC 0~ 30V safety terminal output

Working environment : temperature -10 $^{\circ}$  ~ +40 $^{\circ}$  , relative humidity <85% (25 $^{\circ}$  ) , Altitude <4000m

Capacity : < 1.5kVA

Motor power : < 180W

Wireless power control distance : > 50m (Optional functions)

Total dimension : 1670 $\times$ 800 $\times$ 1750mm

## Optional components

Oscilloscope

Multimeter

Signal source

Training Content?

Electrotechnic experiments

1. Basic electrotechnics instrumentation use and measurement error calculation
2. How to reduce instrument measurement error
3. Mapping of linear and nonlinear circuit elements voltage characteristics
4. The measurement of potential, voltage and drawing of circuit, potential
5. Kirchhoff's law verification
6. Superposition theorem verification
7. Equivalent transferring of voltage source and current source
8. Thevenin theorem verification
9. Norton Theorem verification
10. Dual-port network test

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11. The experiment researching of controlled source VCCS, VCVS, CCVS, CCCS
  12. The observation and measurement of typical electrical signal
  13. RC first order circuit response test
  14. Second order dynamic circuits response test
  15. R, L, C component impedance characteristic test
  16. R C series and parallel connection frequency selective network characteristic test
  17. R, L, C series connection resonant circuit research
  18. Measure AC circuit equivalent parameters with Three-meter method
  19. Study sinusoidal steady AC circuit phasor (fluorescent power factor improvement experiments)
  20. Mutual inductance circuit experiment
  21. The testing of single-phase core transformer features
  22. Three-phase AC circuit voltage, current measuring
  23. Three-phase circuit power measurement
  24. Single-phase watt hour meter calibration
  25. Negative impedance converter and application
  26. Gyrator and application
  27. Power traction experiment:
  28. Direct start controlling of three-phase asynchronous motor
  29. Three-phase asynchronous motor contactor inching control circuit
  30. Three-phase asynchronous motor contactor self-locking control circuit
  31. Y- $\Delta$  start automatic control circuit
  32. Three-phase asynchronous motor contactor with button interlocking reversing control circuit
  33. Three-phase asynchronous motor energy consumption braking control circuit
  34. Without transformer half-wave rectification circuit energy consumption braking control circuit
  35. With transformer full-wave rectification energy consumption braking control circuit
  36. Sequence control of three phase asynchronous motor
  37. Multi control of three phase asynchronous motor

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38. Simulate the workbench auto back and forward control circuit
  39. Electronic Experiment:
  40. Amplifying circuit
  41. Negative feedback amplifying circuit
  42. Emitter follower
  43. Common emitter amplifier circuit
  44. Common collector amplifier circuit
  45. Common base amplifier
  46. Complementary symmetry power amplifier
  47. The basic parameters test of the integrated operational amplifier
  48. Integrated addition circuits
  49. Integrated subtract circuits
  50. Integrated integral circuits
  51. Integrated differential circuit
  52. Proportion summation circuit
  53. Integrated op-amp first-order active filter
  54. Voltage comparator research
  55. Waveform generating circuits
  56. Active Filter
  57. Integrated power amplifier
  58. Integrated circuit RC sinusoidal oscillator
  59. Rectifier filtering and regulator circuit
  60. Series regulator circuit
  61. Integrated regulator
  62. Waveform conversion circuit
  63. Transistor switching characteristics, the limiter and clamper

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64. Logic functions and parameters test of the TTL integrated logic gates
  65. The logic functions and parameters test of CMOS integrated logic gate
  66. Combinational logic circuit
  67. Trigger
  68. Sequential Circuits Testing and Research
  69. Utilize gates circuits to generate a pulse signal
  70. 555 time-base circuit

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