



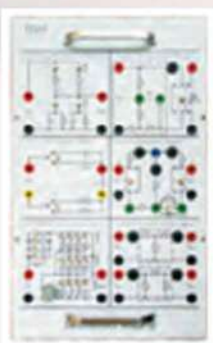
Electrotechnics Theory, Electric Traction, Digital & Analog Circuit Trainer

Equipment Overview

- This trainer provides a comprehensive platform for multilevel skills training, which covers teaching courses of 'Fundamental Theory of Electrical Engineering' and 'Electrotechnics', 'Digital Circuit', 'Analog Circuit', 'Electromechanics', 'Motor and Electric Traction', 'Motor Control', 'Relay Touch control', etc.
- Users can select different configurations to achieve multiple level training, there are four levels in total.
- The hanging type experimental panels are all painted with schematic diagram and symbol on front and welded with related components and parts on the other side. Locking type connectors are adopted for these parts that need to be measured or observed. The experimental circuit is unit circuit mode designed, each unit circuit is based on basic circuit, by connecting different elements or combining different circuits, user can practice various training contents on this trainer.
- The frame structure is made of 1.2mm thickness aluminum alloy, coming with circular arc transition interface and trapezoid design. The metal surface is acid cleaned, phosphate treated and epoxy resin powder coated, which is heat/erosion resisting.
- The table top adopts high-density fire-proof plate and the table bottom is equipped with movable and lockable truckles for easy movement.
- The experimental instruments are all digital display, with the characteristic of high accuracy. The power and instruments adopted for this trainer are set with reliable personal safety protection system.

Technical Parameter

1. Dimension:
Table 1500mm×700mm×830mm (approx.)
Panel bench 1410mm×240mm×895mm (approx.)
2. Working power supply: AC 380V ±5%, 50Hz
3. Input power: <1.5KVA
4. AC power output: Three phase 0~450V, single phase 0~250V continuously adjustable, voltage and current indication



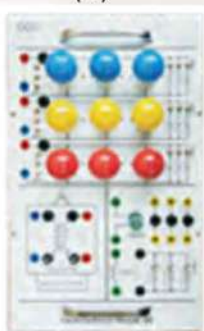
(1)



(2)



(3)



(4)



(5)

Experimental Hanging Panel

- ① Electrotechnics training panel (DG-01)
- ② Electrotechnics training panel (DG-02)
- ③ Electrotechnics training panel (DG-04)
- ④ Electrical components panel (DG-03)
- ⑤ Relay control panel (DT-01)
- ⑥ Relay control panel (DT-02)
- ⑦ Analog circuit panel (MD-01)
- ⑧ Digital circuit panel (SD-01)



(6)



(7)



(8)

Note :
Due to keeping innovation,
the specification and
Machine pictures or color
are subject to alteration
without notice!



Training Content

Electrotechnics Theory Training Content

- Basic electrotechnical instrument usage, calculation of measuring error
- Method to reduce instrument measuring error
- Instrument (Voltmeter/Ammeter) measuring range extension experiment
- Voltage current characteristic mapping of linear circuit and nonlinear circuit element
- Potential, voltage measurement and circuit potential diagram drawing
- Kirchhoff's law verification and its failure diagnosis
- Superposition principle verification and its failure diagnosis
- Equivalent transformation of voltage source and current source
- Thevenin theorem verification
- Norton theorem verification
- Maximum power transmission condition measurement
- Two-port network experiment
- Reciprocal theory experiment
- Controlled source experiment research
- Typical electrical signal observation measurement
- RC first order circuit response test
- Second order dynamic circuit response research
- R,L,C element impedance characteristic measurement
- RC serial-parallel frequency selective network characteristic test
- R,L,C series resonant circuit research
- RC double-T frequency selective network
- Circuit state trajectory observation
- R,L,C element characteristic and alternating current parametric measurement
- Sinusoidal steady state AC circuit phasor research
- Mutual inductance experiment
- Single phase iron core transformer characteristic test
- Three phase AC circuit voltage and current measurement
- Three phase circuit power measurement
- Single-phase kilowatt hour meter validation
- Power factor and phase sequence measurement
- Negative impedance converter and its application
- Gyration and its application

Electric Traction Training Content

- Inching control circuit of contactor
- Self-locking control circuit of contactor
- Inching control and self-locking control circuit
- Contactor interlocked forward and reverse control circuit
- Button interlocked forward and reverse control circuit
- Contactor and button double-interlocked forward and reverse control circuit
- Starting sequence control circuit (I)
- Starting sequence control circuit (II)
- Stopping sequence control circuit
- Remote and local control circuit
- Manual contactor controlled series resistor reduction voltage starting circuit
- Time relay controlled series resistor reduction voltage starting circuit
- Contactor controlled Y- Δ reduction voltage starting circuit
- Time relay controlled Y- Δ reduction voltage starting circuit
- Asynchronous motor energy consumption braking control circuit
- Electrical control of C620 lathe

Analog Circuit Training Content

- Common electronic instrument usage
- Simple diode test
- Triode transistor in-pot characteristic test
- Single stage amplifying circuit
- Two-stage amplifying circuit
- Negative feedback amplifier circuit
- Emitter follower
- Differential amplifier circuit
- Field-effect tube amplifier
- RC sine wave oscillating circuit
- LC oscillator and frequency-selective amplifier
- Integrated operational amplifier basic parameter testing
- Integrated operational amplifier proportion summing circuit
- Integrated operational amplifier integrating differentiating circuit
- Integrated operational amplifier voltage comparator circuit
- Waveform generator
- Active filter
- Integrated power amplifier
- Complementary symmetry power amplifier
- Integrated voltage stabilizer
- Series voltage stabilizing circuit
- Thyristor controlled rectifying circuit

Digital Circuit Training Content

- Transistor switching characteristic, limiter and clamper
- Logical function and parameter test of TTL integrated logic gate
- Logical function and parameter test of CMOS integrated logic gate
- Integrated logical circuit connection and drive
- Combinational logic circuit design and test
- Code translator and its application
- Flip-flop and its application
- Counter and its application
- Shifting register and its application
- Pulse distributor and its application
- Self-excited multivibrator (Gate circuit generating pulse signal)
- Monostable trigger and Schmitt trigger (pulse delay and wave shaping circuit)
- 555 time-base circuit and its application
- Electronic seconds counter
- Digital frequency meter
- Knowledge game responder
- D/A, A/D converter

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