KL-100 LINEAR CIRCUIT LAB (1)-*ELECTRICITY CIRCUIT LAB*

The KL-100 LINEAR CIRCUIT LAB (1) — *ELECTRICITY CIRCUIT LAB* is a comprehensive and self-contained system suitable for tuition and experimentation with electricity circuits.
All necessary equipments for electricity circuit experiments such as power supply, function generator, analog and digital meter are installed on the main unit.
The 11 modules covers a wide variety of essential topics in the field of electricity circuit. It is indeed a time and cost saving system for both students and researcher interested in training, developing and testing circuit prototypes.

- ***Ideal for eletricity circuit experiments and design exercises.***
- ***Integrated trainer, with complete curriculum.***
- ***Complete with power supplies and test systems for easy and efficient experimentation.***
- ***Universal breadboard (1680 tie points) for circuit design and prototyping.***
- ***All modules equipped with an 8-bit DIP switch for fault simulation.***

Storage cabinet for easy storing all modules.

SPECIFICATIONS

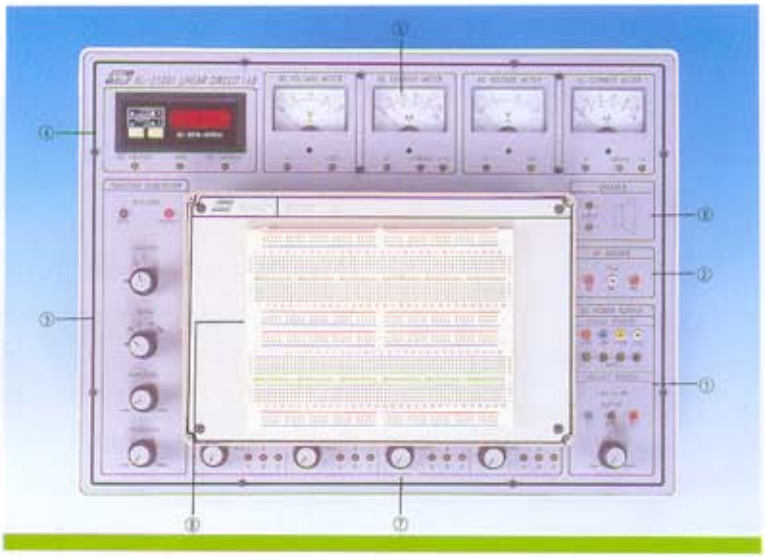
MAIN UNIT(KL-21001)

① DC POWER SUPPLY

A. Fixed DC Power Supply
(1). Voltage Range : ±5V, ±12V
(2). Maximum Current Output : 0.3A
(3). With output overload protection.

B. Dual DC Power Supply
(1). Voltage Range : ±3V ~ ±18V, continuously adjustable
(2). Maximum Current Output : 1A
(3). With output overload protection.

LINEAR CIRCUIT LAB (1) -*ELECTRICITY CIRCUIT LAB* KL-100



② AC POWER SUPPLY
(1). Voltage Range : 3V~0V~9V
(2). Maximum Current Output : 500mA
(3). With output overload protection.

③ SIGNAL GENERATOR

A. Function Generator
(1). Output Waveform : Sine, Square and Triangle.
(2). Output Frequency : 10 Hz~100 KHz, 4 settings, continuously adjustable.
(3). Accuracy : ±5% of full scale value.
(4). Output Impedance : 50Ω
(5). Output Voltage : ≥18Vp-p (open loop); ≥9Vp-p (with 50Ω load).

④ 3 1/2-DIGIT DIGITAL VOLTMETER/AMPMETER

A. DC Voltage Range : 2V, 200V
B. DC Voltage Accuracy : ±0.3% of reading + 1 digit
C. DC Current Range : 200μA, 2000mA
D. DC Current Accuracy : ±0.5% of reading + 1 digit

⑤ ANALOG METERS

A. AC Current : 0 ~ 100mA ~ 1A
B. AC Voltage : 0 ~ 15A
C. DC Current : 0 ~ 100mA ~ 1A
D. DC Voltage : 0 ~ 20V

⑥ SPEAKER

one 8Ω, 0.25W speaker with driver circuit.

⑦ VARIABLE RESISTORS

A. 1KΩ, 0.25W variable resistor with 3 terminals (A,B,C).
B. 10KΩ, 0.25W variable resistor with 3 terminals (A,B,C).
C. 100KΩ, 0.25W variable resistor with 3 terminals (A,B,C).
D. 1MΩ, 0.25W variable resistor with 3 terminals (A,B,C).

⑧ BREADBOARD (AC-90001)

1680 tie-point breadboard on top panel can be easily put into and taken off.

⑨ ACCESSORIES

A. Connect Lead: 2mm-0.65mm, 300mmL 6pcs.
B. User's Manual D. AC Cord
C. Fuse E. Anti-Dust Cover

EXPERIMENT MODULES

1. 11 modules,each module is equipped with an 8-bit DIP switch for fault simulations. Students can practice trouble shooting by setting the DIP switch to different positions.
2. Detailed solution for the simulated faults are included in the Instructor's manual.
3. All terminals on the modules accept 2mm plugs.
4. Comprehensive experiment and instructor's manual.
5. Module dimension: 255 × 165 × 30mm.

MODULES AND THE EXPERIMENTS THEY PERFORM


KL-13001: Basic Electricity Experiments Module


KL-13002: Magnetism Element Introduction Module


KL-13003: Magnetic Field Module


KL-13004: Ampere's Rule Module

KL-100 LINEAR CIRCUIT LAB (1)-*ELECTRICITY CIRCUIT LAB*

KL-13005: Fleming's Rule Module

KL-13006: Electromagnetic Induced

KL-13007: Electronic Circuit Fundamental Experiments Module

KL-13008: Basic Electronic Circuit Experiments (1)

KL-13009: Basic Electronic Circuit Experiments (2)

KL-13010: Special Electronic Components Experiments Module

KL-13011: Oscillator Experiments And Applications Module

LIST OF EXPERIMENTS

1. Experiments for Basic Electricity

1-1	DC Voltage Measurement	KL-21001
1-2	Using An Ohmmeter	KL-13001
1-3	Resistor Characteristics	KL-13001
1-4	DC current Measurement	KL-13001
1-5	Ohm's Law	KL-13001
1-6	Power in DC Circuit	KL-13001
1-7	Series-Parallel Network and Kirchhoff's Law	KL-13001
1-8	Superposition, Thevenin's and Norton's Theorems	KL-13001
1-9	Maximum Power Transfer Theorem	KL-13001
1-10	DC RC Circuit and Transient Phenomena	KL-13001
1-11	AC Voltage Measurement	KL-13001
1-12	AC Current Measurement	KL-13001
1-13	AC RC Circuit	KL-13001
1-14	AC RL Circuit	KL-13001
1-15	AC RLC Circuit	KL-13001
1-16	Power in AC Circuit	KL-13001
1-17	Transformer Characteristics	KL-13001
1-18	Series-Resonant Circuit	KL-13001
1-19	Parallel-Resonant Circuit	KL-13001
1-20	LC Filter	KL-13001

2. Experiments for Magnetism

2-1	Magnetic Devices	KL-13002
2-2	Magnetic Field	KL-13003
2-3	Drawing Magnetic Curves	KL-13003
2-4	Magnetic Field Strength	KL-13003
2-5	Lenz's and Faraday's Laws	KL-13003
2-6	Ampere's Rule	KL-13004
2-7	Fleming's Rule	KL-13005
2-8	Self Induction	KL-13006
2-9	Mutual Induction	KL-13006
2-10	Magnetic Flux Detection	KL-13006

3. Experiments for Basic Electronic Circuits

3-1	Diode Characteristics	KL-13007
3-2	Rectifier Circuit	KL-13007
3-3	Filter Circuit	KL-13007
3-4	Zener Diedo Characteristics	KL-13007
3-5	LED Characteristics	KL-13007
3-6	Transistor Characteristics	KL-13007
3-7	Multimeter Functions	KL-13007
3-8	FET Characteristics	KL-13007
3-9	SCR Characteristics	KL-13007
3-10	UJT Characteristics	KL-13007

4. Experiments for Simple Electronic Circuits

4-1	Simple Amplifier	KL-13008
4-2	Complementary Amplifier	KL-13008
4-3	Voltage Regulator	KL-13008
4-4	Push-Pull Amplifier	KL-13009
4-5	Wheatstone Bridge	KL-13009
4-6	Dimmer Circuit	KL-13008
4-7	Multistage Cascading Amplifier	KL-13008
4-8	Relay Characteristics	KL-13008
4-9	Touch-Controlled Switch	KL-13008

5. Experiments for Industrial Control Applications

5-1	CDS Characteristics	KL-13010
5-2	Light-Controlled Circuit	KL-13010
5-3	Thermistor Characteristics	KL-13010
5-4	Temperature-Controlled Circuit	KL-13010
5-5	Sound Controlled Circuit	KL-13010

6. Experiments for Oscillator Characteristics and Applications

6-1	Blocking Oscillator	KL-13011
6-2	Electronic Birdcall Circuit	KL-13011
6-3	Astable Multivibrator	KL-13011
6-4	LED Flasher Circuit	KL-13011
6-5	LC Resonant Circuit	KL-13011

ACCESSORIES (KL-18001)

A. Experiment Manual
B. Connect Leads: 2mm-2mm, 300mml, 25pcs
C. Connect Plugs: ø2mm 10mmL 10pcs
D. Inductors: (1) 0.5H
(2) 0.1H
E. Magnet: 1pc
F. Key: 1pc