



To train technicians to be able to install and maintain electronic equipment becomes important nowadays. A good technician should follow state-of-the-art technology and rapid products innovation. Our system is intended for the technical education. In fact, KL-500 is adapted to theoretical and practical courses for studying power electronics and industrial electronics.

Features

- Comprehensive study including the theoretical study and practical exercises
 - Use of industrial-type components, devices and circuits
1. Power Supply Unit (KL-51001)
 - ACV Output Voltage : 18V-0V-18V, 0.5A
 - ACV Output Voltage : 12V-0V-12V, 0.5A
 - DCV Output Voltage : +12V, 0.5A
 - DCV Output Voltage : +5V, 0.5A
 2. Meter/Motor Unit (KL-58001)
 - Dual-Scale ACV : 0-110V-220V, class 2.5
 - Dual-Scale ACA : 0-100mA-1A, class 2.5
 - Dual-Scale DCV : 0-10V-20V, class 2.5
 - Dual-Scale DCA : 0-100mA-1A, class 2.5
 - AC110V/220V motor
 3. Isolation Transformer (KL-58002)
 - AC 110V/220V

Experiment Modules

- Generally use 2mm plugs and sockets connected by 2mm or 4mm test leads
- Circuits, blocks and components symbols printed on the surface of each module
- Modules secured in plastic housing, modules in standard DIN A4 equivalent height
- Cabinet provides easy-to-store facilities for all modules
- Comprehensive experiment manuals



Stand feet for easy operation on the Workbench



KL-51001



KL-58001



KL-58002



Cabinet enhances storage facilities of all modules

LIST OF MODULES

KL-53001	UJT Experiments
KL-53002	PUT Experiments
KL-53003	PUT & SCR Experiments
KL-53004	SCS Experiments
KL-53005	UJT & PUT Trigger SCR Experiments
KL-53006	SCR Control DC Motor & DIAC, TRIAC Characteristic Experiments
KL-53007	Automatic Control Lamp & TRIAC Control Speed Experiments
KL-53008	Temperature Ratio & Photo-Couple & Touch Control Experiments
KL-53009	Over/Under-Voltage Breaker & Flasher Control Experiments
KL-53010	TRIAC Liquid Level & IC Timer Switch Experiments
KL-53011	Digital Signal Driver & Zero-Voltage Switch Experiments
KL-53012	Zero-Voltage Switch Experiments
KL-53013	SCR Converter Experiment
KL-53014	SCR Rectifier Circuit Experiment
KL-53015	JFET/MOSFET Characteristic & MOSFET Speed Control Experiment
KL-53016	IGBT Characteristic & IGBT Speed Control Experiment

LIST OF EXPERIMENTS

1. Power Supply Unit Experiment

- (1) AC Voltage measurement
- (2) DC Voltage measurement

2. UJT Experiments (KL-53001)

UJT Characteristic & Equivalent Circuit

- (1) UJT Introduction
- (2) UJT Characteristic
- (3) UJT Equivalent Circuit
- (4) CDS Trigger, RTH Trigger

UJT Oscillator Circuit & Timer Switch

- (1) UJT Relaxation Oscillator
- (2) UJT Timer Switch

3. PUT Experiments (KL-53002)

PUT Characteristic & Equivalent Circuit

- (1) PUT Introduction
- (2) PUT Characteristic
- (3) PUT Equivalent Circuit
- (4) CDS Trigger
- (5) RTH Trigger

PUT Oscillator Circuit & Timer Switch

- (1) PUT Circuit Oscillator
- (2) PUT Timer Switch

4. PUT & SCR Experiments (KL-53003)

PUT Staircase Generator & Voltage Control Ramp Circuit

- (1) PUT Staircase Generator Circuit
- (2) PUT Voltage Control Ramp Circuit

SCR Characteristic & RC Shift Control Circuit

- (1) SCR Principle
- (2) SCR Characteristic Curve
- (3) SCR Construction
- (4) SCR Trigger Mode
- (5) SCR RC Phase Control Circuit

5. SCS Experiment (KL-53004)

SCS Characteristic Experiment

- (1) SCS Construct and Operation Mode
- (2) Use VOM Meter Measure SCS
- (3) SCS Schmitt Circuit
- (4) SCS Simulate PUT Circuit

SCS Trigger Circuit Experiment

- (1) CDS Trigger
- (2) RTH Trigger

6. UJT & PUT Trigger SCR Experiments (KL-53005)

UJT Trigger SCR Phase Control Circuit

- (1) Phase Control Basic Circuit
- (2) Phase Control Analysis
- (3) AC Phase Control Circuit Analysis
- (4) UJT Trigger SCR Phase Control Circuit

PUT Trigger SCR Phase Control Circuit

- (1) PUT Trigger SCR Phase Control Circuit

7. SCR Control DC Motor & DIAC, TRIAC (KL-53006)

Characteristic Experiments SCR Control DC Motor Forward/Reverse Experiment

- (1) SCR Cut-Off Principle
- (2) SCR Control DC Motor Forward/Reverse Control Experiment

DIAC, TRIAC Characteristic Experiment

- (1) DIAC Construction and Characteristic
- (2) DIAC Operation Mode and Measurement
- (3) TRIAC Construction and Characteristic
- (4) TRIAC Trigger Mode
- (5) TRIAC Static Measurement

8. Automatic Control Lamp, TRIAC Control Speed Experiments (KL-53007)

Automatic Control Lamp Experiment

- (1) TRIAC Shift Control
- (2) TRIAC Automatic Control Lamp Experiment

TRIAC Control Motor Speed Experiment

- (1) Different Motor Introduction
- (2) TRIAC Control Motor Speed Experiment



KL-53001



KL-53002



KL-53003



KL-53004



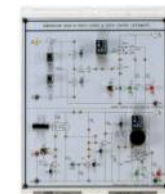
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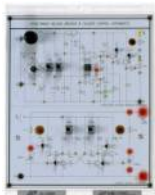
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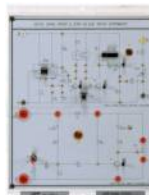
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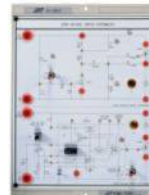
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KL-53010



KL-53011



KL-53012



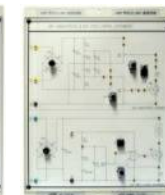
KL-53013



KL-53014



KL-53015



KL-53016

9. Temperature Ratio & Photo-Couple & Touch Control Experiments (KL-53008)

Bridge Temperature Ratio Control Experiment

- (1) Component of Thermal resistor Electronic
- (2) SCR Bridge Temperature Ratio Control Experiment

Photo-Couple & Touch Control Experiment

- (1) Photo-Couple Control Circuit
- (2) FET Construction and Characteristic
- (3) Touch Alarm Circuit

10. Over /Under Voltage Breaker & Flasher Control Experiments (KL-53009)

Over/Under Voltage Breaker Experiment

- (1) OPA Characteristic with Reverse & Non-reverse Circuit
- (2) Voltage Comparison Circuit

Flasher Control Experiment

- (1) Application of TRIAC Power Control
- (2) AC Circuit Control
- (3) Multivibrator

11. TRIAC Liquid Level & IC Timer Switch Experiments (KL-53010)

TRIAC Liquid Level Control Experiment

- (1) Digital Circuit Introduction
- (2) TRIAC Liquid Level Control Experiment

IC Timer Switch Experiment

- (1) NE 555 IC Circuit Introduction
- (2) IC Timer Switch Experiment

12. Digital Signal Driver & Zero-Voltage Switch Experiments (KL-53011)

Digital Signal Driver Control Experiment

- (1) Digital Signal Driver Control Experiment

Zero-Voltage Switch Experiments (1)

- (1) Ideal Half-Wave Zero-Voltage Switch Experiments

13. Zero-Voltage Switch Experiments (KL-53012)

Zero-Voltage Switch Experiments (2)

- (1) TRIAC Zero-Voltage Switch Experiments
- (2) IC Mode Zero-Voltage Switch Experiments

14. SCR Converter Experiments (KL-53013)

- (1) Parallel Converter Introduction
- (2) Series Converter Introduction
- (3) Converter Trigger Source
- (4) Converter Voltage Adjust
- (5) Converter Output-Waveform Improvement

15. SCR Rectifier Circuit Experiment (KL-53014)

- (1) Single-Phase Half-Wave Rectifier
- (2) Single-Phase Full-Wave Rectifier
- (3) Single-Phase Bridge's Rectifier
- (4) Three-Phase Half-Wave Rectifier
- (5) Three-Phase Full-Wave Rectifier

16. JFET/MOSFET Characteristic & MOSFET Speed Control Experiment (KL-53015)

- (1) JFET Characteristic Experiment
- (2) MOSFET Characteristic Experiment
- (3) MOSFET Speed Control Experiment

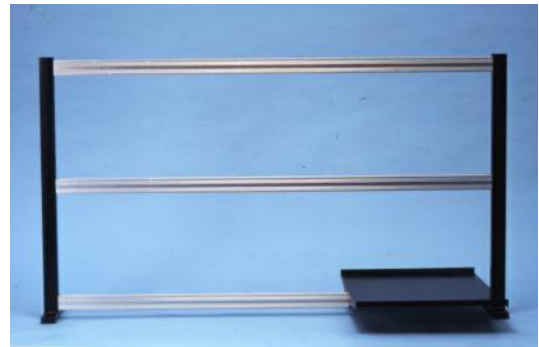
17. IGBT Characteristic & IGBT Speed Control Experiment

- (1) IGBT Characteristic Experiment
- (2) IGBT Speed Control Experiment

18. Accessories (KL-59001)

- (1) Tank x2
- (2) Connect plugs
- (3) Experiment manual
- (4) One set of 2mm-2mm, test leads
- (5) One set of 4mm-4mm, test leads
- (6) Power cord
- (7) Storage Cabinet (KL-99001x2)

19. Option: Rack Frame. (KL-97001)



20. Option : Oscilloscope (20MHz)