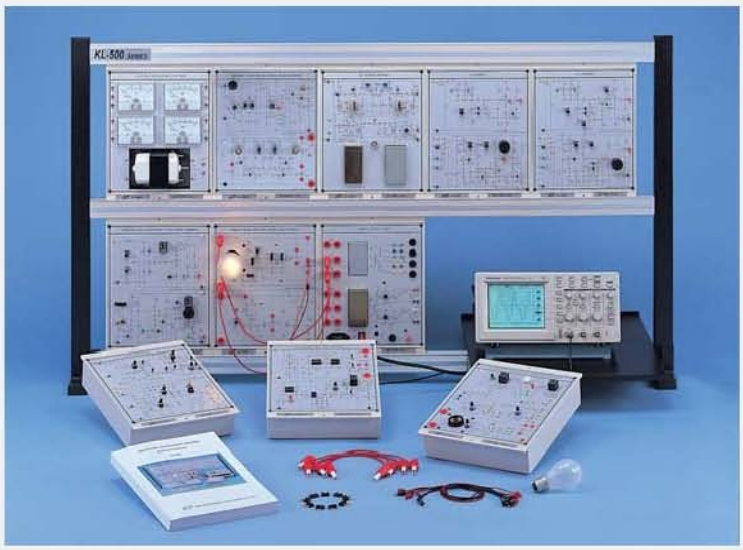
KL-500

INDUSTRIAL ELECTRONICS TRAINER



To train technicians to be able to install and maintain electronic equipment becomes important nowadays. A good technician should always follow state-of-the-art technology and rapid innovation of new products. Our system has been designed to satisfy the technical educational demand. In fact, KL-500 is adapted to theoratical and pratical courses for studying power electronics and industrial electronics trainer.

FEATURES

- Comprehensive study including in the theoretical study and practical exercises
- Use of industrial type components, devices and circuits

1. Power Supply Unit (KL-51001)

(1) ACV Output Voltage : 18V-0V-18V, 0.5A
(2) ACV Output Voltage : 12V-0V-12V, 0.5A
(3) DCV Output Voltage : +12V, 0.5A
(4) DCV Output Voltage : +5V, 0.5A

2. Meter/Motor Unit (KL-58001)

(1) Dual-Scale ACV: 0-110V-220V, class 2.5
(2) Dual-Scale ACA: 0-100mA-1A, class 2.5
(3) Dual-Scale DCV: 0-10V-20V, class 2.5
(4) Dual-Scale DCA: 0-100mA-1A, class 2.5
(5) AC110V/220V motor

3. Isolate Transformer (KL-58002)

(1) AC 110V/220V

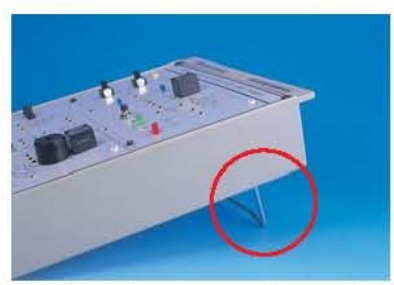
KL-51001

KL-58001

KL-58002

EXPERIMENT MODULES

1. Generally use 2mm plugs and sockets some connected by 2mm or 4mm test leads
2. Circuits, blocks and components symbols printed on the surface of each module
3. Modules secured in plastic housing, modules in standard DIN A4 equivalent height
4. With storage cabinet for all modules to be easily stored
5. Comprehensive experiment manuals



Stand feet for easy operation on the Workbench

Storage cabinet for all modules for easy storage

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


KL-53001


KL-53002


KL-53003


KL-53004


KL-53005


KL-53006


KL-53007


KL-53008


KL-53009


KL-53010


KL-53011


KL-53012


KL-53013


KL-53014


KL-53015


KL-53016

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

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 (KL-53016)

(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)