

POWER ELECTRONICS TRAINER

ED-2040

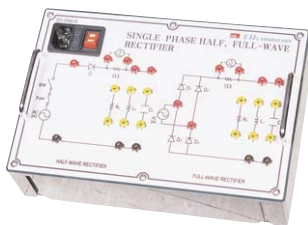
- Covers essential circuits needed to practice power electronics circuits
- Modular type with aluminum carrying case
- Optional rack to be customized upon request



> SPECIFICATIONS

- SCR : GATE DRIVER IC
- IGBT : GATE DRIVER IC
- DIODE : 600V 10A
- IGBT : 1000V 25A
- SCR : 1000V 10A
- **Input Voltage**
 - » AC 220V(single-phase) 60Hz
 - » AC 380V(3-phase) 60Hz
- **Module Size** : 250(W) x 65 (H) x 166(D)mm
- **Rack(Option)** : 1800(W) x 780(H) x 400(D)mm

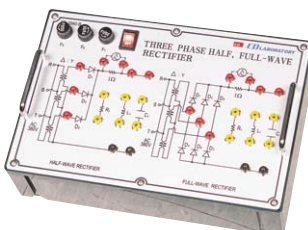
Experimental Modules



ED-2040-A Single-Phase Half Wave/Full Wave Rectification Circuit

To understand the principle and characteristics of Rectification Circuit that converts AC to DC by using the diode characteristics

- **Input Voltage** : AC 220V
- **Output Load** : Resistance load(10W 100Ω)
- **Diode** : 600V 10A
- **Check Terminal** : Input AC waveform, output voltage waveform, output current and diode counter-voltage

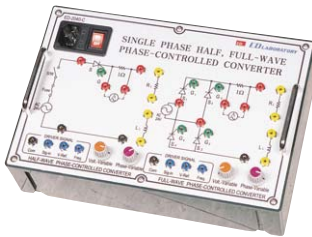


ED-2040-B 3-Phase Half Wave/Full Wave Rectification Circuit

To understand the principle and characteristics of 3-phase Rectification Circuit through the experiment to obtain DC output from 3-phase AC voltage using the diode characteristics

- **Input Voltage** : AC 3-phase 380V
- **Output Load** : 10W 100Ω
- **Diode** : 600V 10A
- **Check Terminal** : Measures input AC waveform, output voltage wave, output current, voltage and current of each phase

Experimental Modules

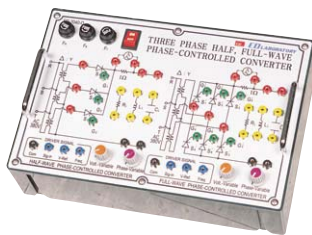


ED-2040-C

Single-Phase Half wave/Full Wave Phase Control Circuit

To understand the principle of phase control and characteristics of SCR through the experiment on SCR characteristics and phase control of Rectification Circuit and Gate Circuit

- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100 Ω
- **SCR Module** : 1000V 10A
- **Drive IC** : SCR Gate Trigger Circuit
- **Check Terminal** : Measures input AC waveform, output voltage waveform, output current and counter-voltage of SCR



ED-2040-D

3-Phase Half wave/Full Wave Phase Control Circuit

To experiment on phase control for SCR characteristics, Gate Circuit and Rectification Circuit, and Control Output's average voltage of output

- **Input Voltage** : AC 3-phase 380V
- **Output Load** : 10W 100 Ω
- **SCR Module** : 1000V 10A
- **Drive IC** : SCR Gate Trigger Circuit
- **Check Terminal** : Measures input AC waveform, output voltage waveform, output current, voltage and current waveform of each phase

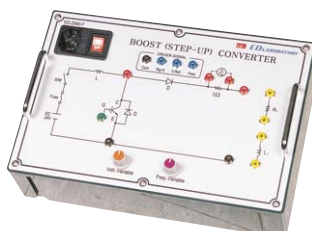


ED-2040-E

Sensible Circuit by IGBT

Experiments on how to control DC load with low output voltage using DC voltage as the power source and characteristic of IGBT which is commonly used as control element, and Drive Circuit

- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100 Ω
- **GBT** : 1000V 25A
- **Drive IC** : IGBT Gate Trigger Circuit
- **Check Terminal** : Measures input voltage, current waveform, output voltage waveform and output current

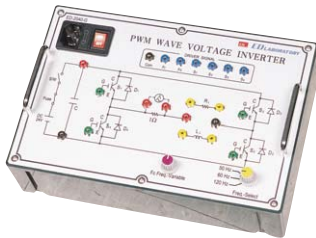


ED-2040-F

Circuit by IGBT

Experiment to acquire higher output voltage by returning the energy accumulated at the position of L to the power source

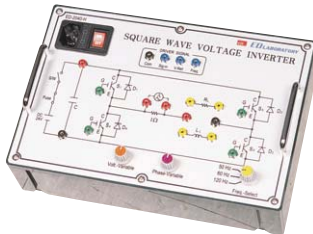
- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100 Ω
- **GBT** : 1000V 25A
- **Drive IC** : IGBT Gate Trigger Circuit
- **Check Terminal** : Measures input voltage, current waveform, output voltage waveform and output current



ED-2040-G PWM Inverter Circuit by IGBT

Experiment to acquire AC output which is more closer to sine wave by providing the control output for converting DC voltage to AC voltage in the form of PWM

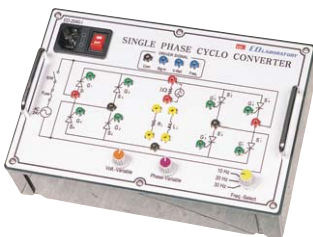
- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100Ω
- **GBT** : 1000V 25A
- **Drive IC** : IGBT Gate Trigger Circuit
- **Check Terminal** : Measures input voltage, current waveform, output voltage waveform and output current



ED-2040-H Square Wave Voltage- type Inverter Circuit by SCR

Experiment on AC load by authorizing the control signal for converting the current voltage to AC voltage as square wave

- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100Ω
- **GBT** : 1000V 10A
- **Drive IC** : SCR Gate Trigger Circuit
- **Check Terminal** : Measures input voltage, current waveform, output voltage waveform and output current



ED-2040-I Single-Phase Cyclo Converter Circuit by SCR

Experiment on the frequency converter converting the AC power of input frequency to the other AC power directly

- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100Ω
- **GBT** : 1000V 25A
- **Drive IC** : SCR Gate Trigger Circuit
- **Check Terminal** : Measures input voltage, current waveform, output voltage waveform and output current



ED-2040-J Single-phase AC Power Control Circuit by SCR

Experiment on AC output control by changing the voltage value through the control of phase when the induction motor and AC output are required

- **Input Voltage** : AC single-phase 220V
- **Output Load** : 10W 100Ω
- **Drive IC** : SCR Gate Trigger Circuit
- **SCR** : 1000V, 10A
- **Check Terminal** : Measures input voltage, current waveform, output voltage waveform and output current