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**SINCOM**<sup>®</sup>

**Sindhu** ELECTRONICS & COMMUNICATIONS PVT. LTD.

Electronics Educational Trainer Kits

# Half, Full Wave and Bridge Rectifier With & Without Filters

Model : SB-105



**SINCOM SB-105 Half, Full Wave and Bridge Rectifier with and without filters** is **All-In-One** simply designed trainer to study the various operational aspects of a Half, Center tap and Bridge type Full wave Rectifier (FWR) using six PN Junction Diodes, with the facility to select different filters and variable load in a simple experimental way. This has different filters of C,CLC,CL,LC &  $\pi$  types with variable resistive load. The trainer is without meters and has the facility to connect the external analog or digital Voltmeter, Ammeter and Oscilloscope in the circuit.

## Features

- ❖ User friendly Design
- ❖ Six Silicon PN junction Diode based Half wave, Full wave-center tap and Bridge type circuit
- ❖ HWR/FWR output for with and without filters
- ❖ Single Phase center tap step down Transformer
- ❖ Filters used are C,CLC,CL,LC &  $\pi$  types
- ❖ Easy selection of filters using SPDT Switch
- ❖ Variable Resistive Load
- ❖ Very Easy for Operation
- ❖ Multi color Circuit Diagram printed on the front panel of the white board.
- ❖ Enclosed in an attractive, light weight, High Quality, Poly Coated Imported Pine Wooden cabinet
- ❖ Facility to connect external Digital/Analog Voltmeter and Ammeter
- ❖ Facility to connect Oscilloscope for signal analysis
- ❖ Interconnections by 2mm high quality banana sockets and pins
- ❖ Maximum Test points to explore all the corners of experiment
- ❖ 1 Year Warranty

## Technical Specifications

- |                         |                                                   |
|-------------------------|---------------------------------------------------|
| ▪ AC Mains Power Supply | : 230V $\pm$ 10%, 50Hz                            |
| ▪ Rectifier Types       | : Half wave, Center tap and Bridge type Full wave |



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- |                         |                                                               |
|-------------------------|---------------------------------------------------------------|
| ▪ HWR Output Voltage    | : +12V DC approx.                                             |
| ▪ FWR Output Voltage    | : +12V DC approx.                                             |
| ▪ Diodes Used           | : Six Silicon PN Junction Diodes 1N4007                       |
| ▪ Diode Package         | : DO-41 Tape and Reel type                                    |
| ▪ Transformer ratings   | : Center tap Step Down 12V-0V-12V/500mA/50Hz                  |
| ▪ No. of Filters        | : 05                                                          |
| ▪ Filter Types          | : Selectable C,CLC,CL,LC & $\pi$ types                        |
| ▪ Filters Selection     | : SPDT Switch                                                 |
| ▪ Filter Capacitors     | : Two Electrolytic Capacitors of 100 $\mu$ F and 1000 $\mu$ F |
| ▪ Filter Inductor       | : One Inductor 68mH                                           |
| ▪ Load Resistor         | : Variable Resistive Load of 10K $\Omega$                     |
| ▪ Weight                | : 2.0 kg (approx)                                             |
| ▪ Dimensions (mm)       | : L 220 x W 270 x H 110                                       |
| ▪ Interconnections      | : 2mm Banana sockets                                          |
| ▪ Operating Temperature | : 0-50 $^{\circ}$ C, 80% RH                                   |

### Learning Scope

- To Study the Half Wave Rectifier (HWR) without and with C, CLC, CL, LC &  $\pi$  filter.
- To Study the Center tap Full Wave Rectifier (FWR) without and with C, CLC, CL, LC &  $\pi$  filter..
- To Study the Bridge type Full Wave Rectifier (FWR) without and with C, CLC, CL, LC &  $\pi$  filter..
- To observe & Note the change in Ripple factor with respect to change in different filters.
- To Observe and note Input and Output waveforms on Oscilloscope.

### Other Instruments Required

**SINCOM Digital VI meter (DVI) : Model DVI-01** Range V-20V,I-20mA DC, Oscilloscope.

### Accessories Included

Set of Patch Cord and Details Instruction Manual