



10913 SMPS Trainer has been designed specifically for the study of Switch Mode Power Supply. SMPS consists of a rectifier section, filter section, switching section and regulator section. Each section is explained separately and the internal structure of different blocks is also described. Switching transformer and chopper controller circuit are the main parts of SMPS. Switching Transformer works at high frequency, so it is also called as HFT i.e, High Frequency Transformer and the chopper controller is simply DC to DC controller. It gives constant output even when the AC mains is varied from 80V to 270V. Students can vary Voltage by using Variac.

### Features

- Physical representation of Switching Transformer
- Various Test Points are provided to observe output
- Diagrammatical representation of each block
- Fault identification switches are also provided
- On-board protective shield to prevent shock
- Designed by considering all safety standards

### Experiments

1. Study of Primary rectifier and Filter section
2. Study of Switching Transformer
3. Study of Optocoupler
4. Study of Regulation
5. Study of SMPS with Variac input (Variable AC)-Regulation Test
6. Study of Various faults and procedure of their trouble shooting

### Technical Specifications

- Input : 80 to 230V AC  $\pm 10\%$ , 50 / 60Hz
- Output : +12V DC regulated  
-12V DC regulated  
+5V DC regulated

### Switching Transformer

- Input : 320V DC switching at 132kHz
- Output : 30V AC (approximate)
- Fuse : 500mA
- Dimension (mm) : D 350 x W 280 x H 55
- Weight : 1.3kg (approximate)
- Included Accessories : Attenuator Probe-1no.  
Mains cord-1no.

Note: Specifications are subject to change.

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