

# BASIC ELECTRICITY TRAINER

EE-3100

SCIENSCOPE  
EDU-LABS



The EE-3100 Basic Electricity Trainer is a comprehensive and self-contained system specially designs for Electricity Circuit experiments training, the system consists of Universal Lab Station ULS-2000 and Basic Electricity Experiment Module EM-01 covers a wide variety of essential topics in the field of Electricity Circuit. It is a time and cost saving device for both students and researchers interested in developing and testing circuit prototypes in institution and universities. Experiment Modules complete with Simulation fault switches for student fault-finding experiments which includes full documentation for instructional and experimental manual and model answers.

## List of Experiments & Detail

### Experiments for Basic Electricity

1. DC Voltage Measurement
2. Using an Ohmmeter
3. Resistor Characteristics
4. DC Current Measurement
5. Ohm's Law
6. Power in DC Circuit
7. Series-Parallel Network and Kirchoff's Law
8. Superposition, Thevenin's and Norton's Theorems
9. Maximum Power Transfer Theorem
10. DC RC Circuit and Transient Phenomena
11. AC Voltage Measurement
12. AC Current Measurement
13. AC RC Circuit
14. AC RL Circuit
15. AC RLC Circuit
16. Power in AC Circuit
17. Transformer Characteristics
18. Series-Resonant Circuit
19. Parallel-Resonant Circuit
20. LC Filter.

## **Universal Lab Station ULS-2000**

### **Specification:**

#### **1. DC Power Supply Module**

Fixed Output: +5V/0.5A, -5V/0.5A, +12V/0.5A, -12V/0.5A  
Variable Output: +0V to +25V/0.5A, -0V to -25V/0.5A

#### **2. AC Power Supply Module**

19V-15V-9V-0V-9V-15V-19V

#### **3. Function Generator & Clock Generator**

Sine, Triangle and Square waveform output  
Frequency range: 1Hz to 1MHz in 6 decades  
With fine adjust, Amplitude and DC offset control  
Clock output 1Hz to 1MHz in 6 decades  
Six frequency ranges:  
1Hz to 10Hz  
10Hz to 100Hz  
100Hz to 1KHz  
1KHz to 10KHz  
10KHz to 100KHz  
100KHz to 500KHz  
Sine wave output: 0 to 12V peak to peak variable  
Triangle wave output: 0 to 8V peak to peak variable  
Square wave output: 0 to 20V peak to peak variable

#### **4. Five (5) Data Switches Module**

5 units slide switches and corresponding output terminals. When switch is set at "down" position, the output is LO level; contrarily, it is to be HI level when setting at "up" position.

#### **5. Multi Interface Adaptor Module**

Miniature Socket, 2mm Socket & 4mm Banana Adaptors

The ULS-2000 is shipped with a comprehensive user's manual.

Power Supply: 240VAC, 50Hz (Fused Protected)

Dimensions: (W x D x H) 310 x 260 x 90mm

Weight: 1.5 kgs

### **Includes the following items:**

1. 2mm Stackable Test Lead Set – 15 Units (5 Colors)
2. 3 ½ Digits Digital Multimeter - 1 Unit
3. Instruction Manual.
4. Experiments Manual.
5. Power Cord

**Note: Specification, Layout, Design Etc. May Change Without Prior Notice For Products Continuous Development Process.**