

**Product Name :**  
Automotive Electronic Circuit**Product Code :**  
AutomobileLab0003**Description :**

Automotive Electronic Circuit

**Technical Specification :**

This trainer should be designed to teach students principles and introductory to Automotive Electronic Circuits through comprehensive practical activities using on-board component's matrix with modular electronic components. The activities include simple DC circuits and measurements, lamp in series circuits, lamp in parallel circuits, lamp in series-parallel circuits, switches, battery and fuse, resistance circuit, diodes and transistor familiarization.

The unit contains a circuit board with connection matrix, power supply, electrical test leads, and student experiment manual presented in hard copy and pdf format. PCB's should be made from fiberglass, coated with epoxy to prevent corrosion and suitable for harsh environments. Labeled components with powder coated base.

The experiment exercises start with relevant theory of electronic and basic semiconductor components and proceed to practical activities using the modular electronic component and connecting leads to create various electronic circuits. Manual provided, must clearly show the following educational Objectives are met.

**Base Station features**

2mm circuit matrix, 12VDC source with battery symbol, 500mA fuse, 1A fuse, push to make switch, push to break switch, 2 position on/off switch, 2 position changeover switch (SPDT), 3 position on-off-on switch, 2 pole changeover (DPDT) switch, Power Switch with indicator.

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**Plug-in Component**

Resistor 5 Ohm 5 Watt (2pcs), Resistor 10 Ohm 2 Watt (4pcs), Resistor 100 Ohm 2 Watt (4pcs), Resistor 1 kilo Ohm 1 Watt (2pcs), NPN Transistor 2N3904 (2pcs), PNP Transistor 2N3905 (2pcs), NPN Transistor BD139 (2pcs), PNP Transistor BD140 (2pcs), Diode 1N4002 (4pcs), Lamp 1 Watt (2pcs), Lamp 3 Watt (2pcs).

**Accessories**

- a.) Experiment manual.
- b.) Power cord.
- c.) RED Jumper wire : 25 cm long (3 pcs), 50 cm long (4 pcs)
- d.) GREEN Jumper wire: 20 cm long (3 pcs), 40 cm long (4 pcs)
- e.) BLUE Jumper wire: 20 cm long (3 pcs), 40 cm long (4 pcs)
- f.) BLACK Jumper wire: 25 cm long (4 pcs), 30 cm long (4 pcs)
- g.) Include Additional Items:
- h.) Computer Aided Instruction software which should be compatible with Class Room Management System. The CAI contains theory, presentation, workshop job-sheet and student activities with assessment questions.
- i.) Digital Multimeter

 **LAB ENGINEERING**

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