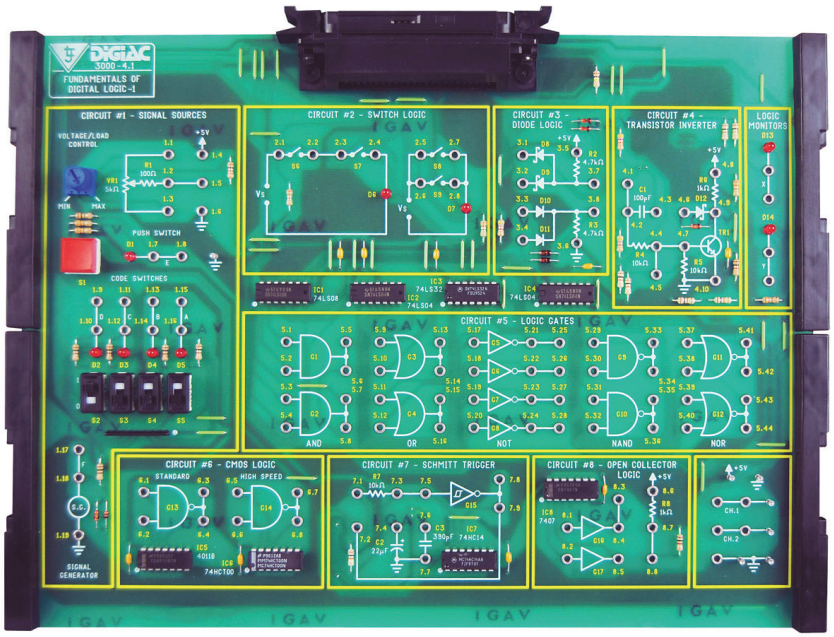
Product Information Sheet

Fundamentals of Digital Logic Study Module



This electronics study module is designed to connect to the Advanced Electronics Experiment Platform (300-01) as part of a modular electronics programme.

The study module is designed to introduce students to the fundamental principles of logic circuits through a wide range of practical activities.

Using the Advanced Electronics Experiment Platform, a range of faults to be selected and inserted into the study module circuits to develop electronic diagnostic and faultfinding techniques.

The study module is supplied with PDF manuals that provide theory materials, practical tasks, faultfinding activities, and technical information.

Topics Include the Following:

- Number Systems
- Switch Logic
- Diode Logic
- Diode-Transistor logic (DTL)
- Transistor-Transistor Logic (TTL)
- Logic Expression and Simplification
- Karnaugh Maps
- CMOS Gates
- Schmitt Trigger Circuits
- Open Collector Gates

Typical Activities Include:

- Measure voltages from switched logic sources for high and low logic levels
- Complete truth tables for AND/OR connected logic switches by observation
- Measure voltages in diode AND/OR circuits
- Measure voltage levels in DTL circuits
- Identify the allowable voltage ranges for TTL inputs and outputs
- Make measurements on logic circuits to determine the equivalence of logic expressions
- Verify by observation the simplified logic functions derived from two-, three-, and four-variable Karnaugh maps
- Measure input threshold voltage and output voltage for a Schmitt trigger voltage inverter gate
- Diagnose faults in open collector and integral resistor gate circuits

Items Included:

- Circuit Card
- Storage Case
- Curriculum Manual in PDF Format

Other Items Required:

- 300-01 Advanced Electronics Experiment Platform
- 2 Digital Multimeters

General Information:

Dimensions: 81 x 323 x 256 mm (W, H, D)
Shipping Volume: Approx 0.008 m^3
Shipping Weight: Approx 2 kg

Order Code: 304-41

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