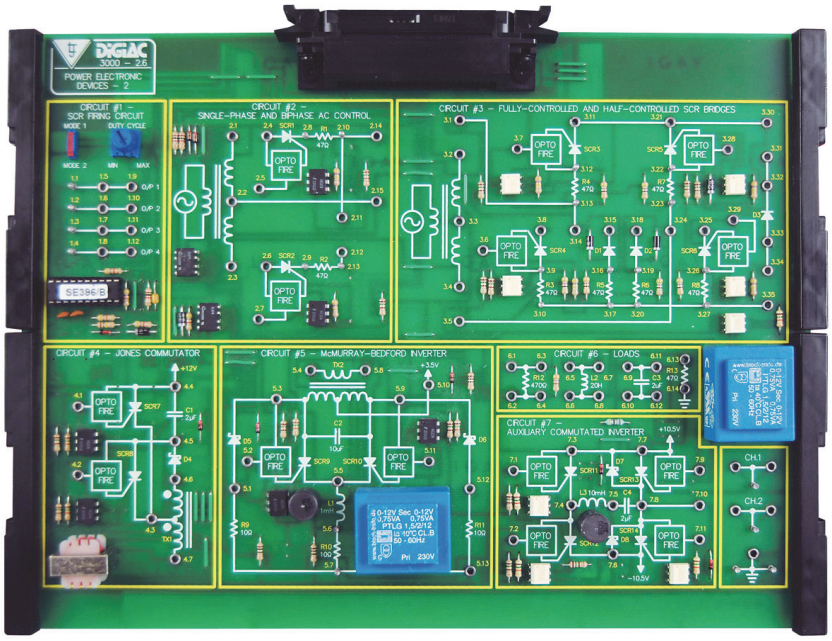
Product Information Sheet

Power Electronics 2 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 extend the student's knowledge of power electronics 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:

- Single and Bi-phase Control
- SCR Bridge Circuits
- The Jones Commutator
- The McMurray-Bedford Inverter
- The Auxiliary Commutated Inverter

Typical Activities Include:

- Identify the operation of half- and full-wave diode rectifiers
- Determine the firing angle of an SCR rectifier
- Identify commutation and the operation characteristics of a commutating diode
- Investigate the operation of half- and fully-controlled SCR bridge circuits using resistive loads
- Investigate the operation of fully-controlled SCR bridge circuits using inductive and capacitive loads
- Troubleshoot a fault in an SCR bridge circuit
- Investigate the operation of the Jones Commutator with resistive and inductive loads
- Determine the operation of the McMurray-Bedford Inverter from observed waveforms
- Identify the operation of the Auxiliary Commutated Inverter
- Faultfinding power electronics circuits

Items Included:

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

Other Items Required:

- 300-01 Advanced Electronics Experiment Platform
- Digital Multimeter
- Dual Trace Oscilloscope

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: 305-26

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