

Product Information Sheet

3-Phase Control Systems Trainer



DIGITAL
CURRICULUM
INCLUDED



The 3-Phase Control Systems Trainer is a rugged, self-contained hardware unit that enables students to investigate practically and safely the generation of a 3 Phase supply and operation of a Motor and Inverter. The self-contained unit also incorporates three supply transformers.

The study module is designed to introduce students to the principles of AC power, three-phase AC circuits, and AC motors, including synchronous machines, through a wide range of practical activities.

All on-board voltages are kept to a level that ensures the trainer can be used in a completely safe environment. The Motor can be configured to operate as both a single phase and a 3 phase AC Motor system to allow students to demonstrate the difference.

Digital lessons accompany the trainer and can be used to cover the topics of 3 phase distribution and operation of AC motors.

Topics Include the Following:

- AC Motor Principles and 3 Phase Synchronous Motor
- Single-Phase Synchronous Motor
- The 3 Phase Supply
- AC Inverters
- 6-Wire, 3-Wire and 4-Wire Connections
- Delta and Wye Combination Connections
- Power Factor Correction
- Other AC Motors
- 3 Phase Rectifiers
- 3 Phase Over-Current Protection

Typical Activities Include:

- Measure voltages and currents, amplitudes, and phases for wye and delta connected three-phase synchronous motors connected to a wye supply
- Identify the principle of an inverter
- Measure phase voltages, phase-phase voltages, and phase relationships of a three-phase supply
- Measure voltage and current, and calculate power in 6-wire and 3-wire connected three-phase circuits
- Measure voltages in balanced and unbalanced delta/wye connected circuits

- Measure voltage and current and calculates power in balanced and unbalanced wye/wye 4-wire circuits
- Measure voltage and current, and calculate power in a wye/delta system of connection
- Diagnose faults in a dual-polarity three-phase supply
- Faultfinding AC power circuits.

Items Included:

- Trainer
- Connection Lead Set
- Storage Case
- Curriculum in Digital Format

Other Items Required:

- Digital Multimeter
- Dual Trace Oscilloscope

General Information:

Power Requirements:
110 – 240V 50-60Hz
Trainer Dimensions:
360 x 80 x 250 mm (W, H, D)
Packed Volume: Approx. 0.01 m³
Packed Weight: Approx. 3.8 kg

Order Code: 325-17

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