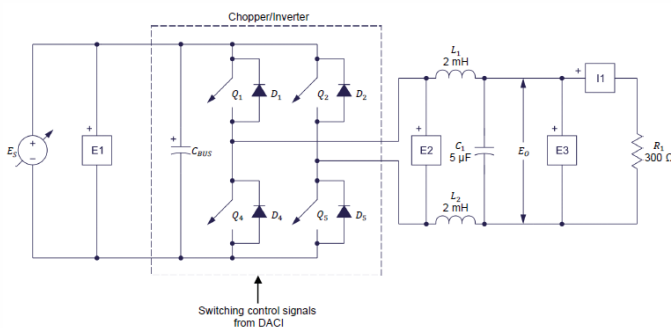


Single-Phase AC Power Electronics

Course 86359

The Single-Phase AC Power Electronics course introduces students to the power electronic circuits (rectifiers and inverters) used to perform ac/dc power conversion in single-phase circuits. The course begins with the study of single-phase diode rectifiers and then examines the operation of the single-phase inverter and the single-phase PWM inverter. The course concludes with the study of power flow in a single-phase PWM inverter.



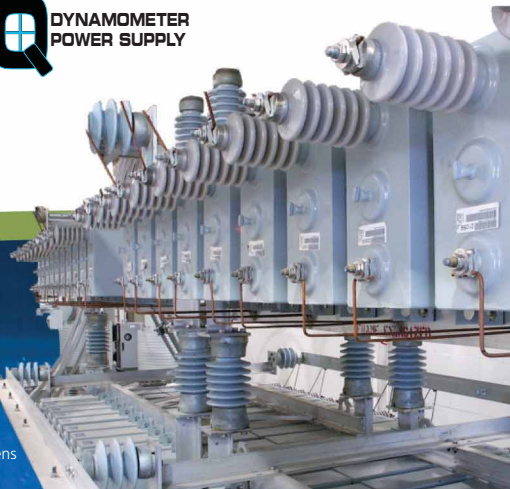
Typical uninterruptible power supply for computer equipment

Topic Coverage:

- » Become familiar with the operation of power diode single-phase rectifiers.
- » Explore diodes and how they operate.
- » Study the half-wave and full-wave rectifier.
- » Calculate the average dc voltage provided by the various rectifiers.
- » Become familiar with the operation of the single-phase PWM inverter.

Features and Benefits:

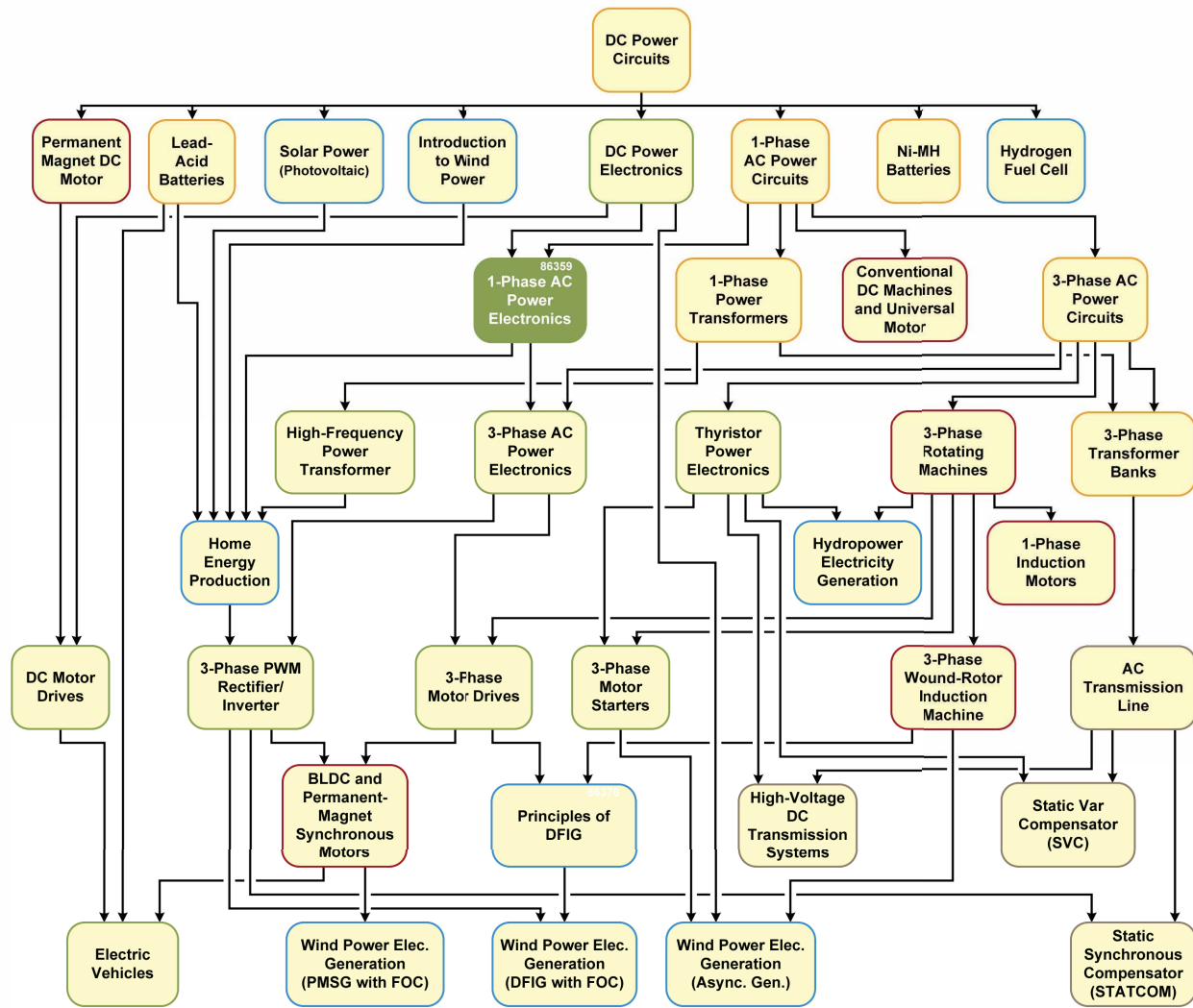
- » Half-wave and full-wave rectifier bridge.
- » Study of the modulation index.
- » Use of power filters to generate pure sine wave at the inverter output.



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Photo courtesy of Siemens

Lab-Volt Electric Power Technology Training Program



Equipment

Qty	Model	Description	Qty	Model	Description
1	8131	Three-Module Workstation	1	8960-C	Four-Quadrant Dynamometer/Power Supply
1	8311	Resistive Load	1	9063-C	Data Acquisition and Control Interface
1	8325-A	Filtering Inductors/Capacitors	1	30004-2	24 V AC Power Supply
1	8837-B	IGBT Chopper/Inverter	1	86359/-1	Student Manual/Instructor Guide
1	8842-A	Rectifier and Filtering Capacitors			
1	8951-L	Connection Leads			

Lab-Volt reserves the right to make product improvements at any time and without notice. **Note:** A computer is required to perform the exercises.

