

VARIABLE FREQUENCY DRIVE

247SF

VARIABLE FREQUENCY DRIVE POWERFLEX 40

The Energy Concepts' 247SF trainer introduces students to the concepts of a VFD motor control. Some of the special features of this trainer are the overload, single phase, and short circuit protection. The Drive Fault Interruption functions provide for student safety and drive integrity. Cables and connectors are safe and easy to use. All of the modules are housed in a durable steel enclosure for years of classroom life.

This trainer is designed with modular components that mount on the training panel for easy use. You can interface the Variable Frequency Drive System with other Training Systems from Energy Concepts, such as our Industrial Controls and Programmable Controller Trainers.



VARIABLE FREQUENCY DRIVE MODULE

- Integral keypad with a 4 LED digital display and 10 additional discrete LED indicators provide intuitive control.
- Most commonly used parameters are grouped together for fast and easy start up.
- 120VAC Single Phase Input, 230VAC Three-Phase Output
- Analog and Digital Speed Control
- Easy Flowchart programming



INPUT MODULE

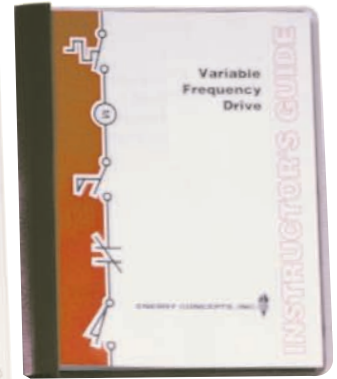
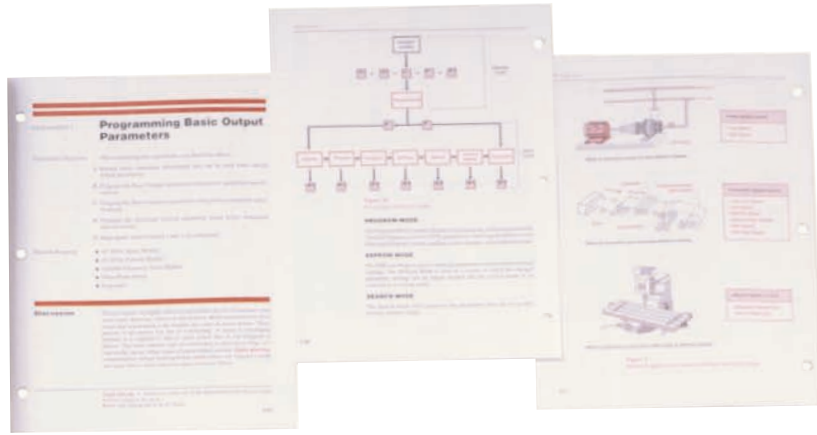
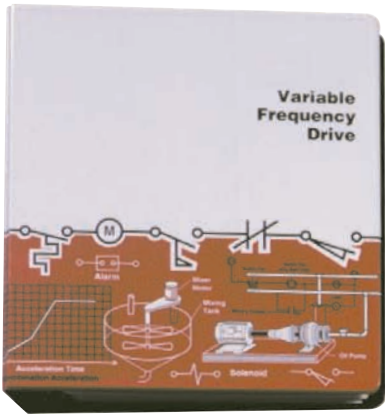
- External Speed Control Potentiometer
- Seven industrial standard, illuminated pushbuttons for external control functions
- Seven clearly marked dual input jacks for accepting an external switch closure or interfacing with the output module.
- Electrically isolated input jacks for Drive protection.
- 0-10 Volt Speed Control Input Capability



OUTPUT MODULE

- Audio alarm for drive fault recognition
- Two on delay timers and one recycler timer have variable time settings from 0 to 60 seconds.
- Three sets of clearly marked timer output jacks provide switch closure or feedback to the AC Drive Inputs Module.
- Two Programmable Outputs have industrial standard indicator lights.
- Two clearly marked dual output jacks provide switch closure or feedback to the AC Drive Input Module.

COURSEWARE



ECI's competency-based courseware guides students through the Variable Frequency Drive experiments. Troubleshooting experiments are provided for students to develop practical skills and troubleshooting techniques.

The ECI lab manual has an easy-to-read, two-color format, that shows professional illustrations, charts, tables and photos. The lab manual's 10 chapters present students with 30 hands-on lessons, which directly correlate to the ECI 247 trainers.

The experiments cover the following topics:

System Familiarization

- Safety Considerations
- Safety Equipment and Rules
- Trainer Identification and Inventory

Drive Menu Familiarization

- Display Group Parameters
- Basic Program Group Parameters
- Advanced Program Group Parameters

Basic System Setup

- Preparing for Drive Start-Up
- Editing Parameters
- Drive Fault Codes

Most Commonly Used Parameters

- Programming Motor Data and Speed Range
- Programming Motor Acceleration and Deceleration
- Programming Systems START, STOP, and SPEED CONTROL Source

Programming Drives Available Outputs

- Programming Output 1 & 2 Basic Options
- Programming Output 1 & 2 Advanced Options
- Using Outputs as Fault Detectors

Motor Control Options Using Remote Input Switches

- Programming Drive Inputs to Control Different Acceleration/Deceleration Times
- Programming Drive Inputs to Control Different Set Motor Speed and Use the Drives Output
- Programming Drive to Prevent a Motor Reversal and Set an Automatic Stop

Timer and Counter Applications

- Programming the Drive's Internal Timer
- Programming the Drive's Internal Counter
- Counter and Timer Applications

Drive Operating Fundamentals

- Adjusting Pulse With Modulation (PWM) Carrier Frequency
- Programming Voltage Boost Parameters
- Customizing Acceleration and Deceleration Patterns (S-Curve)

Drive Applications

- Fan and Blower Application
- Material Handling Application
- Machine Tooling Application

Troubleshooting Drive Systems

- Monitoring Drive Detected Faults
- Customizing Fault Parameters
- Using Built-In System Fault Switches

Glossary & Index

Fault Switches for Troubleshooting Challenges



The trainer includes twelve fault insertion switches (four on each module). The switches are covered and locked on the side of each cabinet.

Additional Training Packages available for:

- Electricity/Electronics
- Industrial Controls
- Industrial Motors
- Programmable Controllers

Academic Representative:



Technology Education Concepts
1-800-338-2238 | www.TECedu.com | info@TECedu.com

ENERGY CONCEPTS, INC. ECI

www.eci-info.com

800-621-1247

