

Refrigeration and Air Conditioning Controls

This four-day course begins with a look at fundamentals of refrigeration systems. An overview of the major refrigeration system components is included. The theory of electromagnetic motors and their use in compressors is covered. The electrical circuit controls used in refrigeration and air conditioning is discussed, along with the electrical troubleshooting of these controls.

I. Refrigeration Fundamentals

- History of Refrigeration
- Temperature, Pressure and Measurement
- Refrigeration Systems and Terminology

II. Refrigeration System Components

- Compressors
- Condenser
- Evaporators
- Refrigeration Flow Controls
- Refrigerants

III. Scanner Cards

- Electricity and Circuit Fundamentals
- Magnetism and Electrical Components
- Transformers and Motor Circuits
- Electrical Components and Computers

IV. Electrical Motors

- Types of Electric Motors
- Identification of Electrical Motors
- Compressor Winding Identification
- Applications of Motors
- Troubleshooting Electrical Motors

V. Electric Circuits and Controls

- Electrical Circuits
- Electrical Circuits
- Ladder Diagrams
- Pressure Switches
- Temperature Switches
- Timers
- Electromagnetic Control Switches
- Fuses and Circuit Breakers
- Overload Relays

VI. Troubleshooting Techniques

- Use of schematics
- Limit Switches
- Pressure Switches
- Temperature Switches
- Timers
- Electrical Circuit