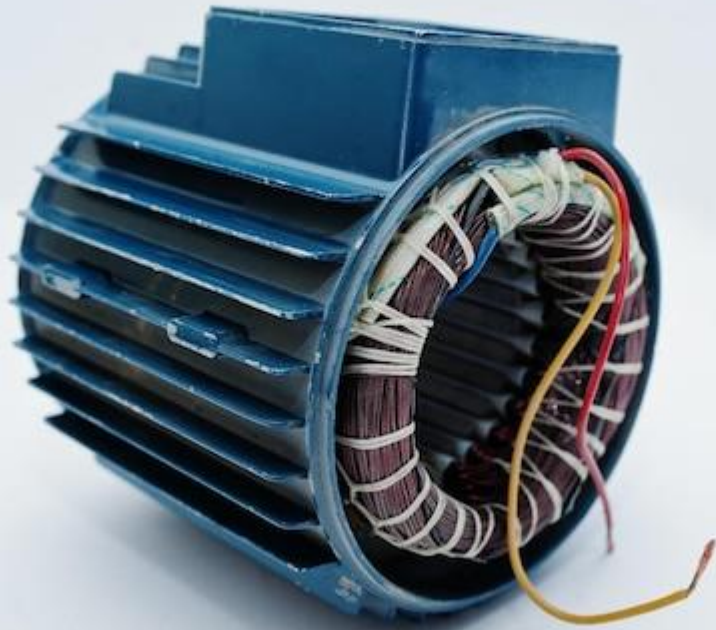




Single-Phase Motor Applications

Course Introduction:

- Overview of single-phase motors and their significance in various applications
- Purpose and goals of the course

Course Objectives:

Upon the successful completion of this course, each participant will be able to:-

- Understand the principles of single-phase motors
- Identify different types of single-phase motors and their applications
- Learn about motor selection criteria for specific applications
- Explore installation, operation, and troubleshooting of single-phase motors
- Discuss safety considerations and maintenance practices

Who Should Attend?

- Electrical engineers and technicians
- Maintenance personnel
- Facility managers

Course Outline:

Module 1: Fundamentals of Single-Phase Motors

- **Session 1: Introduction to Electric Motors**
 - Overview of electric motor types
 - Differences between single-phase and three-phase motors
- **Session 2: Principles of Operation**
 - Basic principles of electromagnetism
 - How single-phase motors operate

Module 2: Types of Single-Phase Motors

- **Session 1: Induction Motors**
 - Split-phase motors
 - Capacitor start motors
 - Permanent split capacitor (PSC) motors
- **Session 2: Synchronous Motors**
 - Characteristics and applications
 - Differences from induction motors

- **Session 3: Other Types**
 - Universal motors
 - Shaded pole motors

Module 3: Applications of Single-Phase Motors

- **Session 1: Residential Applications**
 - Fans, pumps, and appliances
 - HVAC systems and refrigeration
- **Session 2: Commercial Applications**
 - Elevators, conveyors, and power tools
 - Industrial equipment usage
- **Session 3: Specialty Applications**
 - Medical devices and laboratory equipment
 - Automotive and hobby applications

Module 4: Motor Selection and Installation

- **Session 1: Motor Selection Criteria**
 - Load characteristics and requirements
 - Efficiency and power factor considerations
- **Session 2: Installation Practices**
 - Mounting and alignment
 - Electrical connections and wiring
- **Session 3: Start-up and Commissioning**
 - Initial testing and troubleshooting
 - Break-in procedures

Module 5: Troubleshooting and Maintenance

- **Session 1: Common Issues and Symptoms**
 - Identifying operational problems
 - Diagnostic techniques
- **Session 2: Maintenance Practices**
 - Routine maintenance procedures
 - Lubrication and cleaning
- **Session 3: Safety Considerations**
 - Electrical safety protocols
 - Lockout/tagout procedures

Conclusion

- Recap of key concepts and applications
- Discussion on the future trends in single-phase motor technology

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

المركز العالمي للتدريب والتطوير
International Centre For Training & Development

Course Fees:

To be advised as per course locations. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session