



Training Course:
Fire Detection and Alarm Systems: Principles
and Practice

18 - 22 July 2027
Cairo (Egypt)

Training Course: Fire Detection and Alarm Systems: Principles and Practice

Training Course code: EN235466 From: 18 - 22 July 2027 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Fire detection and alarm systems are critical components in safeguarding lives, assets, and operational continuity. As buildings and industrial environments become more complex, the need for reliable, standards-compliant detection systems has become essential.

This program, designed by Global Horizon Training Center, provides participants with the technical knowledge and practical understanding required to design, operate, maintain, and troubleshoot fire detection and alarm systems in accordance with international standards and best practices.

Course Objectives

By the end of this program, participants will be able to:

- Understand the fundamentals of fire science and detection principles
- Identify different types of fire detection and alarm systems and their applications
- Interpret system design requirements based on international standards e.g., NFPA, BS, EN
- Design and configure fire alarm systems for various facilities
- Install, test, and commission fire detection systems effectively
- Diagnose faults and perform maintenance and troubleshooting
- Ensure compliance with safety regulations and codes
- Integrate fire alarm systems with other safety and building management systems

Target Audience

This program is designed for:

- Electrical and Mechanical Engineers
- Fire Protection Engineers and Safety Officers
- Maintenance and Facility Management Professionals
- Technicians involved in installation and maintenance of fire alarm systems
- HSE Professionals and Risk Management Specialists
- Project Engineers and Supervisors in construction and industrial sectors

Outline

Day 1: Fundamentals of Fire Detection Systems

- Basics of fire science fire triangle and fire behavior
- Fire risks in residential, commercial, and industrial environments
- Overview of fire detection and alarm systems
- Types of fire detectors: smoke, heat, flame, gas
- Detection technologies and operating principles
- Introduction to international codes and standards NFPA 72, BS 5839

Day 2: System Components and Design Principles

- Fire alarm system components: control panels, detectors, call points, sounders
- Conventional vs. addressable systems
- System architecture and zoning concepts
- Cable types, wiring methods, and installation requirements
- Designing fire alarm systems for different building types
- Documentation and system drawings

Day 3: Installation, Testing, and Commissioning

- Installation best practices and site considerations
- Device placement and spacing requirements
- Testing procedures and commissioning protocols
- Functional testing of detectors and alarm devices
- Documentation, checklists, and handover procedures
- Common installation errors and how to avoid them

Day 4: Operation, Maintenance, and Troubleshooting

- Routine inspection and maintenance schedules
- Preventive vs. corrective maintenance
- Troubleshooting system faults and false alarms
- Panel programming and configuration basics
- System upgrades and modifications
- Record keeping and compliance documentation

Day 5: Integration, Advanced Applications, and Safety Compliance

- Integration with fire suppression systems sprinklers, gas systems
- Interface with Building Management Systems BMS
- Emergency communication and evacuation systems
- Safety regulations and audit requirements
- Risk assessment and system optimization
- Case studies and real-world applications

Registration form on the Training Course: Fire Detection and Alarm Systems: Principles and Practice

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