



Training Course:
Flame Detection Systems: Principles and
Applications

1 - 5 August 2027
Cairo (Egypt)

Training Course: Flame Detection Systems: Principles and Applications

Training Course code: EN235462 From: 1 - 5 August 2027 Venue: Cairo (Egypt) - Training Course Fees: 4410 € Euro

Introduction

Flame detection systems are critical for the rapid identification of fire hazards, particularly in high-risk industrial environments such as oil & gas, petrochemicals, and power plants. Early and accurate flame detection enables immediate response, minimizing damage, protecting personnel, and ensuring operational continuity.

This program, designed by Global Horizon Training Center, provides participants with the essential knowledge and practical understanding of flame detection technologies, system applications, and best practices for effective fire hazard mitigation.

Course Objectives

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

- Understand the fundamentals of flame detection and fire behavior
- Identify different types of flame detection technologies and their applications
- Distinguish between UV, IR, and UV/IR flame detectors
- Select appropriate flame detection systems based on risk environments
- Install and configure flame detection systems effectively
- Perform testing, maintenance, and troubleshooting
- Ensure compliance with international fire safety standards
- Integrate flame detection systems with fire and safety systems

Target Audience

This program is designed for:

- Fire Protection Engineers and Safety Officers
- Electrical and Instrumentation Engineers
- HSE Professionals and Risk Management Specialists
- Maintenance and Facility Management Professionals
- Oil & Gas, Petrochemical, and Industrial Safety Personnel
- Technicians involved in installation and maintenance of detection systems

Outline

Day 1: Fundamentals of Flame Detection and Fire Behavior

- Fire science fundamentals and combustion principles
- Characteristics of flames and radiation spectrum
- Types of fire hazards in industrial environments
- Overview of flame detection systems and applications
- Introduction to international standards and codes

Day 2: Flame Detection Technologies

- UV Ultraviolet flame detectors: principles and applications
- IR Infrared flame detectors: single, dual, and triple IR
- UV/IR combined detectors and their advantages
- Detection ranges, response times, and sensitivity
- Advantages, limitations, and environmental considerations

Day 3: System Design and Installation

- Flame detection system components and architecture
- Detector placement and coverage strategies
- Environmental factors affecting detection performance
- Installation best practices and requirements
- System documentation and layout design

Day 4: Testing, Maintenance, and Troubleshooting

- Testing procedures and performance verification
- Preventive and corrective maintenance strategies
- Common faults and false alarm causes
- Troubleshooting techniques
- Calibration and system optimization

Day 5: Integration, Compliance, and Case Studies

- Integration with fire alarm and suppression systems
- Interface with control systems BMS, SCADA
- Safety regulations and compliance requirements
- Emergency response coordination
- Case studies and real-world applications

Registration form on the Training Course: Flame Detection Systems: Principles and Applications

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