



IE235: Portable Gas Detector Calibration

Training Description:

This intensive training course covers the origin, causes, classification, temperatures, physical and chemical chain reactions, resulting products of combustion, heat and fire propagation, stages, firefighting equipments and preventive measures of fire; the various types, characteristics and hazards of gases; the standards and regulations the various types and characteristics of fire and gas detection, alarm system and equipments and the cabling of fire and gas detection systems.

During this interactive course, participants will learn the interconnection between fire and gas detection systems; interacting with other installations; the sprinkler systems, communication with other control, monitoring systems and communication networks; the design of fire and gas detection systems; the particular cases for underground car parking, hospitals and industrial plants; and the systematic testing and troubleshooting of various equipments.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Apply and gain an in-depth knowledge on fire and gas detection system
- ✓ Enumerate the origin, causes, classification, temperatures, physical and chemical chain reactions, resulting products of combustion, heat and fire propagation, stages, firefighting equipments and preventive measures of fire
- ✓ Identify the various types, characteristics and hazards of gases
- ✓ Review standards and regulations as well as discuss the various types and characteristics of fire and gas detection, alarm system and equipments
- ✓ Employ cabling of fire and gas detection systems and explain the interconnection between fire and gas detection systems
- ✓ Interact with other installations covering electrical installation, elevators, magnetic door holders, CCTV systems, public address, voice alarm systems, HVAC and smoke extraction equipments, sprinkler systems, communication with other control, monitoring systems and communication networks
- ✓ Illustrate the design of fire and gas detection systems including basic criteria, choosing of equipment and fire detection network configuration
- ✓ Discuss particular cases for underground car parking, hospitals and industrial plants
- ✓ Test and trouble shoot various equipments in a professional manner

Training Designed for:

This course is intended for those engineers and other technical staff who are involved in the design, maintenance or troubleshooting of fire and gas detection systems.

Training Program:

DAY ONE:

- ❖ Pre-Test
- ❖ Introduction
- ❖ The Fire



- Origin and Causes of Fire, Fire Classification (Class of Fire), Temperatures, Physical & Chemical Chain Reactions, Resulting Products of Combustion, Heat & Fire Propagation, Stages of Fire, Firefighting Equipment, Preventive Measures

❖ Recap

DAY TWO:

❖ Type of Gases, Characteristics & Hazards

- Flammable Gases & Properties, Toxic Gases & Properties, Flammable Gases Hazards,
- Toxic Gases Hazards, Asphyxiate (Oxygen Deficiency) Hazard, Hygiene Monitoring

❖ Standards & Regulations

❖ Fire Detection, Alarm Systems & Equipments – Types & Characteristics

- Functions & Components, Conventional & Addressing Systems – Technologies, Advantages & Disadvantages of Each System

❖ Recap

DAY THREE:

❖ Fire Detection, Alarm Systems & Equipments – Types & Characteristics

- Control Panels, Floor Repeater Panels, Smoke Detectors (Optical Detectors; Infrared Linear Detectors; Aspirating Detectors), Heat Detectors, Combined Smoke & Heat Detectors, Flame Detectors
- HVAC Conduits Detectors, Manual Call Points, Alarm Sounders, Input & Output Control Modules

❖ Gas Detection, Alarm Systems & Equipments – Types & Characteristics

- Typical Areas that Require Gas Detection, Functions & Components
- Control & Floor Repeater Panels, Combustible Gas Sensors, Catalytic Sensor, Infrared Gas Detector, Open Path Flammable Infrared Gas Detector

❖ Recap

DAY FOUR:

❖ Gas Detection, Alarm Systems & Equipments – Types & Characteristics

- Electrochemical Sensor, Comparison of Gas Detection Techniques, Calibration, Alarm Sounders, Carbon Monoxide Detection Systems

❖ Cabling of Fire & Gas Detection Systems

❖ Interconnection between Fire & Gas Detection Systems

❖ Interaction with Other Installations

- Electrical Installations, Elevators, Magnetic Door Holders, CCTV Systems, Public Address & Voice Alarm Systems, HVAC & Smoke Extraction Equipments, Sprinkler Systems, Communication with Other Control & Monitoring Systems & Communication Networks

❖ Practical Sessions

- This hands-on and includes real-life case studies and exercises

DAY FIVE:

❖ Design of Fire & Gas Detection Systems

- Basic Criteria, Choose of Equipment, Fire Detection Network Configuration, Examples

- ❖ Particular Cases – Underground Car Parking, Hospitals & Industrial Plants
- ❖ Equipments Testing & Troubleshooting
- ❖ Course Conclusion
- ❖ Post-Test and Evaluation

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request”.

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

As per the course location - This rate includes participant’s manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

For training registrations or in-house enquiries, please contact:

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Training & Career Development Department

