



*Training Course:
Building Automation Systems (BAS)*

*11 - 15 May 2025
Manama (Bahrain)
Fraser Suites*

Training Course: Building Automation Systems (BAS)

Training Course code: EN235839 From: 11 - 15 May 2025 Venue: Manama (Bahrain) - Fraser Suites Training Course
Fees: 5300 € Euro

Introduction

Building Automation Systems BAS are critical for modern building management, enabling energy efficiency, cost reduction, and improved occupant comfort. This training program provides a comprehensive understanding of BAS components, communication protocols, integration techniques, and troubleshooting methods. Participants will gain both theoretical knowledge and practical skills in managing and optimizing BAS.

Target Audience

- Facility managers and engineers
- HVAC technicians and contractors
- Electrical and mechanical engineers
- IT professionals involved in smart building technologies
- Energy and sustainability managers

Objectives

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

- Understand the fundamentals of BAS and its role in building management
- Identify and operate key components of BAS, including controllers, sensors, and actuators
- Work with industry-standard communication protocols such as BACnet, Modbus, and LonWorks
- Optimize building energy efficiency using BAS features
- Troubleshoot and maintain BAS for long-term operational efficiency
- Understand cybersecurity risks and strategies for BAS protection

Training Program Outline

Day 1: Introduction to Building Automation Systems BAS

- Overview of BAS and its importance in modern buildings
- Components of BAS: Controllers, sensors, actuators, and interfaces
- BAS architecture and system integration
- Overview of industry standards and protocols ASHRAE, ISO, etc.
- Hands-on: Exploring a BAS interface

Day 2: BAS Communication Protocols & System Integration

- Understanding communication protocols:
 - BACnet - Open standard for building automation
 - Modbus - Industrial automation and control
 - LonWorks - Networked control systems
- BAS system interoperability and integration with HVAC, lighting, security, and fire systems
- Cloud-based BAS and IoT integration for smart buildings
- Hands-on: Setting up and configuring BACnet and Modbus communication

Day 3: BAS Energy Management & Optimization

- The role of BAS in energy efficiency and sustainability
- Demand response and load management strategies
- HVAC optimization and smart scheduling techniques
- Case studies: Successful BAS implementation for energy savings
- Hands-on: Configuring energy-saving automation strategies

Day 4: Troubleshooting & Maintenance of BAS

- Common BAS issues and their root causes
- Diagnosing system errors using BAS software
- Predictive maintenance and remote monitoring
- Updating firmware and software for BAS components
- Hands-on: Simulating and resolving BAS system faults

Day 5: BAS Cybersecurity & Future Trends

- Cybersecurity threats in BAS: Risks and vulnerabilities
- Securing BAS networks: Firewalls, encryption, and access control
- The role of AI and machine learning in future BAS developments
- Emerging trends in smart buildings and digital twins
- Hands-on: Implementing cybersecurity best practices in BAS

Registration form on the Training Course: Building Automation Systems (BAS)

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