XCELERATE TRAINING INSTITUTE

your learning & development partner

ELECTRICAL ENGINEERING

Smart Metering Training Course

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
14 – 18 Jun 2027	Live online	Online (live)	€1,200
19 – 23 Jul 2027	Amman	Classroom	€5,500
20 – 24 Dec 2027	Live online	Online (live)	€1,200

Register or ask a question

Online: staging.x8ti.com/course/smart-metering-training-course-2/

+491631686678 · info@x8ti.com

Smart Metering Training Course

Introduction

Smart meters are critical for creating a more environmentally friendly and reliable energy network globally. However, this initiative places significant pressure on energy firms and their supply chains. By the end of 2025, approximately 50 million smart meters (gas and electric) will be installed across over 30 million premises in the United Kingdom alone. Smart meter installation agents will play a vital role in this process, responsible for installation, exchange, commissioning, upkeep, and decommissioning of smart metering systems. Even experienced engineers may need additional training for smart meter installations, making it essential for industries to address skill gaps and expand the number of competent smart meter installers.

Learning Objectives

Upon completing this Smart Metering Course by Xcelerate Training Institute, participants will gain information and training on:

- Customer and site appointment standards.
- Access management.
- Health and safety at work for meter operations.
- Hazards associated with meter installation and changes.
- Codes of practice, relevant guidelines, and basic electricity science.
- Site safety for installers and customers.
- Identifying and addressing cross polarity dangers.
- Earthing systems.
- Fault finding and rectification.

Training Methodology

This collaborative training program includes:

- Lectures
- Seminars & Presentations
- Group Discussions
- Assignments
- Case Studies & Functional Exercises Following the ‘Do-Review-Learn-Apply’ model.

Benefits for Your Organisation

Organizations can benefit from:

- Staying ahead with a comprehensive overview of smart metering systems.
- Gaining confidence in handling smart metering systems.
- Acquiring practical knowledge for a competitive edge in the workplace.
- Engaging in conversation-based sessions for networking and real-world learning.
- Participating in collaborative sessions for practical application in individual roles.

Benefits for You

Participants will gain:

- Enhanced productivity through skill training.
- Ability to carry out risk assessments.
- Updated knowledge of the latest trends and technologies in power systems.
- Skills to carry out accurate meter readings.
- Access to a tailor-made academic program for the smart metering sector.
- Training, assessment, and certification by experts in the domain.
- Ability to identify, act on, and report asset condition issues.
- Competence in performing test activities and site procedures related to meter operations.
- Knowledge of appropriate PPE tools and methods for meter change procedures.
- Skills to fix and pair smart electric meters and commission smart meters.
- Enhanced skills for further qualifications in this field.

Who Should Attend

This course is ideal for:

- Beginners in the power industry working in the installation and maintenance of smart meters.
- Existing installers looking to upskill and perform smart meter installation and maintenance tasks in various industries.

Course Outline

Introduction to Smart Meters, Smart Grids, and Performance Requirements

- Basics of energy meters
- Benefits of digital meters
- Block diagram explanation
- Circuit description
- Importance of earth load
- Motivation beyond AMI / Smart Metering systems
- Evolution from AMR to Smart Metering Systems
- Worldwide scenario of AMI / Smart Metering
- Current trends

Advanced Metering Infrastructure (AMI) and Meter Data Management (MDM)

- Definition and evolution of AMI
- What is MDM?
- Drivers of MDM
- Energy NOCs
- Implementation and issues of AMI

Cyber Security

- Reference model for the smart grid
- Privacy issues
- Security issues
- Future research directions

Smart Meters Issues and Concerns

- Overview of smart meters
- Health effects and exposure levels
- Mitigation of smart meter RF fields

IT in Power Distribution and Smart Meters

- IT in system operations
- IT initiatives
- IT in metering systems
- MRI (Meter Reading Instrument), telemetering, remote metering
- IT in energy accounting and audit

Standardization Issues

- Smart meters and interoperability
- Testing methods
- Special purpose energy metering
- Metering management and SEM specifications

Effect of Influential Parameters on Smart Meter Function

- Power distribution system
- Power system harmonics and their impact
- Nonlinear loads producing harmonic currents

Conferencing and Training on Smart Metering Technology and Applications

- Negative effects of sustained harmonics
- Mitigation and evaluation of AC power system harmonics

Reliability Analysis of Smart Electronic Meters

- Quality and reliability objectives of smart meters
- Components and reliability test plan
- Deterministic and probabilistic reliability

Manufacturing of Smart Meter Components

- Process flow chart
- PCB development and design
- Surface Mounting Technology (SMT)

Smart Grid and Smart Meters Communications

- What is the smart grid?
- Smart grid applications and communication architecture

- FCC-regulated features

Smart Metering Scenarios with Interoperability

- Basic requirements for metering data communication
- Power theft: definition, monitoring, and mitigation

Getting Ready for Advanced Metering Infrastructure

- Definition and comparison of AMI and AMR
- AMI benefits, components, and technical architecture

Smart Metering and Its Benefits for Consumers

- Assessment of costs and benefits
- Policy aspects for regulators
- Recommendations for smart metering infrastructure

Case Study

- National-level smart grid development
- Challenges in current AMI initiatives

Smart Meters: An International Perspective

- Current situation and options to alleviate energy crises
- Prepayment road map and conclusions

Copyright and intellectual property
This course, "Smart Metering Training Course", is an original course by Xcelerate Training Institute. All materials, content and structure are the intellectual property of Xcelerate Training Institute. Reproduction, distribution or use of any part of this course without written consent is prohibited.

Registration Form

Smart Metering Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

Call	Email this form	Register online
+491631686678	info@x8ti.com	Open the course page