COURSE DESCRIPTION

ION Utility Meter Administration

Overview

This training curriculum focuses on the configuration and operation of ION revenue meters using the front panel, ION Setup software, and EcoStruxure Power Monitoring Expert (PME). Students will configure ION meters for revenue metering, advanced security, communications, energy pulsing, logging, and power quality monitoring.

With the meters configured, the students will proceed to build up their systems by adding meters to PME's Management Console. The meter data will then be analyzed using PME's Dashboards, Reports, and Trends, though the other applications will be available for exploration.

Duration

4 Days (Monday – Thursday). Daily hours may vary, depending on Classroom vs. Remote delivery.

Who should attend

Anyone who will be configuring, customizing, and troubleshooting ION meters extensively using ION Setup software.

Prerequisites

- Basic computer skills and experience with Microsoft Windows
- Basic metering terminology
- A basic working knowledge of power and energy will be helpful

Students will be able to

- Use the front panel of an ION meter
- Use ION Setup software to configure ION meters
- Use ION Setup software to assess meter wiring
- Use ION Setup software to manage ION meter programs
- Identify the components of a PME system
- Add serial and Ethernet meters to the PME system
- Analyze historical loads and consumption using Diagrams

Schneider Electric

- Create, manage, and automate reports with Web Reporter

Agenda

Day 1 – Basic Meter Configuration

Course Introduction

- Student and Instructor introductions and overview of course logistics
- Overview of course topics and agenda

Use the front panel of an ION meter

- Use the front panel for viewing metering information
- Use the front panels for checking and setting the meter configuration
- Use the front panels for manual reset actions including a Master Reset

Use ION Setup software to configure ION meters

- Use ION Setup software to set the PT & CT ratios
- Use ION Setup software to manage and apply advanced security profiles
- Use ION Setup software to configure the Ethernet and serial Com ports
- Use ION Setup software to enable DNP on a Com port
- Use ION Setup software to configure the Clock settings for time synchronization
- Use ION Setup software to program an ION meter to do energy pulsing
- Use ION Setup software to modify the Load Profile log for MV-90
- Use ION Setup software to configure an ION meter for power quality monitoring
- Use ION Setup software to create customized front panel displays
- Use ION Setup software to put a meter into "Test Mode"

Use ION Setup software to assess meter wiring

- View the real-time phasors to diagnose meter wiring
- Invert the polarity of the voltage and current inputs to confirm bad wiring

Use ION Setup software to manage meter programs

- Upgrade ION meter firmware
- Build and save ION meter templates using Offline ION meters
- Save ION meter configuration report text files
- Master Reset an ION meter before deployment to the field

Day 2 – Advanced Meter Configuration

Use ION Setup in *Network Mode* to connect to multiple meters

- Establish connections to multiple meters that connect via an Ethernet gateway
- Establish connections to multiple meters that connect via a Modem gateway
- Establish a naming system to name meters in the network

Use ION Setup in *Data Viewing Mode* to view meter values remotely

- View meter real time outputs such as voltage, current and demand
- View the meter event log
- View meter data logs and plot historical data
- Manually trigger a waveform capture
- View and analyze waveforms captured in the meter

Describe ION architecture and ION module properties

- Describe the ION module concept, including setup and output registers
- Describe the functions of the "Core" ION modules
- Use the *ION Reference* and *ION Device Template Reference* documents

Use ION Setup in *Advanced Module View* to create additional functionality

- Program an ION meter to count pulses and convert them to consumption values
- Add Alert modules for enhanced alarm notification via a Modem or E-mail
- Document the advanced meter configuration changes
- Save the meter template

Day 3 – PME Administration

Introduction to PME for Administrators

- Identify key components of a PME system
- Explore different system architectures

Management Console

- Add meters to PME
- Add gateway hardware to PME
- Explore efficiency tools for building large systems

Hierarchies

- Build Hierarchies via multiple methods
- View results of Hierarchy configuration in Reports and Dashboards

Day 4 – PME Operation

Understand the key features of a PME system

- Understand all component of PME system and why they are used:
- Introduce Dashboards tool
- Introduce Web Reporter tool
- Introduce Incident Alarm Viewer tool
- Introduce Diagrams tool
- Introduce Waveform viewer tool
- Review Engineering client tools
- Introduce the User Manager (PME local users)
- Review communication capabilities

Introduction of Dashboard web tool

- Review of the Dashboard Tool
- Understand navigation of Dashboard tool
- Creation of gadgets within Dashboard tool
- Editing of created Dashboards

Create and manage reports using Web Reporter Tool

- Review Reports library
- Dashboard Report capability
- Create a "Trend" report for voltage
- Configure a "Load Profile" report
- Generate an "Energy Cost" report
- Generate a "Power Quality" report
- Review and manage automated report distribution via email, file share or printer

Create and manage Trends using the Web tool

- Review existing trends, and understand their capabilities
- Modify and manage existing trends
- Create new trends using upper and lower thresholds with left/right axis
- Create single trends with 2 axes