

# COURSE DESCRIPTION

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## Power Monitoring Expert (PME) Operation

### Overview

This 4-day overview course focuses on the what, how and why to use a EcoStruxure Power Monitoring Expert system. Students will be exposed to power monitoring fundamentals in order to set a baseline for class. Students will practice using PowerLogic and ION meter front panels to verify the configuration of devices that already exist in the system. In a hands-on lab environment, students will use the web applications offered in PME as they are featured in this class as the extraction and analysis of data is paramount. Students will learn how to quickly extract and analyze data from their system using tools like the new Incident Alarm Viewer, Trends, Dashboards, Diagrams and Reporter. Utilize the web User Manager tool to add local users to PME. The course then moves on with an overview of one of the engineering clients, Management Console, to ensure the attendees understand how to add as well as remove devices from the PME system. The course concludes with a round-robin session to ensure that students “take away” one tangible item they will do when they get back to their location and their PME system.

### Duration

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

### Who should attend

Anyone who will be/ is using PME or migrating from our SMS platform or ION platforms.

### Prerequisites

- Basic computer skills and experience with Microsoft Windows
- Basic metering terminology

## Students will be able to

- Understand basic power fundamentals and terminology
- Verify the configuration of meters in a PME system
- Analyze historical loads and consumption using Diagrams
- Manage events and alarms in new Incident Alarm Viewer web tool
- Setup local users with the User Manager web tool
- Analyze power quality and waveform data in the new Waveform viewer
- Create, manage, and automate reports with Web Reporter
- Create and manage Trends in Trends web tool
- Create and manage Dashboard web tool

## Agenda

### Day 1

#### Course Introduction

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

#### Review Power Fundamentals

- Understand the power fundamentals topics and the variety of quantities that can be measured

#### Intro to ION/Powerlogic Devices

- Overview of ION hardware
- Overview of Powerlogic hardware
- Review Selection Guide asset
- Review of hardware placement in systems
- Overview of hardware clocks, synchronization and settings

### **Familiarize and Use meter front panels**

- Navigate the display screens to view meter information
- Access the front panel setup menus to configure meter settings

## **Day 2**

### **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
  - New Table gadget.
- 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 axis

## **Day 3**

### **Introduction and Overview of Alarm Optimization**

- Understand Alarming problems in control systems
- Identify steps to resolve and maintain alarm systems
- Create a plan to correct/improve alarm functionality within your system

### **Manage events and alarms in the Incident Alarm Viewer**

- Understand the features and benefits of the Alarm Viewer
  - Power Event Analysis
  - Incident and clustering
  - Timeline view
  - Smart Alarms
- Understand the different types of alarms
- Manage alarms within the active alarm viewer

### **Analyze historical loads and consumption using Diagrams**

- Review Diagrams library
- Determine what measurements are logged in specific PowerLogic/ION meters
- Compare the daily, weekly and monthly loads across multiple metering points

- Retrieve the peak demand for any time interval
- Determine monthly energy consumption

## Day 4

### Analyze power quality and waveform data using Waveform Viewer and Diagrams

- Analyze the waveshape and harmonic composition of specific loads
- Verify PQ meters are setup correctly for voltage disturbance monitoring
- Interpret PQ events and plot voltage disturbance events on a CBEMA - ITIC curve
- Analyze the waveforms of captured voltage disturbance events

### Review of PME client types and communication design

- Overview of the different client types of PME
- Overview of Communication designs and system integration

### Modify and add meters to PME through Management Console

- Maintaining your system using Mgmt Console
- Determine communication details for newly installed meter
- Create new meters in PME system
- Verify communications of newly installed meters by network generation

### Review and “Take Aways”

- Student round robin to declare what is next for them.
  - Based on all that has been covered, Students to provide **ONE thing** they will do with / to the PME system when they get back “home” – A “take-away”.
    - Demonstration (if applicable) in the software.
      - Utilize chrome cast to present to class
- Evaluation of Class and instructor(s)