

IED Integration and Automation Training

Course: Using the SMP Gateway Training
P-TTRN-0101-00

Duration: 2 days

Overview:

Participants are introduced to the technical and functional capabilities of the SMP Gateway and are shown how to use it as the central component of an integration and automation system. During this process, participants learn how to install, configure, commission, maintain and troubleshoot SMP Gateway applications. Detailed hands-on examples, centered on relevant application problems, ensure that all participants become fully familiar with the complete suite of SMP Tools.

Recommended Audience:

The course is intended for engineers and technicians involved in the process of specifying, selecting, installing, configuring, maintaining or operating substation automation and control systems.

Prerequisites:

There are no specific prerequisites, but participants should have a basic knowledge of serial and Ethernet communications technologies as used in automation systems. Moreover, they should have a basic understanding of control system architecture, and the communication protocols that are relevant to their projects.

Objectives:

At the end of a full course, participants will be able to:

- Use the SMP Gateway to design an automation and integration system
- Select the most appropriate model, hardware and software options
- Configure a gateway to poll RTUs and IEDs, using serial and Ethernet links, using different protocols
- Configure a gateway to distribute data to one or more control centers, using serial and Ethernet links, using different protocols
- Set up and use passthrough connections for remote configuration, maintenance and monitoring of IEDs
- Configure and use selected SMP Gateway advanced functions: security, redundancy, time synchronization, and modem support
- Install and update SMP Gateway firmware and software

Contents:

- Introduction to the role of the SMP Gateway in an integration and automation system
- Overview of SMP Gateway functions and capabilities
- SMP Gateway models, hardware and software options
- Connecting an SMP Gateway to the network
- Master/Slave architecture
- Device protocols
- Setting up a master protocol to poll a device
- Setting up a serial or network communication link to a device
- Creating and using configuration templates for common devices
- Control center protocols
- Setting up a slave protocol to connect to SCADA
- Setting up a serial or network communication link to SCADA
- Using SMP Tools for commissioning, maintenance and troubleshooting
- Using a web browser to view real-time data and system logs and statistics
- Control functions
- Setting up and using passthrough connections
- Overview of the advanced functions
- Setting up and using selected advanced functions
- Updating firmware and software versions
- Troubleshooting

Conditions:

- Courses run from 8:30 AM to 4:30 PM, for two consecutive days.
- Courses can be held at Cooper Power Systems' Montreal City offices or at client facilities.
- Each participant will receive printed notes and a CD with current software and documentation.
- Courses can be tuned to the special requirements of a group. Greater emphasis can be placed on functions, protocols and devices that are relevant to the group's particular applications.
- Availability of specific field devices to be used for hands-on exercises must be arranged for ahead of time.
- For courses given at its offices, Cooper Power Systems provides the SMP Gateways and computers for the hands-on exercises.

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