

# Power systems automation

Eaton's power systems automation (PSA) team is the professional/consulting engineering team within Eaton's Electrical Engineering Services & Systems. Throughout the United States and Canada, we staff engineers who are qualified to work on power monitoring and management systems. Our engineers understand your needs and are adept at finding unique power automation offerings and services that meet your needs and give you a competitive edge.



Eaton has the solution and PSA has the expertise to assist in the design and deployment of your system.

### Control systems

Eaton's experienced power systems automation team can assist with your control system from selection to implementation. Services include:

- System design
- Communication implementation including to outside devices
- Control system design
- Controller configuration
- HMI/alarming implementation
- Report configuration
- Full system testing
- Drawings
- Documentation

### Energy power monitoring systems (EPMS)

Whether you are looking for a comprehensive power monitoring system to oversee your mission-critical infrastructure, or you are looking for a straightforward system to manage your energy, Eaton has the solution and PSA has the expertise to assist in the design and deployment of your system. If you have already made the capital investment in EPMS, our PSA team has vast experience with a number of EPMS such as Foreseer® and Power Xpert Insight® as well as Wonderware®, ICONICS and other third-party monitoring tools. Our team can administer your EPMS, allowing you to focus on managing your facility.



# EATON

Powering Business Worldwide

## Substation and distribution automation

Providing reliable power to consumers is an everyday challenge for power system operators. Substation and distribution automation equipment should be able to monitor and control the grid in order to ensure a fast response to real-time events with appropriate actions, and to maintain uninterrupted power services. Eaton's PSA team works with you to implement the right system and comply with the applicable industry standards for grid integration and automation. Eaton's PSA team has experience with substation and distribution automation applications such as self-healing grid (FLISR), volt-var optimization, human machine interface (HMI) design, SCADA applications and cyber security applications.



## Programmable logic controller (PLC) automatic transfer schemes

The PLC team has engineers experienced in switchgear automation, paralleling controls, protection, source transfer, microgrid, energy storage and more. We provide the design, programming, implementation and testing of automatic transfer schemes ranging from a simple transfer between two sources, to complex multi-sources open/closed transfer with paralleling switchgear controls. We take the project from conception, work with our factory on the design and build, program and factory test the system, and perform the final field startup and commissioning. When an out-of-the-box controller will not meet your application needs, the PLC team can provide the solution. We provide PLC applications, HMI, generator paralleling controls and any type of custom application you might need for automating your switchgear. Our experience encompasses PLC and HMI platforms from a variety of manufacturers. Additionally, we have a wide range of experience in the application and upgrading of hardwired relay-based transfer schemes and using programmable relays to implement automatic transfer control.

## Turnkey SCADA

Power system operators can benefit from remote operation and monitoring, but often do not have the resources to implement a complicated project. Eaton's PSA team can deliver turnkey, scalable, pre-configured, easy-to-use SCADA systems using a variety of industry-standard solutions connected to new and legacy hardware. Additionally, many existing SCADA systems are aging—Eaton can help.

## Training, custom applications and maintenance services

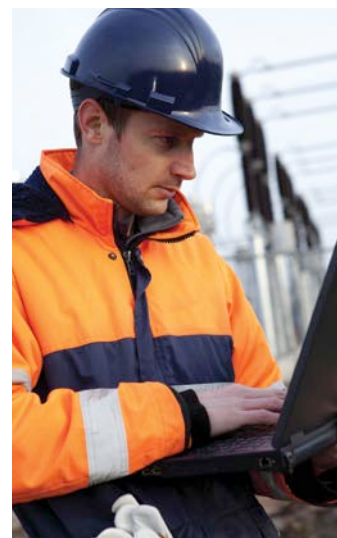
Eaton can help train your team to maximize productivity and provide warranty/maintenance services to maintain your system investment. Our team can even develop custom or advanced applications to expand on the system investment you have already made.

Eaton's PSA staff consists of project managers, automation engineers, graphical design artists, advanced applications engineers, integration specialists, field service engineers and professional trainers. From system architecture design, to deployment and commissioning, Eaton's PSA group has the resources to add intelligence and automation to your facility and meet your organization's energy management and uptime needs.

## PSA systems experience

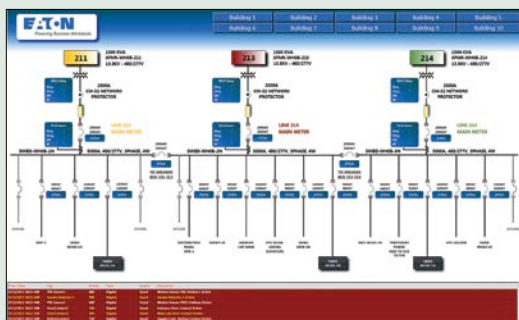
### Monitoring solutions: power quality and energy management

- Foreseer systems
- Power Xpert Insight
- Wonderware
- ICONICS
- Specialized solutions—systems integration
- Industrial network management

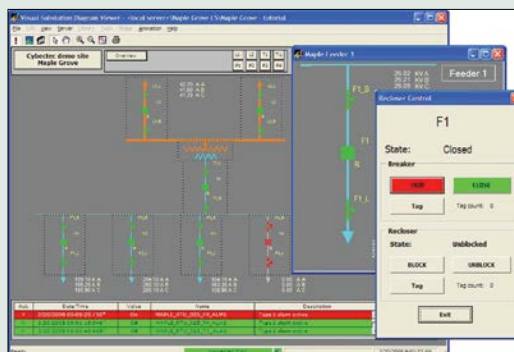


### Advanced and custom applications

- Power Xpert reporting
- Joint Commission reporting
- Cost allocation reporting
- AC zone control
- Specialized control
- Eaton's Yukon™ IED Manager Suite

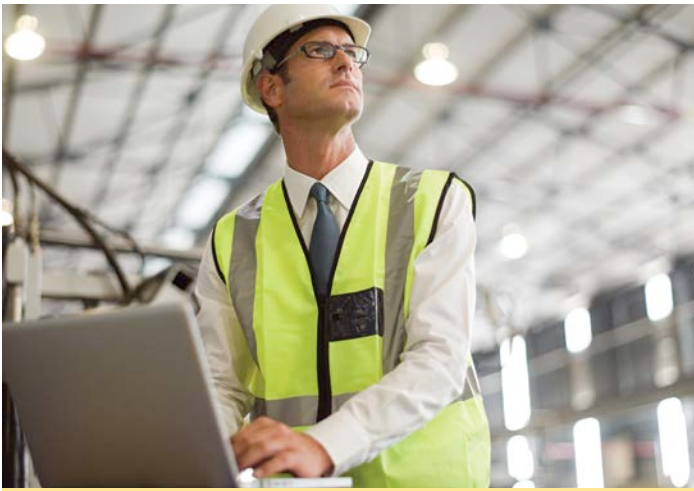


EPMS provides critical data to effectively manage power infrastructure.



Visual transmission and distribution—perform control operations with complete security.





Eaton's PSA team has years of experience with a variety of systems.

#### Substation and distribution automation

- Inspection and design
- Installation and maintenance
- SCADA design and implementation
- RTU configuration, programming, commissioning and testing
- Protection and control design
- PLCs
- Data concentrators
- Eaton's SMP substation automation solutions
- Yukon Visual T&D™
- Yukon Feeder Automation
- Yukon Integrated Volt/VAR control
- Yukon IED Manager Suite

#### Turnkey SCADA and SCADA upgrade projects

- Design
- Site preparation
- Coordination/management of all disciplines
- Subcontractor management
- Compliance with all local regulations
- IED configuration
- Communications, networking configuration Gateway/RTU configuration
- Project management
- Drawings
- Training
- Maintenance
- Installation
- Full system commissioning
- On-site testing

#### Control systems / power systems automation

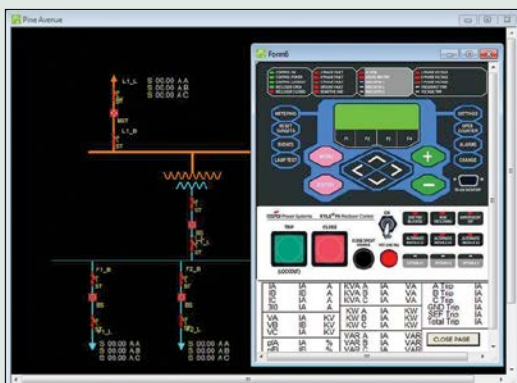
- Eaton's SMP gateways
- Main-tie-main
- Main-tie-tie-main
- MTMTG
- Load shedding/ peak shaving
- Generator control schemes
- Paralleling schemes
- Generator sync and control
- Automatic transfer switch (ATS) controls
- Expertise with all major OEMs

#### OEMs

- Eaton
- Allen-Bradley®
- Modicon®
- GE®
- Moxa®
- Veris Industries
- ABB®
- SEL
- Mitsubishi
- Omron®
- Siemens®
- Beckwith
- Cooper Power Systems
- Ethernet offerings
  - Industrial wireless accessories
  - Industrial wireless gateways
  - Industrial wireless modems
  - Wireless input/output
  - WirelessHART®

#### Motor control center systems integration to parent system (Eaton Freedom or IT MCC)

- DeviceNet™
- Modbus® RTU
- PROFIBUS®
- EtherNet/IP
- Modbus TCP/IP



Virtual front panels allow you to see what field personnel are seeing.



Graphical data supports logging and trending.

# Eaton's Electrical Engineering Services & Systems (EESS) coverage map



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