



POWER SCADA

Power Monitoring & Control Systems

EcoStruxure Power Operations (EPO) is a Supervisory Control and Data Acquisition System (SCADA) specially designed for power management applications. It is engineered with architectural redundancy and digital intelligence to help power-critical facilities maximize their uptime and efficiencies through real-time electrical operations and advanced energy management. It is particularly ideal in delivering high power availability and continuity of service for Medium Voltage (MV) and Low Voltage (LV) electrical distribution in buildings and facilities. EPO enables facilities to avoid overloads, isolate faults, diagnose abnormal conditions, manage complex multi-source networks and restore power quickly. Also, it enables facilities to address energy management needs such as demand control, load shedding, power factor correction, cost allocation and improved energy performance.

Salient software system features include:

- Certified Energy Data Management System in accordance with ISO5001, ISO5002 and ISO5006 standards sections that include energy baseline, data collection, performance indicators, analysis, audit reporting and review.
- Certified to Cybersecurity standard at the component level (IEC62443-4-1 and IEC62443-4-2 SL1) ensuring data is protected through encryption and certificate validation between EPO and connected devices.
- Reports for multiple Power Quality compliance standards including EN50160 and IEEE 519.
- Inbuilt support for multiple power distribution and power quality monitoring devices including power meters, branch and multi-circuit meters, smart circuit breakers, protection relays and electrical distribution thermal sensors.
- Safety risk mitigation through continuous thermal monitoring, active arc flash protection and safe breaker control.
- Management of energy resources in real-time including automatic transfer schemes, load sharing or shedding.
- Support for devices with standard industry communication protocols such as Modbus, ION, DNP3, SNMP and IEC61850.
- Data Exchange with third party systems through OPC UA/DA.
- Software Assurance to allow EPO upgrades to the latest released software version.

EPO deployment is carried out on dedicated computers/servers appropriately sized and provisioned with Operating System as per EPO IT requirements guide.

The EPO Software Components include Power Operation Server, Client Access, Event Notification Module, Advanced Reporting & Dashboards Module (i.e. Power Monitoring Expert - PME) and additional Advanced Reporting Modules i.e. backup power, breaker performance, capacity management, energy billing, energy analysis dashboards, energy analysis reports, insulation monitoring and PQ performance.

APPLICATIONS	FEATURES
Power Operation Server	Required base component of any EPO system responsible for data acquisition, alarming and trending of historical data. Licensed by number of points with options including 500, 1500, 5000, 15000 and Unlimited.
Power Operation Clients	Required to allow operators to access EPO runtime. Licensed by number of points.
Event Notification Module	Optional License to enable sending of events/alarms notifications to specific users via email or SMS. For emailing SMTP Server is required while for SMS a serial model is required.
Advanced Reporting & Dashboards	Optional License for a variant of PME to deliver feature rich Energy Monitoring Applications within the EPO runtime. Requires at least 1 Power Operation Server, 1 Client Access to operate.
Additional Advanced Reporting Modules	Licenses that extend functionality: Backup Power, Breaker Performance, Capacity Management, Energy Billing, Energy Analysis Dashboards, Insulation Monitoring and PQ performance.
SQL Server License	Required License if Additional Reporting and Dashboards module selected. The free SQL Server Express version is available for use though with database size limitation of up to 10GB.
Software Assurance	1 year or 3-year options available. Ordered using credits calculated based on system modules. Must be selected if an upgrade of software to the latest version is required.

The Base EPO License includes built-in basic reports accessible to end users via web client and through scheduled emails.. These are Single Device Usage, Multi Device Usage, Tabular and Trend Reports. Also, the SCADA trend system is used as historical data source and does not require Microsoft SQL to operate.

It is recommended to deploy an additional redundant SCADA server for mission critical use cases in which case extra licenses are required for Power Operation Server, Power Operation Client and Event Notification Module.