

Elster Meridian Solutions for Substation Metering

The Meridian System offers utility and plant engineers an ideal tool for monitoring distribution, transmission or generation substations for energy usage, load profiles, power quality, and event information for greater efficiency and reliability. The system can monitor a local facility or substations around the power system.



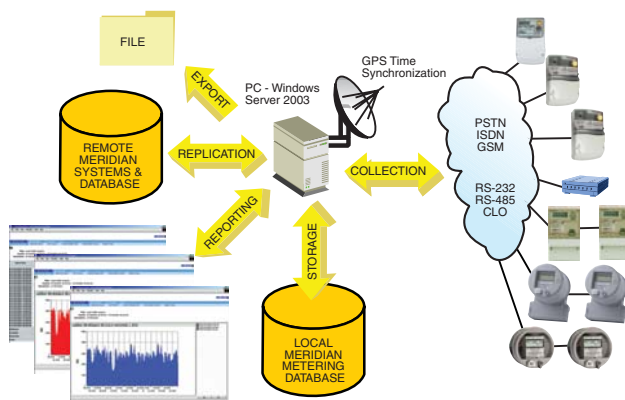
Meter Data is the Key to Efficiency

Meridian is an effective tool for substation metering applications where speed of access, reliability and accuracy of retrieved meter data are essential elements to meaningful decision making. The system can automatically retrieve interval, register, instrumentation and power quality event data, store it, and generate many useful reports for utility substation and operations engineers.

Users can view, graph and export feeder interval data and register values, calculate energy balances, view power quality events, see the variation of the instrumentation values, and much more. Reports can be e-mailed to central dispatchers or key operating personnel. Local substation data can be replicated to a central system database.

System Architecture

A Meridian system consists of separate applications for data collection, data storage and reporting. These functions may reside on a single PC or on separate PCs that are networked in the Microsoft® Windows™ Server 2003 environment.



Substation Meter Data Anytime, Anywhere

Meridian is web enabled for data analysis and publishing. Web publishing is achieved using the standard Microsoft Internet Information Server functionality included with Windows Server 2003. Access to reports is password protected and published according to administrator-defined access rights to networked users with a Microsoft Internet Explorer™ browser. Frequently needed reports can be generated and distributed using e-mail on a scheduled basis.

Sharing the Data

The Meridian system provides data exchange capabilities, allowing local substation systems to read and store their own data, and forward key metering information to a central headquarters Meridian system for consolidation and analysis. Power usage, net power flows and other information can be analyzed based on individual feeders or substations, or for utility districts or regions.

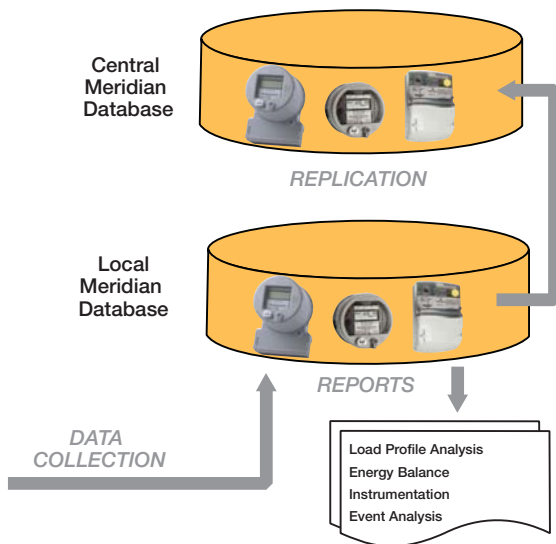
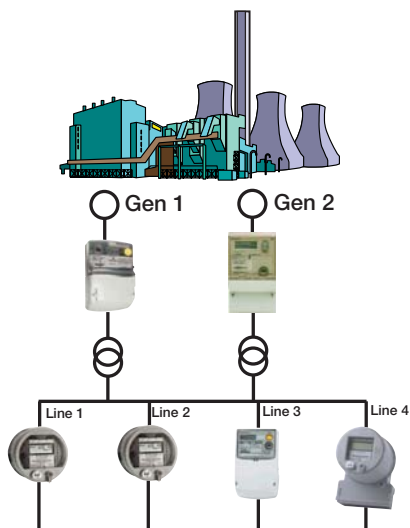
Data Collection

The Meridian system supports a wide variety of Elster metering devices that can be read locally via RS-232, RS-485 or current loop connections. Meters can be read remotely via telephone or cellular modems over a variety of public networks. Each communication server is capable of managing up to 32 ports for simultaneous remote meter reading. The system accommodates a GPS source for time synchronization of the computers and meters.

Reporting What You Need

Meridian offers many useful standard reports to view metering data or analyze system operation. Users may also customize reports to meet many special operational requirements.

Meridian systems provide utility and plant engineers with a wide variety of useful analysis applications and reports.



Load Profile Analysis

Analyze feeder data and energy flow through the substation by viewing interval data for each feeder, or aggregate all feeder meters into a total substation usage profile. Users can compare the load between feeders, or evaluate equipment loadings using minimum, maximum and average values. Proper sizing and loading of transformers and other devices can reduce system losses and thereby increase revenues.

A table view allows you to see calculated values and to identify the minimum, maximum and average values. The graphical view of the same data can help users to visualize trends. One can easily cut and paste data into Microsoft Excel™ or other Microsoft applications.



Balancing Analysis

Ease your analysis activity by defining balances using meters and formulas. Data from multiple meters can be aggregated to view the incoming, outgoing and totalized energy flow, to determine the internal consumption or losses and to calculate and analyze power factor.

Use Meridian's table view to see the calculated values or to identify the minimum, maximum and average values. To analyze trends, use the graphical view.



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Event Analysis

Elster meters now offer more than just consumption and interval data. Events, status information and meter parameters can also be collected and stored for later analysis. Users may generate diagnostic reports to check the meter status, to document power outage frequency or to analyze the power quality by identifying how frequently voltage, current or power factor exceed established meter thresholds.

Events may be analyzed chronologically or grouped and sorted by source, type and date and time of occurrence.

Instrumentation Analysis

Analyze the quality of the energy using instrumentation values measured by Elster meters. Instantaneous instrumentation values are acquired at the instant of acquisition and stored for viewing and trending. Instrumentation profile data can also be analyzed. Operators can view system frequency, power factor, current, voltage, and power (active, reactive, or apparent), based on total or per phase measurements.

