



OutageAdvisor

Fault Detection and Location Solution

 **COOPER** Power Systems



OUTAGEADVISOR VALUE

Electric utilities continuously look for ways to utilize technology to improve reliability by reducing the frequency and duration of customer outages. For nearly 30 years, electric utilities relied primarily on faulted circuit indicators (FCIs) to assist in locating outages within their system. These FCIs require physical inspection of device locations to look for a mechanical target or other type of indication.

The Cooper Power Systems OutageAdvisor solution provides a significant advancement in fault detection and location. It incorporates today's flexible communication technologies with traditional fault circuit indicators to integrate FCI data into operation systems including SCADA and Outage Management Systems (OMS).

The Cooper Power Systems' OutageAdvisor solution provides electric utilities the ability to achieve greater reliability and reduce operating and maintenance expenses. This simple yet sophisticated solution is designed to quickly and accurately indicate both permanent and momentary faults, find their location, shorten response time and improve reliability indices.

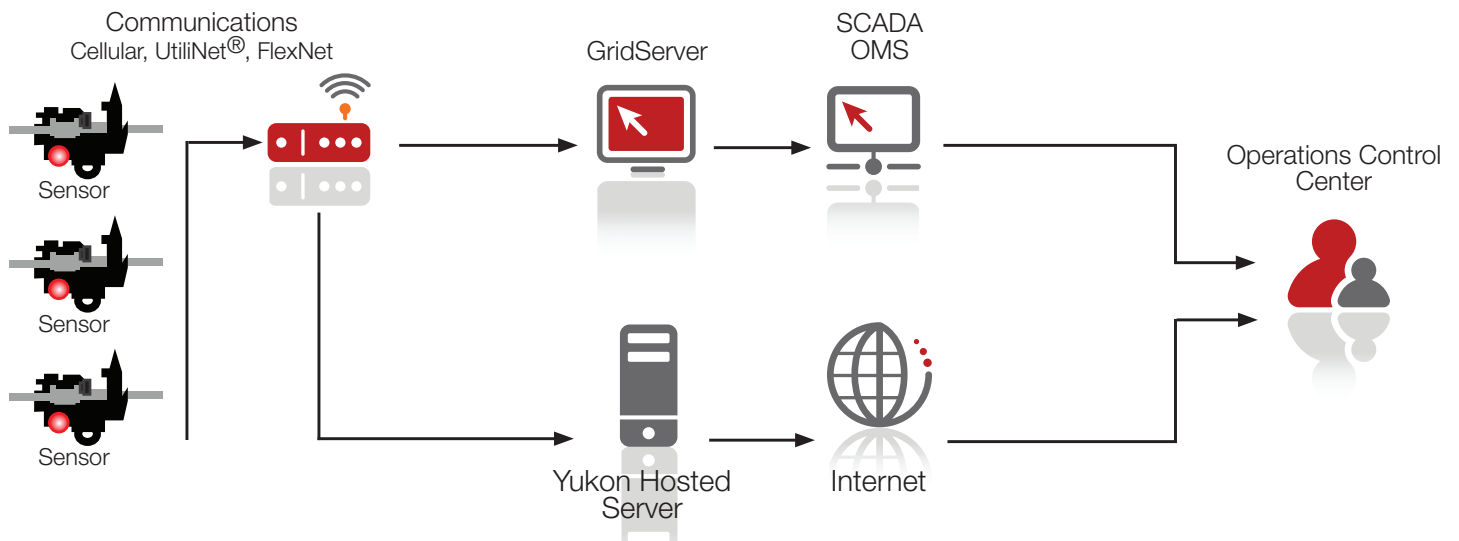


HOW IT WORKS

The OutageAdvisor sensors monitor the power system looking for high rates of change of current (DI/DT) followed by a loss of current, indicating a reportable event. After allowing sufficient time for reclosers and other line protection devices to operate, the OutageAdvisor sensor determines if current is present. It then transmits the occurrence of either a momentary (via cellular device only) or permanent fault.

The OutageAdvisor solution is flexible and uses multiple communication technologies. A key component of the solution is data management and visualization. The OutageAdvisor solution uses GridServer to enable the aggregation and routing of data from the sensors. The GridServer can be configured to allow an end user to view data from the sensors on a hosted Web site or on existing operations system platforms such as SCADA or OMS using various protocols including DNP 3.0 and IEC 61850.

OutageAdvisor Topology Diagram



KEY COMPONENTS

- Sensors
- GridServer
- Communications
- System Maintenance

SENSORS

The OutageAdvisor sensors provide reliable communications and field-proven sensor technology.

Our sensors are based on Cooper Power Systems' S.T.A.R. faulted circuit indicators that have been actively used for more than 10 years in systems throughout the United States. The sensors are specifically designed to provide multiple communications options including Sensus FlexNet, cellular (GSM, CDMA) and Cellnet UtiliNet®.

The sensors provide a reliable means to locate and isolate faults and communicate passage of a fault, whether temporary or permanent. This information eliminates the costly and time consuming fault-chasing methods that stress system components exposed to fault currents.

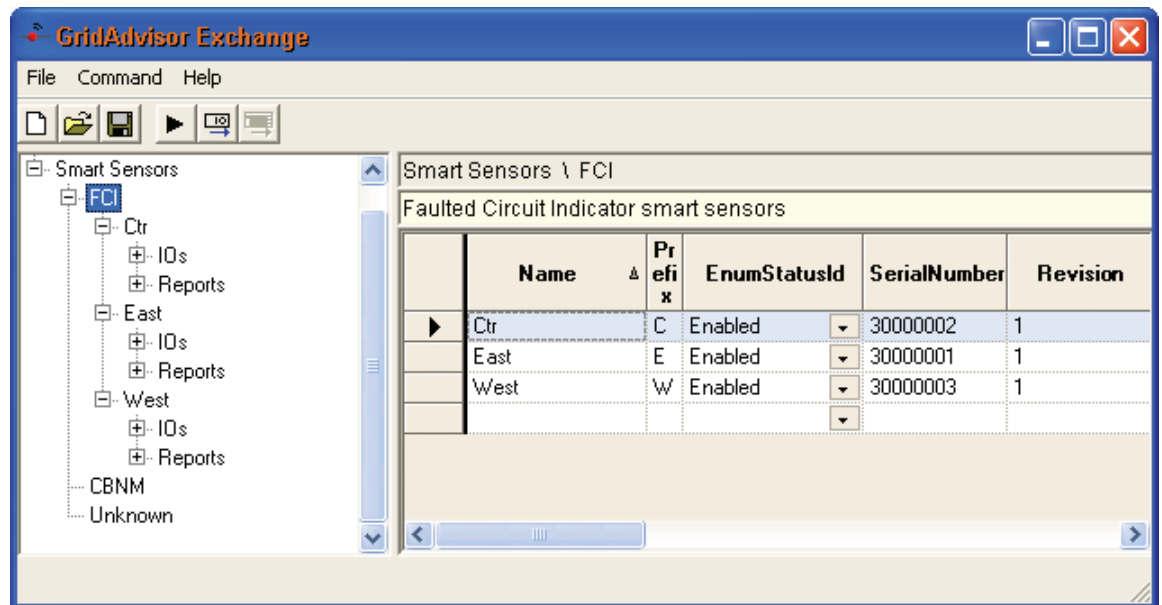
Additionally, these sensors prevent false indications due to inrush and capacitive discharge currents.



GRIDSERVER

GridServer provides a seamless and easy-to-use interface between the sensor data and the control room operation systems where data is viewed and managed. Configure it as a hosted Web site, a standalone system or on an existing enterprise software platform such as SCADA or OMS. Various protocols include DNP 3.0 and ICCP.

GridServer includes a full feature set: a tabular graphical user interface, message reception, data routing, protocol conversion, data historian and sets of point-ready data for scanning or forwarding.



COMMUNICATIONS STUDY

During project scope definition, Cooper Power Systems performs a communications study to recommend the best method(s) for your utility landscape providing for optimized system performance. The GridServer solution employs multiple communications methods, which provide flexibility of design and capacity. All communications are IP-based. Multiple communications methods may be utilized simultaneously as part of the total implemented solution. Our flexible solution's functionality is independent of the specific communications media. As a result, the study ensures you are provided with the communications media that addresses your specific needs.

SYSTEM MAINTENANCE

As part of the OutageAdvisor solution, Cooper Power Systems provides maintenance and support services. We stand behind the system implementation by providing ongoing communication surveys, software upgrades, training and on-call support services.



BENEFITS

OutageAdvisor provides a full range of benefits including improved reliability, vegetation management and recloser maintenance.

Improved Reliability

The OutageAdvisor solution provides timely, accurate and reliable data on the location of a fault. This information can reduce patrol time and, in turn, improve reliability indices.

Vegetation Management

OutageAdvisor allows utilities to quickly and accurately detect the locations of momentary faults. This information helps determine areas where vegetation management needs to occur.

Recloser Maintenance

OutageAdvisor sensors count and report recloser operations when applied on the load side of reclosers. Operations and maintenance dollars can be minimized if an accurate count of recloser operations is available. This is especially important for hydraulic recloser equipment.

The OutageAdvisor Fault Detection and Location solution allows you to quickly locate outages, shorten response time and increase reliability. Cooper Power Systems provides total solution implementation including a communications study and ongoing support. Contact Cooper Power Systems today to find out how our OutageAdvisor solution can work for you.

Proven Solutions for the Power Industry

Cooper Power Systems is aimed at implementing solutions to enhance the performance of electrical power networks. The developers of the Cooper Power Systems products have a 25 year track record of meeting customers' needs with the innovative and reliable solutions for all their substation integration and automation requirements.

The team behind our products has valuable experience in custom and consulting services, and an outstanding reputation for customer's support, making Cooper Power Systems' Energy Automation Solutions a leader in the field of enterprise automation solutions for the power industry.

For more information about how the Cooper Power Systems products can benefit substation integration, security and communications, contact sales@cybectec.com and request a demonstration.

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