



VARAdvisor

Cooper Power Systems VARAdvisor is a low cost sensor alternative to capacitor bank site inspections. The VARAdvisor sensor measures current levels on the common neutral conductors and uses cellular communications networks to transmit readings to the Yukon GridAdvisor Server platform. High neutral current readings may indicate blown capacitor bank fuses or other bank failure. The GridAdvisor platform identifies such unexpected current levels and issues alerts to operation and maintenance personnel.

Capacitor Bank Maintenance Solution

The VARAdvisor solution helps utilities achieve greater reliability and reduce operation and maintenance expense. This simple yet sophisticated solution is designed to detect capacitor bank fuse failures, shorten response time and improve system efficiency. VARAdvisor saves both operation and maintenance dollars by reducing drive time, and maximizes energy dollars by keeping capacitors online, operating at peak efficiency.

Benefits

Reduce Inspection and Maintenance Costs

VARAdvisor provides feedback as to which banks may be off-line due to fuse operations. Customers set alarm limits on neutral current to detect potential fuse operations. This reduces the need for physical bank inspections minimizing operations and maintenance efforts.

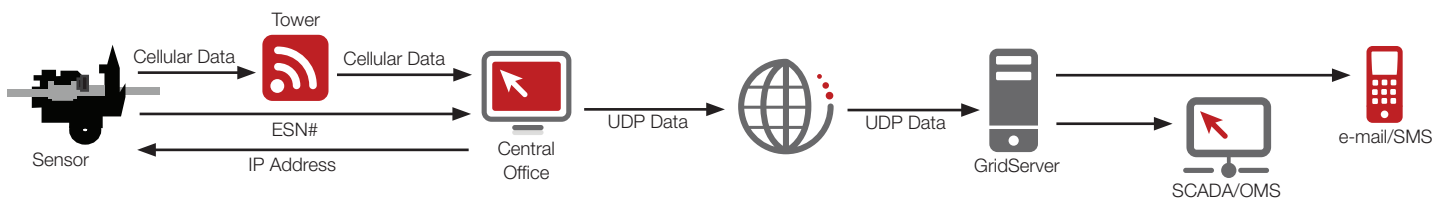
The solution can be applied to switched or un-switched grounded neutral capacitor banks, without any additional cable preparation.

Improve VAR Availability

The VARAdvisor Solution allows utilities to maximize benefits of capacitor investment by ensuring all banks are in service. Having more VAR availability results in an increased system capacity and efficiency.

Detection and Reporting

VARAdvisor reports daily minimum and maximum neutral current readings every 14 days through various nationwide providers. However, if a current sample exceeds the configurable threshold, the device will send a notification packet. A graphical interface allows for remote monitoring of neutral current on grounded banks. Data is processed and displayed by Yukon GridServer or the Yukon Software Platform.



The OutageAdvisor data navigation from the sensor to the end-user.

VARAdvisor and Integration

Connect with existing and planned devices to efficiently make use of data and provide notifications.

Sensors

VARAdvisor sensors utilize reliable cellular communications and field-proven sensor technology. The sensors are based on Cooper Power Systems S.T.A.R. faulted circuit indicators that have been actively used for more than 10 years throughout the United States.

The sensors provide reliable measurement and detection of capacitor bank fuse failures and communicate failure events. This information greatly reduces costly and time consuming inspection. Early detection of failures improves online time for capacitor banks keeping the grid operating efficiently.

VARAdvisor samples and records the neutral current once per hour. Every 14 days the sensor reports collected current readings via cellular data modem. By setting thresholds on the current readings, alarms are generated within an hour of failure for operations and maintenance personnel. Additionally, once repairs are made, if the current sampled is within the defined limits, the unit will automatically reset.

VARAdvisor is easily retrofitted to existing capacitor banks without removing the bank from service. The sensor is hot stick installed on the common neutral of a grounded-wye bank.

Visualization Software

Cooper Power Systems provides data display for the GridAdvisor family of field sensors with two interface options for utilities to view and manipulate VARAdvisor data. Either interface has the capability to act as a standalone solution to view the status of deployed sensors.

Both interface options provide the following functionality:

- System Administration
- Notification
- Data Display
- Message Reception

Yukon GridServer

The GridServer converts data from sensors into multiple protocols. It includes interfaces that work in concert with SCADA, Outage Management Systems (OMS) and other control center systems using various protocols that include DNP 3.0 and ICCP. GridServer functions include:

- Data Routing
- Protocol Conversion

Yukon GridAdvisor WebExchange

GridAdvisor WebExchange manages communication links to the sensors and presents the collected data via secure custom designed Web pages.

This simple yet sophisticated Web solution is designed to extend the reach of distribution SCADA and allow for increased system automation. GridAdvisor WebExchange can be deployed as a low cost standalone solution for smaller utilities or to test new sensor application capabilities.

Communications

The VARAdvisor cellular solution combines field-proven equipment with an existing communications infrastructure ensuring the utility enjoys a high comfort level for service and reliability.

VARAdvisor using cellular communications requires no customer owned infrastructure because the cellular networks are already in place. This means there is no investment in building new towers and antennas or relying on secondary-powered repeaters. This cellular technology can be used anywhere cell phones work.

Cooper Power Systems conducts comprehensive communications surveys prior to deployment to ensure the cellular network provides the required coverage. Cellular coverage depends on the carrier and allows for multiple carrier options.

Contact Cooper Power Systems to learn more about how VARAdvisor can improve your capacitor bank system and lead to increased efficiency and savings.

Cooper Power Systems VARAdvisor uses cellular communications to minimize infrastructure investment. It uses field proven technology to ensure the utility can provide the highest levels of customer reliability and service.