

# Sensor Management System (SMS)

## Predictive Grid<sup>®</sup> Analytics

### Alarm and Event Configurations

- Fault alarm configurations
  - RMS current or Di/Dt settings
  - Wait, inrush, reset times
  - Alarm thresholds
- High current thresholds
- Substation overload thresholds (summer/winter)

### Faults And Disturbances

- Waveform and circuit view analytics for accurate fault detection, classification, and location
- Multi-phase, multi-location fault processing
- Google Map view of fault location
- Permanent faults, momentaries, line disturbances, power disturbances, loss of voltage
- Lateral fuse, load switching, trunk fault, capacitor bank switching, adjacent phase/circuit
- RMS and peak fault current

### Waveform Capture

- Display of fault current, voltage waveforms and phasor diagram
- Configurable buffer size
- COMTRADE or .csv waveform export

### Configurable Alarm/Event Reporting

- Alert message sent through email, text, DNP3 or available in the SMS event logging dashboards
- Permanent Fault, Momentary Fault, Line Disturbance, Outage/ Power Off/Power On, Power Disturbance, High Current Threshold, Loss of Voltage, Sags/Surges, Substation Transformer Overload

### Power Quality Reporting

- Sags, surges
- Harmonics
- Power factor, phase angle
- W, VA, VAR

### Management

- Up to 5,000 MV Sensors per SMS server
- Remote firmware upgrades
- Multiple configuration templates
- Bulk import of sensor configuration for large scale deployments
- GPS-based sensor location and circuit mapping
- User account management

### Reliability, Asset Management and Planning Tools

- Interval load data graphing, reporting, direction
- Instantaneous and average values
- Load Balance and technical loss reporting
- Fault, disturbance, PQ event reporting and filtering
- Circuit ranking and trending of faults and disturbances
- Automatic phase identification
- Hydraulic recloser operation count
- Report export to Excel, csv file

### Google Map View

- Integrated Google Map view of sensor locations, faults, and real-time load
- GPS location

### DNP3 Integration Tools

- Full DNP3 Level 3 interface support
- Virtual outstation using grouping and template options
- Supports multiple DNP masters
- Polled reads, writes, and unsolicited protocol support
- Configurable DNP database limits
- Configurable event clear timers
- Outstation report generation

### Communications Monitoring

- Loss of communications alarms
- Cellular and Wi-Fi signal strength
- ESN and MAC address tracking

### Deployment Configurations

- Licensed: installed on Linux server or VM at utility data center
- Hosted: dedicated server hosted by Aclara; no system requirements for additional hardware needed
- Distributed: Super Aggregator, SMS on hardened industrial PC

### API Data Access

- Supports secure, automated data transfer
- Enables access to Alarms, Events, Sensor and Topology information

### Recommended Features:

- Redundant power supply or battery backup