“PowerDonut™”
Transmission Line Monitoring Device

Optimize your network capabilities with ATECNUM™
Products and Services
ATECNUM™ Industry Proven, Industry Accepted Instrumentation Systems for Overhead Power Transmission Line Monitoring and Management

PowerDonut Key Features
- Load Range: 0—3000 amps
- Conductor temperature range: -50 deg C to + 180 deg C
- High temperature range available: +250 deg C
- Inclination: -11 to +11 deg tilt
- Vibration measurement
- 7200 samples/sec Waveform Capture
- GPS Time tagged data
- Dual wireless communication—2.4 GHz and GSM

Weather Stations
- Self powered Solar and Batteries
- Ultrasonic wind sensor with no moving parts
- Ambient temperature
- Solar radiation intensity
- Humidity and rain fall rate available
- XBEE wireless radio, and RS232 connection options

ATECNUM Ground Stations and RTUs
- Weather proof NEMA enclosures
- Real Time Data Acquisition Server Software including the most utilized SCADA/EMS protocols via fiber/wireless/cellular
- Universal power input—DC to 220 VAC 50 or 60 Hz
- Internal memory for historical data logging
ATECNUM™ Overhead Conductor
Real Time Software Solutions

Overhead Conductor Real Time Software Solutions offers the most comprehensive, proven instrumentation systems available in the industry including:

- PowerDonut Systems
- Weather Stations
- Ground Stations
- Real Time Data Acquisition
- Server Software including the most utilized SCADA/EMS protocols
- Proven Software Algorithms for T Dynamic Line Rating, Sag and Tension, Ice detection, Waveform Capture, Fault Detection

Transmission line real time rating is the highest current that a power line can be operated at without violating codes, the integrity of the line materials, or network reliability. When line current increases, the conductor heats up and the line sag increases. If the line is operated beyond its design maximum temperature, the line sag may violate specified clearances.

Traditionally, fixed thermal ratings have been applied by transmission owners based on conservative assumptions of wind speed, ambient temperature and solar radiation, which are typically selected based on a 98% level. Thus if the line were to be operated at its fixed thermal limit 100% of the time, its temperature would be less than the design maximum 8% of the time. In the remaining 2% of the time, the utility may risk exceeding safety margins.

Use of the ATECNUM Transmission Line Monitoring Systems allows utilities and transmission operators to develop and apply line ratings, and other conductor reliability solutions in real time using real time weather conditions.

ATECNUM offers patented instrumentation packages including the PowerDonut systems. Proven wireless data telemetry utilizing 2.4 GH wireless and cellular solutions.

ATECNUM offers powerful tools for maximizing the capabilities of transmission lines and avoiding unnecessary operator interventions for transmission line loading relief.

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Note: All product, product specifications and data are subject to change without notice.