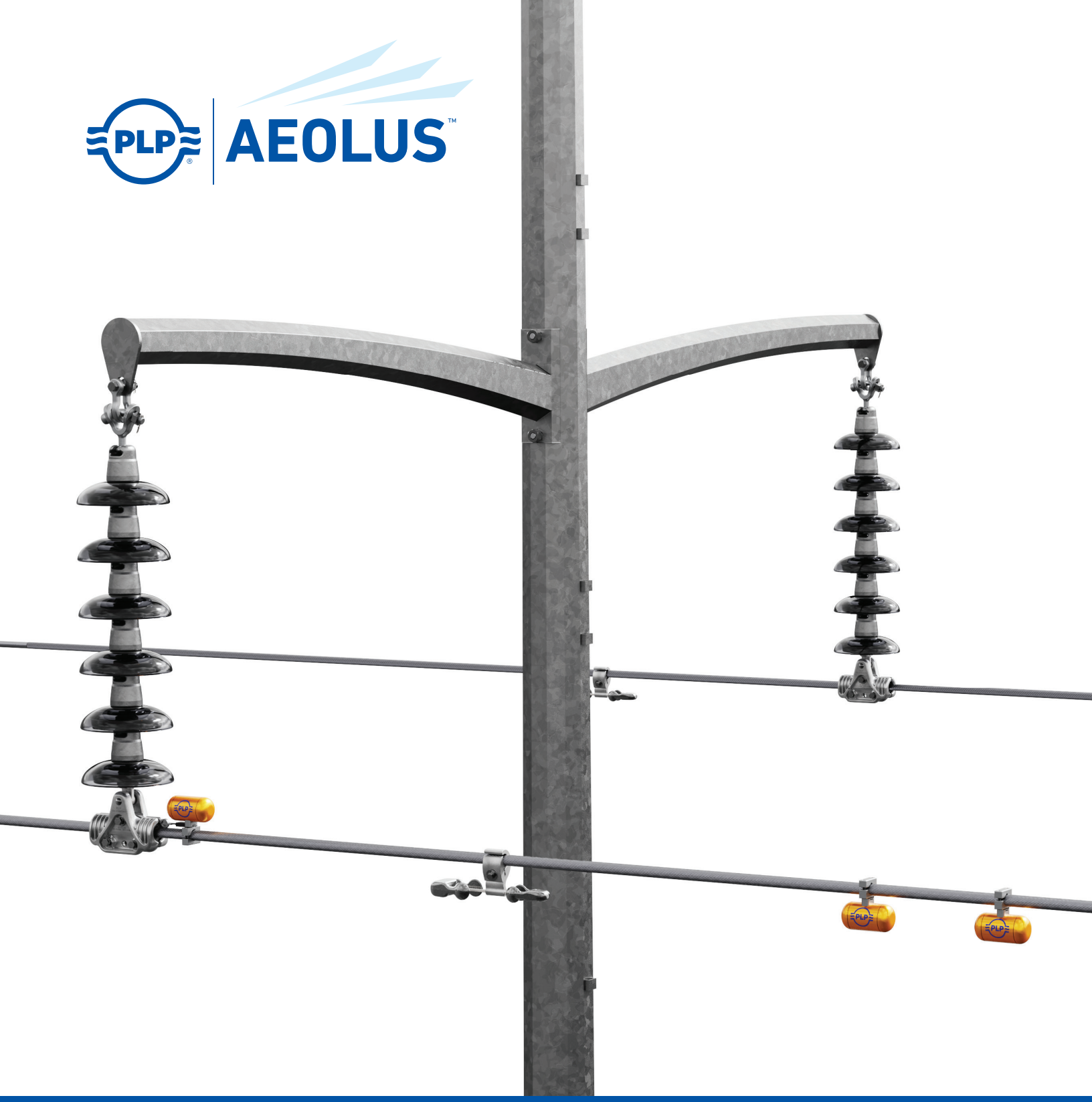
PLP | AEOLUS™



AEOLUS® LINE MONITORING

The World's Most Advanced System for Measuring and Analyzing Wind-Induced Conductor Motion

AEOLUS® LINE MONITORING

Aeolus is a next-generation field monitoring solution that gives line engineers and electric utilities unprecedented visibility into wind-induced conductor motion on overhead lines. By capturing and analyzing real-world mechanical behavior of conductors and associated line hardware, Aeolus delivers near-real-time insights from anywhere in the world.

Whether validating newly installed damping systems or investigating line performance and failures, Aeolus is transforming the industry's understanding and management of conductor dynamics.

Next-Generation Sensor Nodes

Lightweight sensor nodes installed along the transmission line span precisely capture the full range of wind-induced conductor motion — from subtle aeolian vibration to high-amplitude dynamic events.

- Aeolian Vibration
  - – Bending amplitude measured at 89 mm (IEEE standard 1368)
  - – Antinode amplitude and vibration frequency (fy_{max})
  - – Damping efficiency
- High-Amplitude Conductor Motion
  - – Galloping
  - – Wake-induced motion
  - – Subspan oscillation
  - – Ice shedding
  - – Conductor sway/wind gust response

Wireless Data Hub & Weather Station

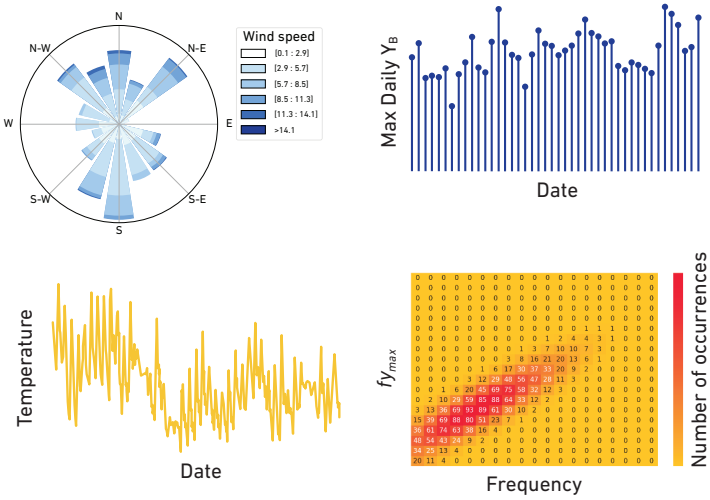
The Aeolus wireless data hub serves as the central link between field-mounted sensor nodes and the cloud—ensuring reliable data synchronization, transmission, and access.

- Automatically aggregates and synchronizes time-domain data from all sensor nodes
- Secure cellular upload to cloud-based storage and analytics platforms
- Renewable, self-sustaining power system with smart lithium iron phosphate batteries
- Supports the deployment of multiple wireless weather stations to accurately monitor local environmental conditions

Web-Based User Interface

The Aeolus web platform puts real-world conductor motion data at your fingertips, delivering near-real-time visibility, analysis, and control from anywhere in the world.

- Access sensor data anytime, anywhere
- Advanced analytics and visualization tools
- Download raw time-domain data for in-depth study
- Run custom, user-defined processing scripts
- Set intelligent alerts based on operating conditions
- Configure and manage sensors remotely



SYSTEM SPECIFICATIONS

Model H2121	
Autonomy	Sensor Nodes: Up to 12 months Data Hub: Self-powered
Synchronization Accuracy	< 1 ms
Weight	Sensor Nodes: 500 g (ea) Data Hub: 10 kg
Operating Temperature	Ambient: -40˚C to 50˚C Conductor: -40˚C to 220˚C
Sampling Frequency	Sensor Nodes: 200 Hz – 1000 Hz Weather Station: 1 Hz
Communication Frequencies	Sensor Nodes: 868/915 MHz Cellular: 3G/4G/LTE/5G
Power Source	Sensor Nodes: Primary lithium battery Data Hub: Solar/Wind
Acquisition Triggers	Time; Acceleration; Wind

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