

Success Story

Enhancing Wind Power Efficiency with Elspec's Advanced Digital Fault Recorder



Elspec India installed 55 units of G5 Multi-Functional Digital Fault Recorder at a major wind power generating company in India.

Customer

A major wind power generating company with over 100 wind farms and a capacity of over 14,000 MW operating across India, Asia and other regions.

Challenge

With an extensive network of wind farms across India, the customer needed a reliable system to monitor and record electrical parameters, ensuring grid stability and optimal power quality. Limited visibility into electrical data and delayed response to grid fluctuations led to inefficiencies in power management, impacting overall energy generation and operational effectiveness.



Solution

To address these challenges, the customer integrated Elspec's G5 Digital Fault Recorder (DFR) system into their SCADA platform. A total of 55 G5DFR units were successfully installed and commissioned by Elspec India experts.

Elspec's G5 is a multi-functional recorder that can serve as a DFR and a PMU. Its unique time synchronization algorithm assures that logged data from multiple units is synchronized & displayed on the same time scale with typical 1 μ s resolution. The G5 provides high-resolution, continuous recording of electrical parameters, enabling accurate validation of energy export data.

Results

Before Implementation

- Limited visibility into real-time electrical data
- Delayed response to grid fluctuations
- Inconsistent monitoring, leading to inefficiencies

After Implementation

- Instant access to accurate, real-time electrical data, allowing proactive decision-making
- Significant reduction in unplanned downtime through early detection of grid disturbances
- Improved operational efficiency and enhanced tracking of energy generation

Key Impact

- ∞ **Faster response times to power quality issues, leading to quicker resolutions**
- ∞ **Enhanced energy production analysis with continuous monitoring**
- ∞ **Reduction in operational and maintenance costs, improving overall profitability**

Conclusions

The integration of Elspec's DFR system has transformed the customer's approach to power quality monitoring and data analysis. By enabling continuous, high-resolution data recording and real-time insights, the company now operates with greater efficiency, reduced downtime, and optimized energy production across its wind farms. Elspec's technology has proven to be an invaluable asset in driving grid stability and operational excellence in India's renewable energy sector.



Ask us about our complete line of Power Quality Solutions www.quality-energy.com



Headquarters
Elspec Ltd.
info@elspec-ltd.com

North America
Quality Energy
info@quality-energy.com

Europe
Elspec Portugal Lda.
info@elspeceurope.com

India
Elspec Engineering India Pvt Ltd.
info@elspec.in

Región Andina
Elspec Andina
info@elspec.com.co