

UltraTEV® Plus² identifies multiple cable termination issues at new solar farm



Lightsource is a global leader in the funding, development and long-term operation of solar photovoltaic (PV) projects with 2GW under management and the largest in-house O&M fleet in Europe.

Recently, during routine maintenance, technicians performed a non-intrusive Partial Discharge (PD) survey using the UltraTEV® Plus². The instrument immediately highlighted high PD readings in the substation switchgear cells.

Investigation

The substation was isolated in order to allow access to the cable compartment. Upon removal of the cable termination cover, the origin of the high PD reading was not immediately apparent.

Detailed findings

The Extensible Connector was dismantled across all three phases to further investigate the case. Irregularities were noticed on L1.

Results

The issue was rectified and the UltraTEV® Plus² used to confirm that the PD source was eliminated.

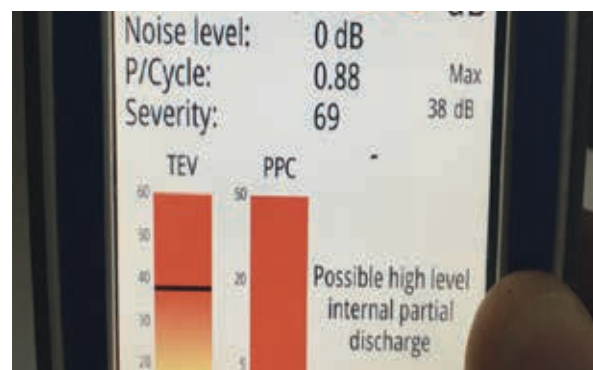
Benefits

If UltraTEV® Plus² had not been used, the issue would have gone unnoticed and it may have resulted in flash over rendering the switchgear unusable and the cable requiring re-termination.

The use of UltraTEV® Plus² helped to prevent loss of generation income.



UltraTEV® Plus² reading showing the fault at site



Immediate on-screen diagnosis



Partial Discharge identified

Making Partial Discharge measurements easy with the UltraTEV® Plus²



Additional Partial Discharge Detection and Advanced Analytics

The UltraTEV® Plus2 has the ability to measure PD in cables and cable accessories using Radio Frequency Current Transformers (RFCT) as well as established techniques for surface PD (Ultrasonic) detection and internal PD (TEV) detection on switchgear.

The new advanced analytics allow PD measurements to be examined more precisely in real time or after the inspection:

Phase plots - helps to differentiate between noise patterns and real PD

Waveform capture - examines amplitude of individual pulses, for PD Characteristics

Histograms - assists with identification of multiple sources of PD and noise discrimination

Interpreting the condition of your electrical assets

The UltraTEV® Plus² has been designed to make asset inspections easy. The instrument helps the operator understand what the results mean by interpreting the data and displays clear information and instructions.

Range of Kits and Uses

The UltraTEV® Plus² is a multifunctional instrument that can be used to rapidly survey the condition of whole substations and check that working environments are safe. Changes in PD activity levels can be compared between assets and analysed over time, providing a clear indication of when further investigation is required. To meet your need we offer the following instrument kits:

Kit 1	Metal clad Switchgear	Standard kit for Switchgear condition assessment includes headphones & battery chargers.
Kit 2	Metal clad Switchgear Cables	This kit has additional external sensors and includes an RFCT, allowing quick and easy condition assessment of your cables*
Kit 2	Metal clad Switchgear Cables Outdoor assets	With the UltraDish™ option included in Kit 3, PD activity can be measured in overhead assets, offering a comprehensive condition assessment package

*Access to cable earth required.

For more information or to book a demonstration please contact us on:

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