



KINECTRICS

a **BWXT** company

HV/EHV Transmission Cables Field Testing

Expert capabilities for reliable commissioning and
maintenance testing worldwide





We Eliminate Uncertainty **Before Day One.**

As global power demands increase and high-voltage transmission networks face unprecedented complexity, project risk is non-negotiable. **As the world's largest independent provider of HV commissioning services**, Kinectrics delivers the definitive technical assurance your grid requires.

From land-based transmission networks and deep subterranean cable tunnels to the world's most ambitious offshore wind farms, we engineer, test, and commission vital power assets across the globe. Our critical High-Voltage (HV) commissioning testing proactively stops installation-related defects before they can threaten your operational service or impact financial reliability.

Why Kinectrics?

> Independent Expertise

As an independent third-party testing provider, we deliver objective assessments with no vested interest beyond ensuring reliable results.

> Engineering-Driven Diagnostics

We combine Near Power Frequency (NPF) resonance testing with advanced diagnostic techniques, including Partial Discharge (PD) and Tan Delta testing, to identify potential issues before systems enter service.

> Industry Leadership

We contribute to IEC, IEEE, and CIGRE working groups, helping to shape HV cable testing methodologies and industry best practices.

> Global Delivery Capability

With the industry's largest mobile fleet of Resonance Test Systems (RTS), that includes Alternating Current (AC) and Direct Current (DC) testing equipment, our teams can rapidly mobilize to support complex projects worldwide.

Why Resonance Testing?

Resonance Test System (RTS) is widely recognized as the preferred commissioning testing methodology for modern HV and EHV cable systems. It enables a comprehensive assessment of cable system integrity prior to energization, commonly applied to onshore transmission cables, offshore export cables, inter-array cable systems and long-distance EHV cable circuits.

We Have Successfully Commissioned:



12,000+ km

HV/EHV onshore and offshore cables



Up to 500 kV

Cable class system



7000+

Joints tested for PD



100 km

of cable at once (multiple RTS systems in parallel configuration)

Our Commissioning & Diagnostic Services.

High Voltage Testing

- AC testing for cables with extruded insulation (XLPE, EPR)
- AC or DC testing for fluid filled cables (PILC, LPFF, HPFF)
- Partial Discharge (PD) measurement

System Testing

- Sheath Voltage Limiter (SVL) testing
- Bonding performance (induced voltage measurement)
- Positive and zero sequence impedance measurement
- Capacitance measurement

Low Voltage Testing

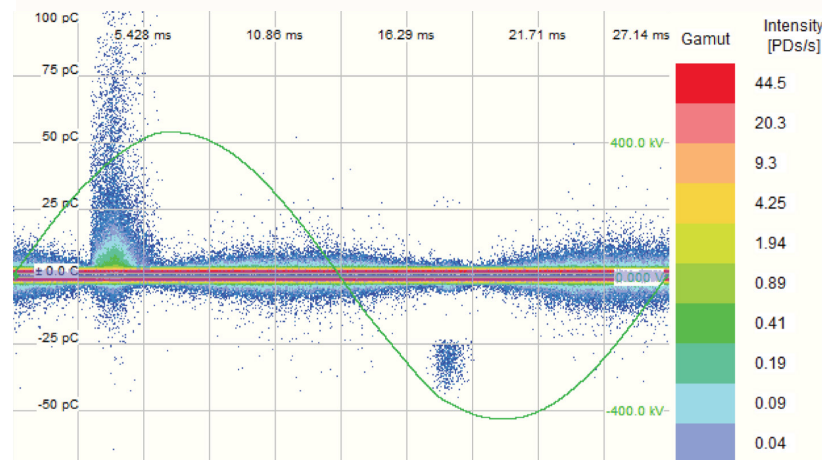
- Dielectric Spectroscopy (DS)
- Time Domain Reflectometry (TDR)
- Optical Time Domain Reflectometry (OTDR)
- Line Impedance Resonance Analysis (LIRA/FDR)
- DC sheath resistance measurement
- Jacket integrity test
- Contact resistance test

Failure Analysis

- Forensic services including chemical and mechanical analysis
- Numerical modeling of accessories (thermal & mechanical)
- System studies (lightning & switching impulse, AC/DC)

Partial Discharge Diagnostics

- Expert testing operation
- PD monitoring and diagnostic capabilities
- Individual assessment of joints, terminations, and cable sections
- Non-invasive and intrinsically safe testing method
- Localizing PD activity within a cable system
- Sensitivity assessment



Standards include: IEC 60840, IEC 62067, AEIC CS9, ICEA S-108-720, and HD 632 SCT 36



Let's work together.

Contact us today to learn how we can support your high voltage testing needs with precision, reliability & industry-leading expertise.

Powering innovative
and sustainable energy
solutions globally.

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Scan the QR Code

to learn more about our cable
testing solutions & capabilities



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