KINECTRICS

High Voltage Direct Current Testing & Commissioning

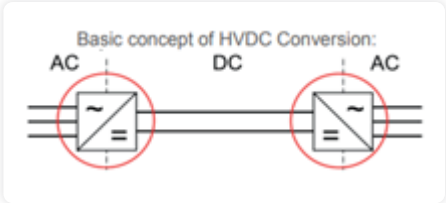
Avoid Delays & Failure of Your Assets

Overview: Mobile HVDC Test System 1200 kV

Kinectrics supports the transition towards decarbonsiation in high voltage transmission engineering. High Voltage Direct Current (HVDC) technology offers one of the the most efficient means of transmitting large amounts of power over long distances, parrallel to supporting the transmission and distribution of renewable power on the Grid.

HVDC systems are a key technology for the development of the future electric power transmission networks. They serve three functions to:

1. Interconnect countries or islands separated by water
2. Connect remote offshore platforms to main transmission grids
3. Transmit energy over long distances



Technical Abilities: Our Solution

Mobile HVDC Test Set

- Cascaded up to 1200 kV
- Standard Current / Duty Cycle

✔ For 2s configuration

- 100 mA – up to 400 kV (max. 3 hours)
- 75 mA – up to 600 kV (max. 6 hours)
- 40 mA - up to 720 kV (max. 3 hours)
- 20 mA - up to 800 kV (continuous)

✔ For 3s configuration

- 20 mA - up to 1150 kV (max. 6 hours)
- 10 mA - up to 1200 kV (continuous)

- Polarity: Reversible via motorized switch
- Special developed discharge unit for fast discharging of high capacitive test objects (such as Cables)
- Testing according valid IEC, IEEE and CIGRE standards

Our HVDC system is the **largest of its kind** & has a **DC voltage of 1200 kV** that is easily transportable in containerised solutions

Why Us?

Rapid charge & discharge for cable systems up to 750 km (466 miles) in length

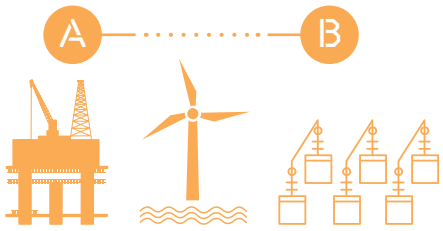
- Helps to avoid exposing cable systems to prolonged overvoltage (less than 60 minutes)

Ideal for end-to-end commissioning testing of newly laid HVDC cables & maintenance

- Supports your asset reliability & provides operational assurance

HVDC (Commissioning) testing applies to the following applications:

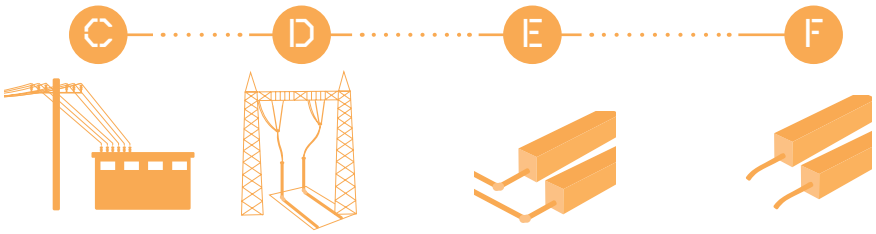
Converter stations



Offshore

Onshore

Transition stations



From overhead line to cable or gas-insulated line (GIL)

From gas-insulated line (GIL) to cable

From cable to cable

Turnkey Testing Capabilities for AC & DC Cable Systems

High Voltage Testing

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

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

System Testing

- Sheath Voltage Limiter (SVL) testing
- Bonding performance (induced voltage measurement)
- Positive & zero sequence impedance measurement
- Capacitance measurement
- DTS & thermal rating (ampacity) calculations & verification

Failure Analysis

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

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