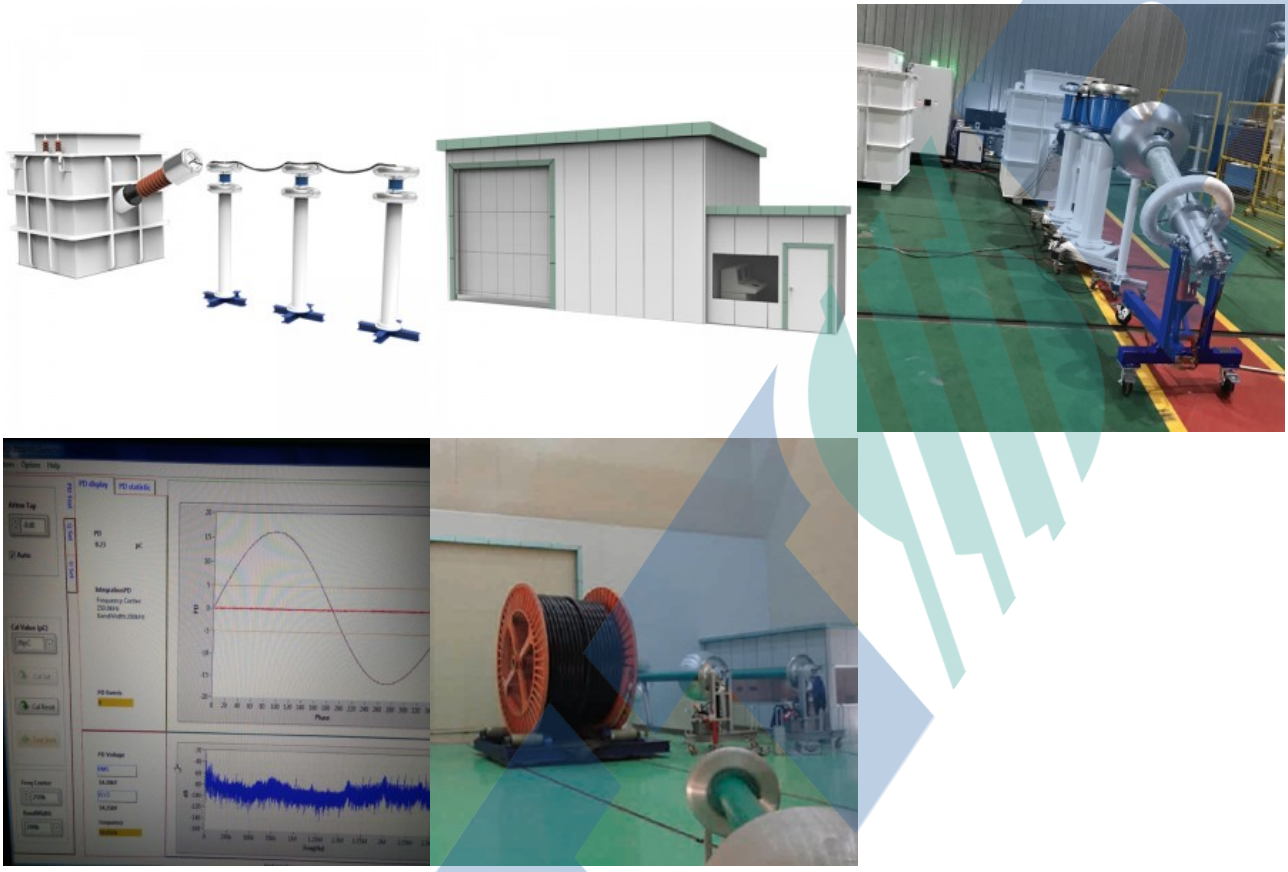
AC Resonance PD Free Test System



Compared with overhead lines, cable lines have the advantages of concealed laying, less climate interference, less maintenance, and less impact on the city's city appearance, and their application in urban power grids is becoming more and more common. Among them, cross-linked polyethylene (XLPE) power cables have become mainstream cables because of their good electrical mechanical performance, large transmission capacity, and flexible construction and installation. Long-distance high-voltage XLPE cables have been widely used in urban construction.
In order to ensure the safe operation of the line, the handover acceptance test must be carried out before the power cable is put into operation, so as to avoid the loss of operation failure caused by mechanical damage, installation process defects and other problems. The basic design of the AC resonance non-partial discharge test system provided by our company is the specific characteristics of the energy storage of the capacitive test object.

1. Introduction

AC series resonance PD free test system is mainly used in power industry, power transformer, HV PT, HV switchgear, ect. This system application conforms to XLPE cable power frequency voltage test and PD test requirement, and is suitable for PD test, voltage test and PD fault location test for XLPE cables before leaving factory. The test item includes AC voltage test, PD test,and cable long duration test.

2. Environment

- Maximum altitude: ≤ 1000 m
- Altitude 100 m increase voltage rate lowered by 1%

 Ambient Temperature for HV component operation: 3 ~ 45℃
 HV component relative humidity (non-condensing): ≤ 95 %
 Temperature for electronic control and measuring:
+10 ~ +45℃
 Relative Humidity of electronic components: ≤ 80%
 Transport temprature: 20℃ ~ + 60℃
 Anti-seismic: 8 grade
 Grounding resistance: ≤ 1.0Ω
 No dust

3. Main Technical Parameters

 Rated voltage: 100kV ~ 1500kV (and above)
 Rated energy: 300kVA ~ 30000kVA (and above)
 Noise: ≤ 75dB (2 meters away from equipment)
 Q value: Q ≥ 20 ~ 100
 PD: 80% voltage PD ≤ 2pC
 Load: Under rated capacity, 1 hour on, 1 hour off,3 ~ 6 times per day; under 50% capacity,continuous operation. (customer can require longer operation)

4. Features

(1) Bigger reactor power (ineffective power) output with very low actual power input;
(2) After output filtered, output waveform distortion ratio is 0.5% lowered than total resonance wave distortion;
(3) When tested object fault happens, fault current generated in power loop will be deleted, and the fault point damage is the lowest;
(4) The operation mode is controllable resonance status, so accidental resonance will not happen, while this happens to traditional power
frequency test transformer when doing capacitive load test.
(5) The complete application can significantly save costs.

Product link：https://www.linttop.com/ac-resonance-pd-free-test-system.html