

Insulation diagnosis equipment with resonance type voltage source for visiting inspection of electric power facilities

Purpose: Onsite insulation diagnosis of electric power facilities needs a high tension voltage source and nondestructive electric property measurement equipment. Visiting actual sites by a 4-ton car mounted with these equipments, we aim to accelerate insulation diagnosis research.

Main specifications:

1. High tension variable reactor (mounting one of the following reactors according to the target facility)
 - (1) 50kV,8A,Q=40, 50Hz:18.9H-624H, 60Hz:18.9H-663H
Typical target: XLPE power cable (~60kV class, 30m-2.5km)
 - (2) 20kV,7A,Q=10, 50Hz:11.9H-192H
Typical target: power generator or high voltage motor (~25kV)
2. Partial discharge measurement range
 - 0-50kV, 10pC-1000nC, double pulse resolution: 10 μ s, frequency band: 10kHz-200kHz/10kHz-4MHz
3. $\tan\delta$, alternating current measurement range
 - 0-30kV, 0.1nF-10 μ F, $\tan\delta$: 0-100%, alternating current: 0-50A
4. Incidental equipment
 - Exciter transformer (installed in main controller)
1.25kV, 8A/2kV, 7A (selected by tap switch)
 - Diesel generator
1 ϕ 200V, 50Hz:13kVA, 60Hz:15kVA
 - And the rest
Measurement apparatus, cable drums, etc.

Location and Date of Installation

Yokosuka Campus, March 2005

