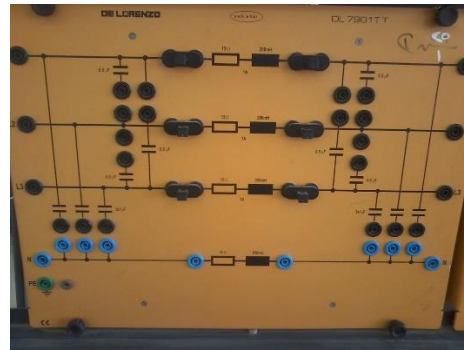


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3-phase variable resistive load

- 7 positions (46 W: 400 W)
- Connection: star, delta, or parallel



Transmission line model

- Model of overhead TL 360Km, 380 KV, 1000 A.
- Scale 1:1000
- π model
- natural load 600 MW.



3-phase variable inductive load

- 7 positions (34 VAR: 297 VAR)
- Connection: star, delta, or parallel



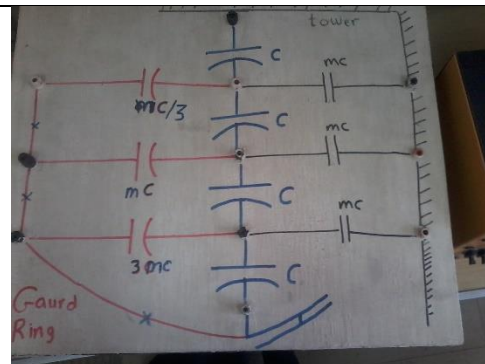
3-phase variable capacitive load

- 7 positions (30 VAR: 275 VAR)
- Connection: star, delta, or parallel



Power factor meter

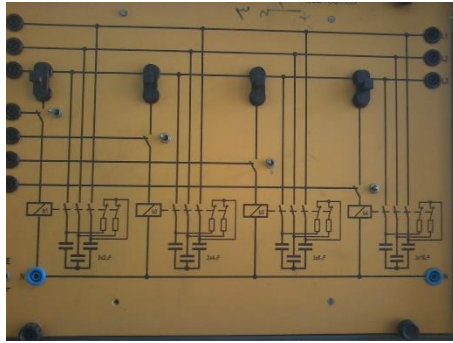
- Measure power factor and the phase angle of one phase
- 3:1000 V, 0.1:30 A



Model of string of Suspension insulator

- Study the effect of Gard ring in equaling the voltage in the units of the insulator

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4 Capacitor bank

- Used for control (manual or automatic) power factor
- $3 \times 2 \mu\text{F}$, $3 \times 4 \mu\text{F}$, $3 \times 8 \mu\text{F}$ and $3 \times 16 \mu\text{F}$,



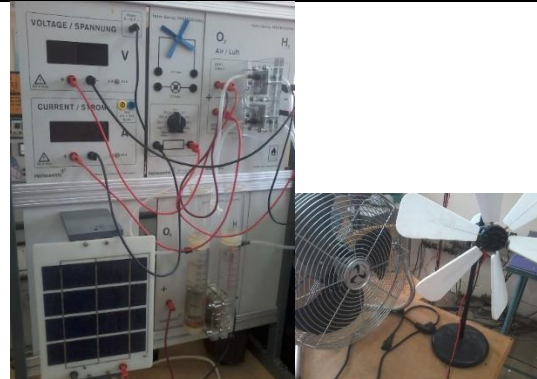
3-phase auto transformer

- Produce controlled ac voltage



PV system

Small PV panel feed variable resistance



Hybrid PV, wind turbine and fuel cell System

- The output of PV or WT is used to feed electroser cell to produce H₂ and O₂ to feed the fuel cell to produce power “energy storage system”



Digital measurement unit

- Measure volt, current, active power, reactive power, PF, ...
- For 3-phase

DC network analyzer

- For analysis of ac power systems as fast calculation short circuit current at complex network.

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Tower Insulations
Practical Tower Insulations



FOG

- Determine the location of fault for cables