

9. Quality of energy

Study box for compensation of reactive energy - Basic

Training objectives

- Measuring electrical variables and phase offsets.
- Analysing consumption of reactive energy.
- Studying compensation of reactive energy.
- Implementing compensation capacitors.
- Studying over-compensation.

Presentation

This box is fitted with 3 lamps (linear loads) and an induction coil (nonlinear load) in order to generate a phase offset.

Compensation is provided using a set of 8 capacitors.

Each element is controlled separately.

Voltage and current measurement points are provided on the side of the box.



Description

Components of study box for compensation of reactive energy

Description	Quantity
Halogen lamps on a dimmer,	3
Phase offset induction coil	1
Capacitors,	8
Wired switches to diversify the circuits	
- for the capacitors	8
- for the lamps	3
- for the phase offset induction coil	1
- for the dimmer shunt	1
Light dimmer	1
Measurement point for the current consumed	1
Measurement point for the network voltage	1
Power lead.	1

References

Description	Reference No.
A2E study box for compensation of reactive energy	MD3BPCER

Decision aid

Sectors concerned

- Electrical
- Energy

Designated skills

- Analysis
- Configuring
- Studying

Themes studied

- Energy from renewable sources
- Energy management
- Measuring
- Energy storage