Introduction

The trainer provides an experimental approach to the analysis of the behavior and characteristics of the single-phase transformer. Its operating features are deduced from typical industrial grade tests.

Technical characteristics

This trainer is composed by:

- Two single phase transformer with the following characteristics:

  Transformer 1
  Primary voltage: 24-42-48 V
  Secondary voltage: 2 x 12 V
  Rated power: 50 VA

  Transformer 2
  Primary voltage: 24-42-48 V
  Secondary voltage: 2 x 12 V
  Rated power: 100 VA

Learning experience

Together with this transformer trainer is provided a complete manual with theoretical and practical part to allow the student to have complete knowledge of what is a transformer and how to use it.
List of experiments:

1. Voltage transformation ratio
2. Current transformation ratio
3. Polarity of the windings
4. Measuring the winding resistances
5. No-load test
6. Short-circuit test
7. Test under resistive or capacitive load
8. Measuring the efficiency with the direct method
9. Heating test
10. The magnetic field

Displaying the hysteresis cycle

Module allowing to obtain a low-voltage variable supply, to perform current, voltage and power measurements and to realize resistive and capacitive loads.

Technical features:

- 2 ac outputs: 0÷48V, 5A / 0÷10V, 10A
- 2 dc outputs: 0÷40V, 5A / 0÷5V, 10A
- 2 ac/dc ammeters: 1-5-10A
- 2 ac/dc voltmeters: 10-50-100V
- 1 wattmeter: 1-5-10A, 10-50-100V

Resistive, capacitive and inductive loads

Power supply: 220 V, 50/60 Hz