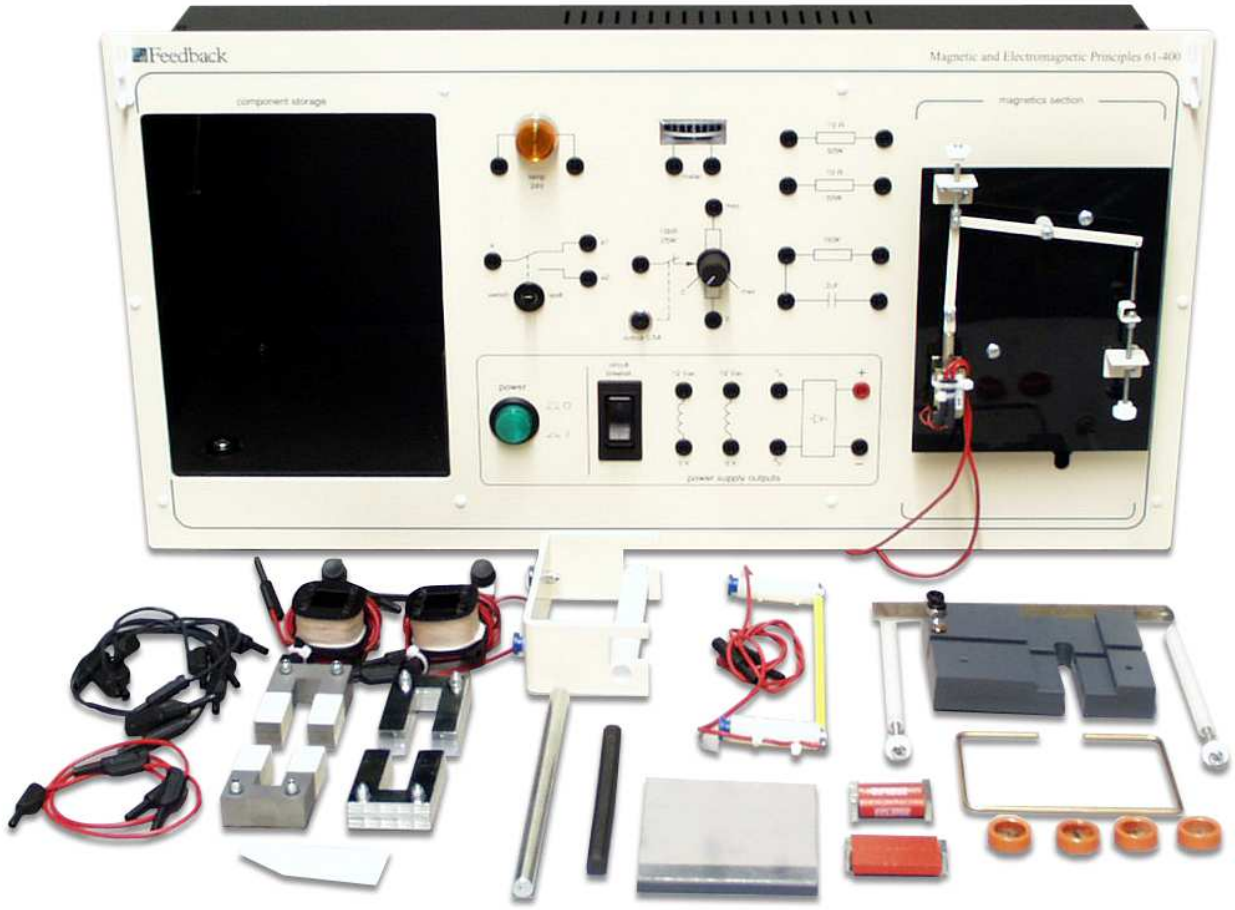
Magnetic and Electromagnetic Circuits 61-400



Description

The Magnetic & Electromagnetic Principles panel comprises a frame-mounted panel and a series of magnetic and electro-magnetic components which mount on the panel and allow the investigation of a wide range associated principles.

The panel contains:

Switch:	power switch, spdt
Indicator:	lamp, 24 V, 50 mA.
Variable resistor:	100 Ω, 0.5 A, 25 W.
Centre-zero meter	
Fixed resistors:	0.5 Ω, 50 W; 2 x 5 Ω, 25 W.

Magnetic and electromagnetic components provided are:

- Bar magnets
- Wound coils
- Iron and ferrite cores
- Fixed and moving conductors
- Compasses
- D.C. solenoid

Curriculum Coverage

- **Permanent magnetism**
  - Direction of the magnetic fields
  - Forces of attraction between 2 magnets
- **Electromagnetism**
  - Magnetic field due to an electric current
- **Forces between conductors**
  - Forces between Parallel conductors carrying current
  - Forces between a conductor carrying current and a magnetic field
- **Magnetic Field of a coil**
  - Magnetic field of a solenoid
  - Magnetic pull in force of a solenoid
- **Electromagnetic induction**
- **Mutual inductance**
- **Transformer action**
  - Voltage/turns relationship
  - Current/turns relationship
- **Transformer construction & materials**
  - Primary & secondary power of the transformer circuit
- **No load losses**
  - Core-loss loop - high loss core, low loss core and low loss core with added gap
- **Series and Parallel connections**
- **Transformer on load**
- **Magnetic Saturation**
- **The Current Transformer**

Feedback

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