Electricity and electromagnetism kit

EQ027B

Function

Intended for experimental study, physics laboratory and carrying out physics experiments on: Electricity. Associations of lamps in series and parallel. The measurement of ddp between two points of a DC circuit. Performing the electrical connections of the circuit. Measuring voltage at different points in the electrical circuit. Measurement of electrical current intensity in DC circuits. Performing the electrical connections of the circuit. Measuring the electric current at different points of the constructed circuit. Measurement of the difference in electrical voltages between two points of an AC circuit. Performing the electrical connections of the circuit. Measuring voltage at different points in the electrical circuit. Measurements of electrical current intensities between two points of an AC circuit. Measuring electrical current at different points of the AC circuit. The color code in the characterization of a resistor and its electrical resistance. Identifying a resistor by its color bands. Ohms law. Performing the electrical connections of the circuit. Varying the electrical voltage and measuring the electrical current through the resistor. Ohmic electrical resistance, ohmic resistance. Ohmic resistors and non-ohmic resistors. The SI unit of electrical resistance. The identification of a non-ohmic resistor. Performing the electrical connections of the circuit. Varying electrical voltage and measuring the electrical current in and through the lamp. Associations of resistors in series, parallel and mixed. The series RC circuit, in direct current. The capacitor. The series RC circuit. The charge time constant. Performing the electrical connections of the circuit. Kirchhoffs laws of meshes and knots. Kirchhoffs mesh law. Kirchhoffs law of knots. The potentiometer, a variable resistor. The resistance offered by a diode. The

diode. Measuring the electrical resistance offered by a diode in both directions. Comparing the resistive behavior of the diode with that of a resistor. Measurements in mixed circuits and electrical power. Mixed association. Identifying the different types of associations between resistors. Measuring voltages (ddp), electrical currents and determining electrical power. Magnetism. The lines of force and the magnetic field of the magnet, magnetism. What is meant by magnet. Magnetism, magnetite and the compass. Identifying the north and south poles of a magnet. The magnetic field, something invisible to the eye. The magnetic lines of force, their properties and what they inform about the magnetic field vector. Magnets and their magnetic poles. The lines of force of the magnetic field, in the region outside the magnet. What is meant by magnetization. Contact magnetization. Friction magnetization. The inseparability of a magnetic pole from a magnet. Repulsion between magnetic poles with the same name. The attraction between magnetic poles with different names. The spectrum between magnetic poles with different names. The spectrum between magnetic poles with the same names. Other magnetization processes. Electromagnetism. Permanent magnets, temporary magnets and the electromagnet. The permanent magnet. The temporary magnet. The electromagnet. Electromagnetic phenomena and electromagnetic induction B. The transformer, step-down and voltage step-up. The transformer, the primary and the secondary. The induced electromotive force, the induced current and the electromagnetic induction flow. Lenzs law of electromagnetic induction. Faradays law of electromagnetic induction, etc.

Knowledge areas

Physics