

IT.GE51SW

Green Energy Trainer Kit



SOLAR & WIND CIRCUITS TRAINERS

- 1- Solar Energy Kit
- 2- Wind Energy Kit
- 3- Boost and Buck Converters, Battery Charger Circuit
- 4- Basic Application Circuits for Solar Energy
- 5- Application Circuits for Solar Energy

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IT.GE51SW DESCRIPTION Curriculum Outlines:	1 Solar Energy Kit	Solar Energy Solar Panels Module and Halogen Bulb Fixture - Light Source: 150 W Halogen Bulb - Maximum Open Output Voltage: 5.5 V - Maximum Short Output Current: Approx. 1 Ampere - Normal Open Output Voltage: 4.5 V - 5.3 V - Normal Short Output Current: 200 mA - 300 mA
 Design and implementation of Rectifier Circuits . Understanding the theory and application of solar energy and related circuits Understanding the theory and application of wind 		Experiment 1.1: Output Voltage at Different Loads Experiment 1.2: Output Voltage at Different Temperatures Experiment 1.3: Output Voltage at Different Incident Light Angles
 energy and related circuits Suitable for electrical, electronic, and communication engineering students 	2 Wind Energy Kit	Wind Energy Wind Turbine Generator and Application Circuits - Rated Power: Small Power - Maximum Open Output Voltage: AC 46 V pp - Built-in Voltmeter - Wind Direction: 120° (-60°÷ +60°)
 Curriculum Objectives: To understand the solar panels characteristics and halogen light source To understand wind turbine generator and its applications To understand boost and buck converters, battery charger circuit To understand the applications circuits for solar energy 		Experiment 2.1: Half-wave Rectifier and Filter Circuit Experiment 2.2: Bridge Rectifier and Filter Circuit Experiment 2.3: Half-wave Voltage Doubler Experiment 2.4: Full-wave Voltage Doubler
	3 Boost and Buck Converters, Battery Charger Circuit	Experiment 3.1: Boost Circuit Experiment 3.2: Buck Circuit Experiment 3.3: Battery Charger Circuit
	4 Basic Application Circuits for Solar Energy	Experiment 4.1: Dancing LEDs Circuit Experiment 4.2: Pulsing Breathing LED Circuit. Experiment 4.3: MCU Controlled Two-color LED Circuit
	5 Application Circuits for Solar Energy	Experiment 5.1: MIC Voice Signal Processor Circuit Experiment 5.2: Audio Amplifier Experiment 5.3: Bluetooth Receiver and Audio Amplifier

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italtec Technical Training Systems S.r.L. 20129 – MILANO – ITALIA – Viale Regina Giovanna, 35 Tel. +39 02 90 721 606 – Fax. +39 02 90 720 227 e-mail: italtec@italtec.it www.italtec.it