



Cena bez DPH

1.852,00 Eur

Price with VAT

2.240,92 Eur

Parameters

Renewable resources and greenhouse effect

Renewable energy resources

Subject

Support sets

Quantitative unit

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The leXsolar-NewEnergy Kit is specifically adapted for young students in Junior High School and provides by qualitative and quantitative experiments an understanding of the topics photovoltaic, wind power, hydro power, electric mobility and fuel cells. With the enclosed Smart Control components, an innovative measuring and control system is available and all necessary accessories like power supply, cables and measuring devices are already included.

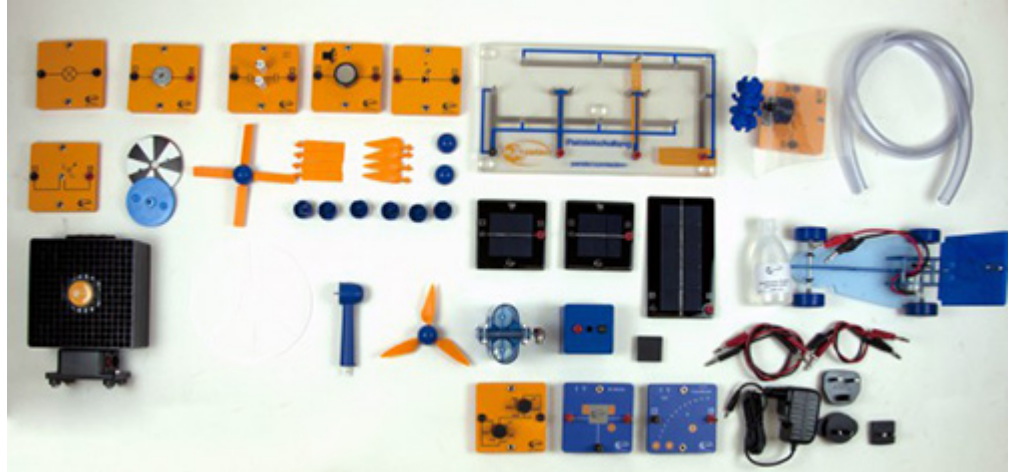
Experiments



- Energy forms and energy conversion
- Electrical energy and electrical circuits
- The solar cell as energy source
- The orientation of the solar cell to light
- Difference between solar cells and solar panels
- Partial shading of the solar panels
- Power dependence on the area of the solar cell
- Power dependence on the angle of incidence
- Power dependence on the level of illumination
- Internal resistance of solar cells
- IV characteristic and fill factor of the solar cell
- Power dependence on temperature
- Wind energy conversion
- The influence of wind direction
- The influence of number of rotor blades
- The influence the rotor blade shape
- The influence of the rotor blade pitch
- Characteristics of the wind generator
- Energy from water power
- Energy conversions at the water turbine
- Influence of the water head
- Influence of the angle of incidence
- Power of a hydropower plant
- Influence of the water head on the power
- Operation of a solar-powered electric car
- The speed of the electric car depending on the sunlight conditions
- Operating an electric car with the capacitor
- Dependence of the power of the electric car on the charge state of the capacitor
- The characteristics of a capacitor
- Energy storages
- Solar energy storage
- Wind energy storage

- The properties of a fuel cell
- The properties of an electrolyzer
- IV-characteristics of an electrolyzer
- IV-characteristics of a fuel cell
- Saving Energy
- Comparison light bulb and LED

List of components



- 1 x 1100-02 Solar module 0.5 V, 840 mA
- 1 x 1100-07 Solar module 1.5 V, 280 mA
- 1 x 1100-19 leXsolar-Base unit Large
- 1 x 1100-20 Lighting module
- 1 x 1100-23 Potentiometer module
- 1 x 1100-25 Buzzer module
- 1 x 1100-26 Light bulb module
- 1 x 1100-27 Motor module without gear
- 1 x 1100-28 Color discs - Set 1
- 1 x 1100-29 Solar cell cover set (4 pieces)
- 1 x 1100-31 Solar module 2.5 V, 420 mA
- 1 x 1600-02 Capacitor module 5.0F/5.4V
- 1 x 1400-08 LED-module 2mA, red
- 1 x 1400-12 leXsolar-Wind rotor set
- 1 x 1400-19 Wind machine
- 1 x 1400-21 Wind rotor set (assembled)
- 1 x 1400-22 Wind turbine module
- 1 x 1800-15 Distilled water (100 ml)
- 1 x 1801-02 Electric model car
- 1 x 1900-01 Water wheel module
- 1 x 2002-01 Box 2002
- 1 x 9100-03 AV-Module
- 1 x 9100-05 PowerModule
- 1 x L2-02-051 Silicone tube 12 mm
- 1 x L2-06-012 Test lead black 25 cm
- 1 x L2-06-013 Test lead red 25 cm
- 1 x L2-06-014 Test lead black 50 cm
- 1 x L2-06-015 Test lead red 50 cm
- 1 x L2-06-067 Reversible Fuel cell
- 2 x L3-01-013 Lid for tray
- 1 x L3-01-104 Padding universal wind
- 1 x L3-01-174 Insert NewEnergy Kit
- 1 x L3-03-216 Layout diagram 2002 NewEnergy Kit
- 1 x L3-03-220 Instruction for use of finger protector
- 1 x L3-03-258 Info sheet initial startup