

## **leXsolar-Wind Large 2.0**

Order code: **5501.1404**



Cena bez DPH

663,00 Eur

Price with VAT

802,23 Eur

Parameters

Subject

Wind and hydropower

Quantitative unit

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This system provides you with all the answers you need concerning the basics of using wind energy. With the help of curriculum-based trials, it discusses different topics which are necessary for understanding the functions of wind power plants. The study of how wind speed, wind direction or rotor type influences the power output are only some examples of possible experiments. Both qualitative experiments for students from age of 11 to 13, and complete quantitative trials for physics lessons until the age of 19 are described in detail.

## Experiments

- Influence of the wind speed on a wind turbine
- Start-up wind speed at a wind turbine
- Comparison of the start-up wind speed of a Savonius and a three-blade rotor
- Change the turbine voltage by connecting a consumer
- Examine the wind speed behind the rotor
- Energy balance sheet at a wind turbine
- Calculating the efficiency of a wind turbine
- Storing electric energy
- Energy conversion in a wind turbine
- Examine color wheels using a wind turbine
- Comparison of a Savonius rotor and a three-blade rotor
- Comparison of two, three and four-blade rotors
- Characteristic curves of a wind turbine
- Influence of the wind direction
- Influence of the rotor blade pitch
- Influence of the rotor blade pitch on the start up speed of a wind turbine
- Influence of the blade shape

## Components

1x 1100-19 leXsolar-Base unit Large  
1x 1100-22 Resistor module  
1x 1100-23 Potentiometer module  
1x 1400-01 leXsolar-Savonius rotor modulw  
1x 1400-07 Capacitor module 220 mF, 2.5V  
1x 1400-08 LED-module 2mA, red  
1x 1400-12 leXsolar-Wind rotor set  
1x 1400-19 Wind machine  
1x 1400-22 Wind turbine module  
1x 1404-02 Box 1404  
1x 1100-25 Buzzer module  
1x 1100-26 Light bulb module  
1x 1100-27 Motor Module without Gear  
1x 1100-28 Color discs - Set 1  
1x L3-01-013 Lid for tray  
1x L3-01-023 Insert Wind Large 1404  
1x L3-03-132 Layout diagram 1404 Wind Large  
1x L3-03-258 Info sheet initial startup

## Extras needed

1x 9100-03 AV-Module  
1x 9100-05 PowerModule  
2x L2-06-012 Test lead black 25 cm  
2x L2-06-013 Test lead red 25 cm

## Extras available

1400-02 Anemometer with mount  
L3-03-124 Lehrerheft leXsolar-Wind Large  
L3-03-070 Schülerheft leXsolar-Wind Large  
L3-03-072 Student's manual leXsolar-Wind Large  
L3-03-126 Teacher's manual leXsolar-Wind Large