

## Product datasheet (en)

Version: 1430\_10.11.2015

Photo:

Name:

leXsolar-Wind Basic

Item number:

1430

Youtube link:

Area of application:

Dimensions (cm x cm x cm):

Physics  
Chemistry  
Technology Training

Weight (kg):

User group:

Middle School / Junior High School

Key facts:

Understanding wind energy at primary and Junior High School  
Qualitative and quantitative experiments  
Most cost-efficient in its class  
Contains the innovative leXsolar-windrotor set

## List of components:

- 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 1430-01 Carton 1430
- 1 x L3-01-177 Insert Wind basic 1430
- 1 x L3-03-204 Layout diagram Wind Basic 1430
- 1 x L3-03-220 Instruction for use of finger protector
- 1 x L3-03-258 Info sheet initial startup

## Extras needed:

- 1 x 2030 leXsolar-Minikit Basic
- 1 x 2031 leXsolar-Kit Basic

## Extras available:

No extras available.

## Description:

leXsolar-Wind Basic is the optimal beginner package for the topic of wind energy. Even for a small price it allows the most important basic experiments regarding wind energy. Thus, various parameters such as number or shape of rotor blades and rotor blade pitch can be studied with the help of the innovative leXsolar-wind rotors. Therefore, the product playfully provides an understanding of the operation of wind turbines.

For using this product you additionally need the leXsolar-Minikit Basic in primary school and the leXsolar-Kit Basic in Junior High School, each of which contains all necessary accessories.

## Experiments:

- Wind energy conversion
- Dependence of the wind power plant on wind speed
- Start-up speed at a wind power plant
- Dependence of the wind power plant on number of blades
- Dependence of the wind power plant on rotor blade profile
- Dependence of the wind power plant on rotor blade pitch
- Dependence of the wind power plant on wind direction
- Characteristics of the wind generator

## Specifications of components:

## 1400-08 LED-module 2mA, red:

LED plug-in module

Red LED (maximum emission at 697 nm)

Minimum voltage: 1.7 V

Equipped with automatic fuse protecting from overvoltage

Layout: plug-in module with 4 mm jacks

Grid-dimension of the jacks: 70 mm

Module size: 85 mm x 85 mm

## 1400-12 leXsolar-Wind rotor set:

Set of rotor blades and hubs to set up different wind turbines

4 rotor blades with optimized profile

4 rotor blades with flat rectangular profile

5 hubs for setting up 3-blade rotors with pitches 20°, 25°, 30°, 50° and 90°

1 hub for setting up 4-blade rotor with pitch of 25°

1 Cap for 3-blade rotor and 1 cap for 4-blade rotor

Allows setting up 24 different wind turbines

Easy assembling and disassembling without tools

## 1400-19 Wind machine:

## 1400-21 Wind rotor set (assembled):

## 1400-22 Wind turbine module:

Wind turbine module for attaching different types of rotors

Generator: maximum 6 V DC

Layout: plug-in module with 4 mm jacks

Grid-dimension of the jacks: 70 mm

Module size: 85 mm x 85 mm

## 1430-01 Carton 1430:

## L3-01-177 Insert Wind basic 1430:

## L3-03-204 Layout diagram Wind Basic 1430:

## L3-03-220 Instruction for use of finger protector:

## L3-03-258 Info sheet initial startup:

Specifications extras needed:

**2030 leXsolar-Minikit Basic:**

For experimenting with the leXsolar basics in elementary school you need the leXsolar-Minkit Basic. It contains a small base unit, cables and short circuit plugs to connect the modules. With a hand crank generator the students produce electrical energy for the experiments themselves. Thus, no extra electrical connection or voltage source is needed.

**2031 leXsolar-Kit Basic:**

For quantitative experiments with the leXsolar-Basics in Junior High School you need the leXsolar-Kit Basic. With the enclosed Smart Control components, an innovative measuring and control system is available: The power module is the most compact power supply for experiments on the market and the AV module makes voltage and current measurements as simple as possible. A potentiometer, the basic unit and cables complete the product.

Specifications extras available:

No extras available.