

Solar and Wind Power TP 8012

Renewable energy production systems



Highlights

- Complete courses available in Festo LX or as workbooks
- Modular, expandable training packages
- Realistic wind turbine and solar panel emulators
- Two types of charge controllers: PWM, MPPT
- Stand-alone and grid-tied production scenarios
- Load unit with replicable results
- Real wind turbine components

As solar panels and wind turbines become more affordable, small-scale renewable energy production is gaining momentum, making it possible for individuals and businesses to reduce their ecological footprint, energy costs, and dependency on power networks.

Electricians, renewable energy and service technicians, and electrical technicians or engineers are just a few of the types of skilled workers needed to plan, install, maintain, and repair domestic and commercial renewable energy systems.

They must all have a thorough understanding of photovoltaic panels and wind turbine generators, safety, energy storage, inverters, grid connection, network synchronization, and more.

Industry-relevant skills

The Solar and Wind Power TP 8012 training packages build relevant knowledge and practical skills in renewable energy production systems.

Courses offer customizable, multimedia learning paths that include theory, experiments, study questions, quizzes, and more.

Topics and learning objectives align with workplace requirements to maximize learners' employability.

Students build solar and wind power systems to perform hands-on experimentation.

Video presentation
→ bit.ly/TP8012-video-en

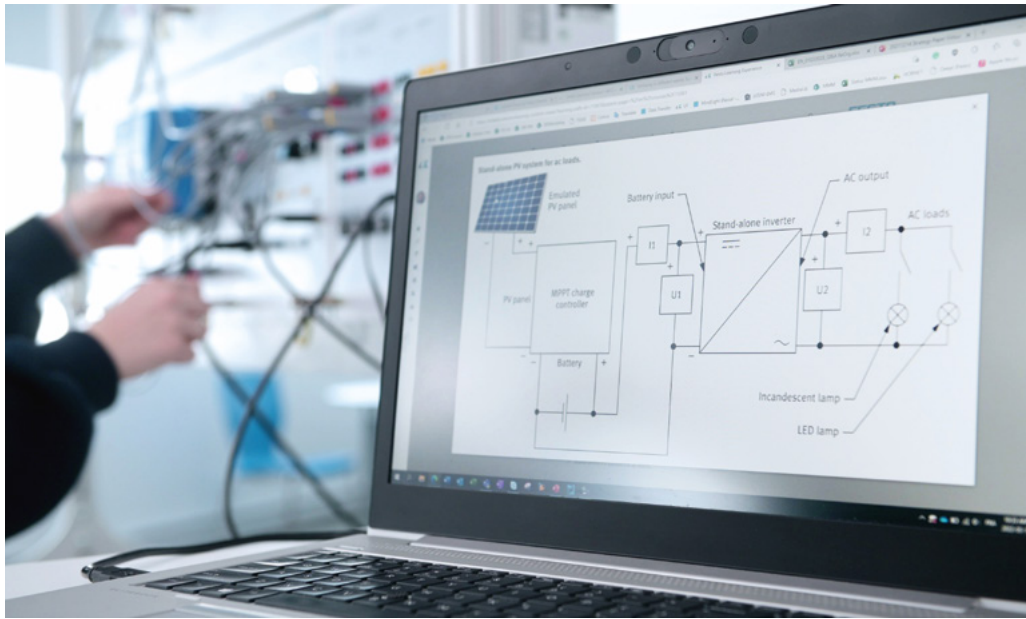


Each module represents a system component. Students connect modules to create simple to complex setups.

Several types of modules are available, such as loads, inverters, batteries, charge controllers, etc.

The LVDAC-EMS software facilitates control, data collection, and analysis for efficient lab sessions.

Networkable, smart hardware with instruments and control functions makes training packages more flexible.



Multimedia courses guide students step-by-step through study and practical experimentation.

Fail-safe equipment, isolated inputs and outputs, and grounding method create a safe environment.

Realistic solar panels and wind turbine emulators help create meaningful learning scenarios.

Overview of the four courses

- Solar Power**

 - Basic concepts
 - Solar panel construction
 - Operating characteristics
 - Performance factors
 - Energy storage
- Intro to Wind Power**

 - Basic concepts
 - Wind turbines
 - Operating characteristics
 - Performance factors
 - Energy storage
- Photovoltaic Systems**

 - Principles of photovoltaic energy production systems
 - Operation in stand-alone or grid-tied scenarios
- Wind Power Systems**

 - Principles of wind power production systems
 - Operation in stand-alone scenarios

For more detailed course content, contact a sales representative to request course samples or open your free account on our digital portal Festo LX: → lx.festo.com.



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A future-proof system for electrical engineering labs

Solar and wind power training packages are part of the EMS A4 system, a versatile practical training concept in electric power technology.

The modularity of courses, equipment, and software tools allows for easy and cost-effective customization and expansion to other topics, like AC/DC and power circuits and transformers, as well as electrical machines and power electronics (available soon), without equipment duplication.

Contact us to start building your system.

Whether you plan to equip a new laboratory or to expand or update existing installations, we will guide you toward the creation of a perfectly-matched solution so that you get maximum returns on your investment.

Available training packages

- Intro to wind power
- Wind power systems
- Wind power (complete)
- Intro to solar power
- Photovoltaic systems
- Solar power (complete)

All training packages can be easily customized. Visit our website for details regarding courses and scope of delivery.

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