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① Unit: AEL-WPPI. Wind Power Plants with Induction Generator

Key features:

- **Advanced Real-Time SCADA.**
- **Open Control + Multicontrol + Real-Time Control.**
- **Specialized EDIBON Control Software based on LabVIEW.**
- **National Instruments Data Acquisition board (250 KS/s, kilo samples per second).**
- **Projector and/or electronic whiteboard compatibility allows the unit to be explained and demonstrated to an entire class at one time.**
- **Capable of doing applied research, real industrial simulation, training courses, etc.**
- **Remote operation and control by the user and remote control for EDIBON technical support, are always included.**
- **Totally safe, utilizing 4 safety systems (Mechanical, Electrical, Electronic & Software).**
- **Designed and manufactured under several quality standards.**
- **Optional ICAI software to create, edit and carry out practical exercises, tests, exams, calculations, etc.**
Apart from monitoring user's knowledge and progress reached.
- **This unit has been designed for future expansion and integration. A common expansion is the EDIBON Scada-Net (ESN) System which enables multiple students to simultaneously operate many units in a network.**



For more information about Key Features, click here



ISO 9001: Quality Management (for Design, Manufacturing, Commercialization and After-sales service)



European Union Certificate (total safety)



Certificates ISO 14001 and ECO-Management and Audit Scheme (environmental management)



Certificate and Worlddidac Member

GENERAL DESCRIPTION

The AEL-WPPI. Wind Power Plants with Induction Generator application has been developed by Edibon to study the wind turbines electrical performance with three-phase induction generators of squirrel cage that inject power in the network.

Wind turbines with induction generator have some characteristics, of great interest to the students, which will be studied working with the machine in different regimes: sub-synchronous, synchronous and super-synchronous. Depending on the working regime of the induction generator, different electrical parameters can be analyzed. To analyze these electrical parameters, the Wind Power Plants with Induction Generator Trainer has an advanced network analyzer to will show the student, among others, the following parameters: positive and negative active, reactive and apparent powers (P, Q and S), line and total power factors, line currents, phase and line voltages, current and voltage harmonics, etc.

The wind turbine induction generator is coupled to the three-phase induction motor of squirrel cage in order to simulate different wind speeds. The three-phase induction motor is controlled by mean a frequency variator to vary the wind speed. On this way, the user can simulate different wind speeds and observes the response of the electrical generator coupled to the grid.

The Wind Power Plants Induction Generator Application has a series of sensors which allow the student to measure the wind turbine speed and the applied torque for it in order to calculate electrical and mechanical parameters, through which the student will go in depth about knowledge of wind turbines with induction generator.

This application has a power factor compensation module in order to analyze the effects of the reactive energy in the induction generator and the grid.

This application has all necessary electrical and mechanical safety elements.

The AEL-WPPI consists of the following modules:

- N-ALI01. Industrial Main Power Supply.
- N-CAR19T3. Three-Phase Bank of Commutable Capacitors Module.
- N-VVCA2K. 2 kW Motor Speed Controller.
- N-EAL. Network Analyzer Unit.
- N-MPS. Motor Protection (1.6 A - 2.5 A).
- N-ARS. Automatic Resistors Starter.
- GMG1.25K3PH. 1.25 KW Generator-Motor Group.

Optional SCADA software:

- AEL-WPPI/CCSOF. Computer Control + Data Acquisition + Data Management Software.

Optional learning software:

In addition, Edibon provides optional software (AEL-WPPI/ICAI) to reinforce knowledge about this field. This software is formed by:

- ECM-SOF. EDIBON Classroom Manager (Instructor Software).
- ESL-SOF. EDIBON Student Labsoft (Student Software).

The application AEL-WPPI is mounted on rack:

This application needs the following rack/s:

- N-RACK-M. (2 units)

Optionally can be supplied one of the following workbenches for to place the rack/s.

- AEL-WBR. Electrical Workbench (Rack).
- AEL-WBMP. Electrical Workbench (Small Mobile).

Optionally this unit is supplied with the EDIBON Computer Control System (SCADA), and includes: The unit itself + Computer Control, Data Acquisition and Data Management Software Packages, for controlling the process and all parameters involved in the process.

With this unit there are several options and possibilities:

- Main items: 1, 3 and 4.
- Optional items: 2, 5, 6 and 7.

Let us describe first the main items (1 to 4):

① **AEL-WPPI. Unit.**

The trainer includes the following modules:

- **N-ALI01. Industrial Power Supply.**

Supply voltage: 400 VAC, 3PH+N+G.

ON-OFF removable key.

Output voltage connections:

Three-Phase + Neutral: 400 VAC.

Single-Phase: 230 VAC.

Three-Phase supply hose with IP44 3PN+E 32A 400V connecting plug.

Differential magnetothermal, 4 poles, 25A, 300mA AC 6KA.



N-ALI01

- **N-CAR19T3. Three-Phase Bank of Commutable Capacitors Module.**

ON/OFF switch.

Supply terminals:

Supply voltage 230VAC.

Open/close switches.

Three indicating LEDs.

Three input/output power terminals.

GND Terminal



N-CAR19T3

- **N-WCA2K. 2 KW Motor Speed Controller Module.**

ON/OFF switch.

Micro connector of 8 pins.

Supply terminals:

Supply: 400 VAC.

Supply terminals L1, L2, L3 and N from the module to the frequency variator.

Output connector.

Motor speed potentiometer.

Red switch.

GND terminal.



N-WCA2K

- **N-EAL. Network Analyzer Unit.**

ON-OFF switch.

Supply voltage: 230 VAC.

Input terminals: Input connection with the measurement point.

Output terminals: Output connection with the measurement point.

Digital outputs: Three digital outputs are used for pulses or alarms, or for combining both.

Fuses: 3x10 A.

Network Analyzer Display. It shows:

Active, reactive and apparent power.

Active, reactive and apparent energies.

Lines and phase currents.

Line and phase voltages.

Frequencies.

Power Factor.



N-EAL

- **N-MPS. Motor Protection Module.**

ON/OFF commutator.

Limit thermal current:

From 1,6A to 2,5A.

Input Power Terminals:

Power input connections: L1, L2, L3.

Output Power Terminals:

Power output connections: L1, L2, L3.

Ground Terminal.



N-MPS

• **N-ARS. Automatic Resistors Starter Module.**

- ON/OFF push-button.
- START push-button.
- STOP push-button.
- Supply terminals.
- Supply: 230 VAC.
- Supply terminals L and N.
- Input power terminals:
 - Power Input Connections: L1, L2, L3 and N.
- Output power terminals:
 - Power Output Connections: L1, L2, L3 and N.
- GND terminal.
- Fuses:
 - Three fuses of 5A.



N-ARS

• **GMG1.25K3PH. 1.25 KW Generator-Motor Group.**

- Motor-generator group coupled in an aluminium frame with wheels.
- Rated power of the generator: 1.25 KVA.
- Stator rated I: 6.5A
- Excitation rated I: 4A
- RPM: 3000 rpm.
- Motor rated power I: 5 KVA.
- Rated I: 7.2A.
- RPM: 3000 r.p.m.



GMG1.25K3PH

• **All necessary cables to realize the practical exercises are included.**

The complete unit includes as well:

Advanced Real-Time SCADA.

Open Control + Multicontrol + Real-Time Control.

Specialized EDIBON Control Software based on LabVIEW.

National Instruments Data Acquisition board (250 KS/s, kilo samples per second).

Projector and/or electronic whiteboard compatibility allows the unit to be explained and demonstrated to an entire class at one time.

Capable of doing applied research, real industrial simulation, training courses, etc.

Remote operation and control by the user and remote control for EDIBON technical support, are always included.

Totally safe, utilizing 4 safety systems (Mechanical, Electrical, Electronic & Software).

Designed and manufactured under several quality standards.

Optional ICAI software to create, edit and carry out practical exercises, tests, exams, calculations, etc.

Apart from monitoring user's knowledge and progress reached.

This unit has been designed for future expansion and integration. A common expansion is the EDIBON Scada-Net (ESN) System which enables multiple students to simultaneously operate many units in a network.

② **AEL-WPPI/CCSOF. Computer Control + Data Acquisition + Data Management Software:**

The three softwares are part of the SCADA system.

Compatible with actual Windows operating systems. Graphic and intuitive simulation of the process in screen. **Compatible with the industry standards.**

Registration and visualization of all process variables in an automatic and simultaneous way.

Flexible, open and multicontrol software, developed with actual windows graphic systems, acting simultaneously on all process parameters.

Management, processing, comparison and storage of data.

Sampling velocity up to 250 KS/s (kilo samples per second).

It allows the registration of the alarms state and the graphic representation in real time.

Comparative analysis of the obtained data, after the process and modification of the conditions during the process.

Open software, allowing the teacher to modify texts, instructions. Teacher's and student's passwords to facilitate the teacher's control on the student, and allowing the access to different work levels.

This unit allows the 30 students of the classroom to visualize simultaneously all the results and the manipulation of the unit, during the process, by using a projector or an electronic whiteboard.

③ **Cables and Accessories**, for normal operation.

④ **Manuals:**

This unit is **supplied with 7 manuals:** Required Services, Assembly and Installation, Control Software, Starting-up, Safety, Maintenance & Practices Manuals.

*References 1 to 4 are the main items: AEL-WPPI + AEL-WPPI/CCSOF + Cables and Accessories + Manuals are included in the minimum supply for enabling normal and full operation.



AEL-WPPI/CCSOF

EXERCISES AND PRACTICAL POSSIBILITIES TO BE DONE WITH THE MAIN ITEMS

- 1.- Commissioning of the induction generator.
 - 2.- Wiring procedure of the induction generator to the grid.
 - 3.- Study of operation regimes of the wind turbines with three-phase induction generator of squirrel cage.
 - 4.- Analysis of the induction generators coupled to the grid in sub-synchronous state.
 - 5.- Analysis of the induction generators coupled to the grid in synchronous state.
 - 6.- Analysis of the induction generators coupled to the grid in super-synchronous state.
 - 7.- Study of electrical parameters of the induction generator coupled to the grid in sub-synchronous state.
 - 8.- Study of electrical parameters of the induction generator coupled to the grid in synchronous state.
 - 9.- Study of electrical parameters of the induction generator coupled to the grid in super-synchronous state.
 - 10.- Efficiency study of the induction generator comparing the injected power in the grid with the mechanical power shaft of the turbine.
 - 11.- Power factor influence with the speed variations and analysis of the possible solutions to automate the regulation of the power factor.
 - 12.- Active power compensation by mean capacitor banks and electrical measurement of the electrical machine response.
- Other possibilities to be done with this Unit:
- 13.- Many students view results simultaneously.
To view all results in real time in the classroom by means of a projector or an electronic whiteboard.
 - 14.- The Computer Control System with SCADA allow a real industrial simulation.
 - 15.- This unit is totally safe as uses mechanical, electrical and electronic, and software safety devices.
 - 16.- This unit can be used for doing applied research.
 - 17.- This unit can be used for giving training courses to Industries even to other Technical Education Institutions.
- Several other exercises can be done and designed by the user.

REQUIRED SERVICES

- Electrical supply: three-phase, 380V./50 Hz. or 208V./60 Hz., 20 Kw.
- Computer (PC).

DIMENSIONS AND WEIGHTS

AEL-WPPI:

-Dimensions: 1600 x 550 x 2000 mm. approx.

(62.99 x 21.65 x 78.74 inches approx.)

-Weight: 180 Kg. approx.

(397 pounds approx.)

Additionally to the main items (1, 3, 4) described, we can offer, as optional, other items 2 and from 5 to 7.

All these items try to give more possibilities for:

- a) Technical and Vocational Education configuration. (ICAI)
- b) Multipost Expansions options. (Mini ESN and ESN)

a) Technical and Vocational Education configuration

5) AEL-WPPI/ICAI. Interactive Computer Aided Instruction Software System.

This complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

This software is optional and can be used additionally to items (1 to 4).

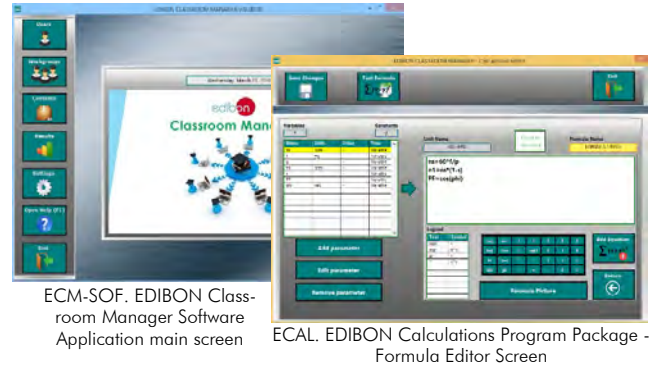
-ECM-SOF. EDIBON Classroom Manager (Instructor Software).

ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

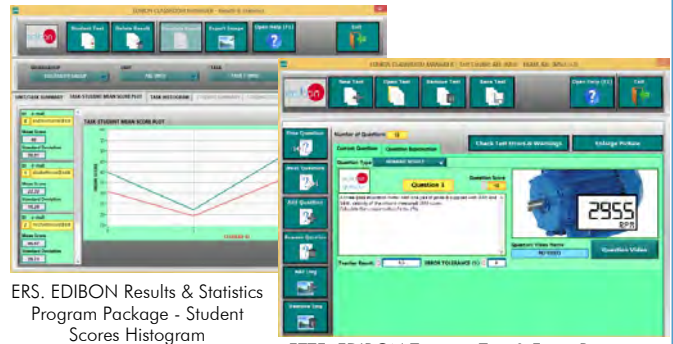
- User Data Base Management.**
- Administration and assignment of Workgroups, Tasks and Training sessions.**
- Creation and Integration of Practical Exercises and Multimedia Resources.**
- Custom Design of Evaluation Methods.**
- Creation and assignment of Formulas & Equations.**
- Equation System Solver Engine.**
- Updatable Contents.**
- Report generation, User Progression Monitoring and Statistics.**

Instructor Software



ECM-SOF. EDIBON Classroom Manager Software Application main screen

ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ERS. EDIBON Results & Statistics Program Package - Student Scores Histogram

ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question

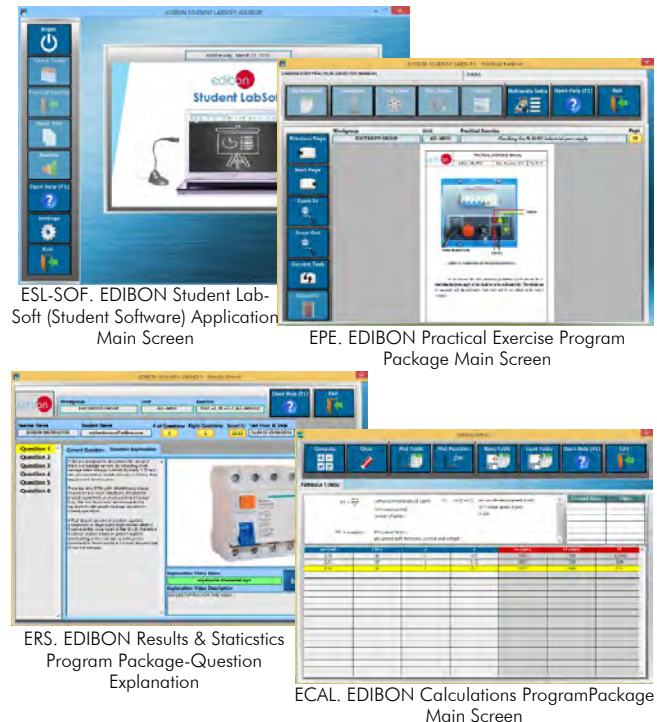
-ESL-SOF. EDIBON Student Labsoft (Student Software).

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

- Student Log-In & Self-Registration.**
- Existing Tasks checking & Monitoring.**
- Default contents & scheduled tasks available to be used from the first session.**
- Practical Exercises accomplishment by following the Manual provided by EDIBON.**
- Evaluation Methods to prove your knowledge and progression.**
- Test self-correction.**
- Calculations computing and plotting.**
- Equation System Solver Engine.**
- User Monitoring Learning & Printable Reports.**
- Multimedia-Supported auxiliary resources.**

Student Software



ESL-SOF. EDIBON Student Labsoft (Student Software) Application Main Screen

EPE. EDIBON Practical Exercise Program Package Main Screen

ERS. EDIBON Results & Statistics Program Package-Question Explanation

ECAL. EDIBON Calculations Program Package Main Screen

For more information see ICAI catalogue. Click on the following link:

www.edibon.com/products/catalogues/en/units/electricity/ICAI-Electricity/ICAI-Electricity.pdf

⑥ **Mini ESN. EDIBON Mini Scada-Net System.**

Mini ESN. EDIBON Mini Scada-Net System allows up to 30 students to work with a Teaching Unit in any laboratory, simultaneously.

It is useful for both, Higher Education and/or Technical and Vocational Education.

The Mini ESN system consists of the adaptation of any EDIBON computer controlled unit with SCADA integrated in a local network.

This system allows to view/control the unit remotely, from any computer integrated in the local net (in the classroom), through the main computer connected to the unit. Then, the number of possible users who can work with the same unit is higher than in an usual way of working (usually only one).

Main characteristics:

- It allows up to 30 students to work simultaneously with the EDIBON Computer Controlled Unit with SCADA, connected in a local net.
- Open Control + Multicontrol + Real Time Control + Multi Student Post.
- Instructor controls and explains to all students at the same time.
- Any user/student can work doing "real time" control/multicontrol and visualisation.
- Instructor can see in the computer what any user/student is doing in the unit.
- Continuous communication between the instructor and all the users/students connected.

Main advantages:

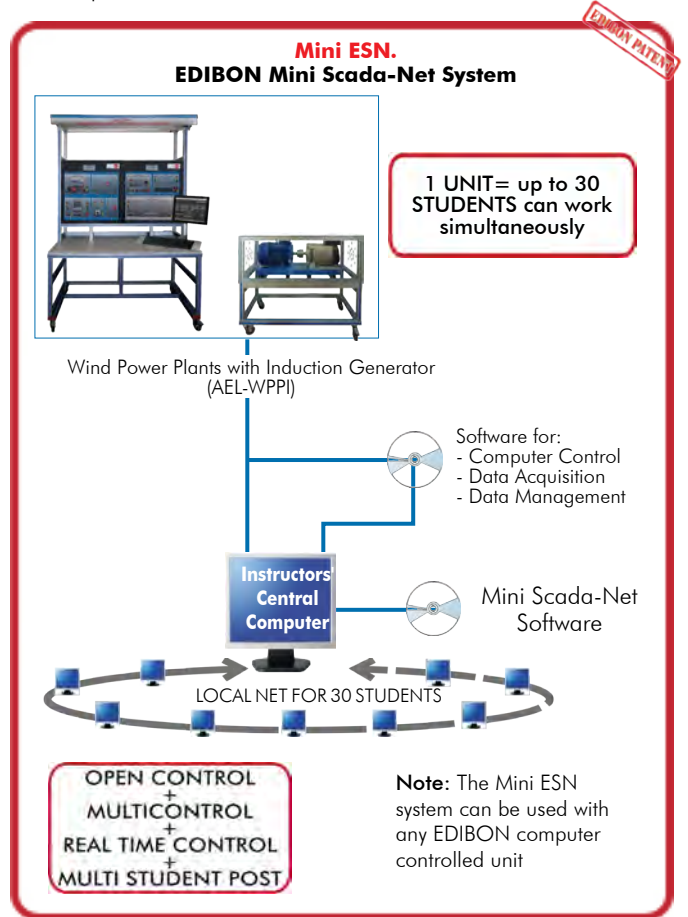
- It allows an easier and quicker understanding.
- This system allows you can save time and cost.
- Future expansions with more EDIBON Units.

For more information see Mini ESN catalogue. Click on the following link:

www.edibon.com/products/catalogues/en/Mini-ESN.pdf

⑦ **ESN. EDIBON Scada-Net System.**

This unit can be integrated, in the future, into a Complete Laboratory with many Units and many Students.



ORDER INFORMATION

Main items (always included in the supply)

Minimum supply always includes:

- ① **Unit. AEL-WPPI. Wind Power Plants with Induction Generator.**
- ③ **Cables and Accessories**, for normal operation.
- ④ **Manuals.**

***IMPORTANT:** Under AEL-WPPI we always supply all the elements for immediate running as 1, 3 and 4.

Optional items (supplied under specific order)

- ② AEL-WPPI/CCSOF. Computer Control + Data Acquisition + Data Management Software.
 - a) Technical and Vocational configuration
- ⑤ AEL-WPPI/ICAI. Interactive Computer Aided Instruction Software System.
 - b) Multipost Expansions options
- ⑥ Mini ESN. EDIBON Mini Scada-Net System.
- ⑦ ESN. EDIBON Scada-Net System.

① AEL-WPPI. Unit.

The trainer includes the following modules:

- N-ALI01. Industrial Power Supply.
Supply voltage: 400 VAC, 3PH+N+G.
ON-OFF removable key.
Output voltage connections:
Three-Phase + Neutral: 400 VAC.
Single-Phase: 230 VAC.
Three-Phase supply hose with IP44 3PN+E 32A 400V connecting plug.
Differential magnetothermal, 4 poles, 25A, 300mA AC 6KA.
- N-CAR19T3. Three-Phase Bank of Commutable Capacitors Module.
ON/OFF switch.
Supply terminals:
Supply voltage 230VAC.
Open/close switches.
Three indicating LEDs.
Three input/output power terminals.
GND Terminal.
- N-WCA2K. 2 KW Motor Speed Controller Module.
ON/OFF switch.
Micro connector of 8 pins.
Supply terminals:
Supply: 400 VAC.
Supply terminals L1, L2, L3 and N from the module to the frequency variator.
Output connector.
Motor speed potentiometer.
Red switch.
GND terminal.
- N-EAL. Network Analyzer Unit.
ON-OFF switch.
Supply voltage: 230 VAC.
Input terminals: Input connection with the measurement point.
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Digital outputs: Three digital outputs are used for pulses or alarms, or for combining both.
Fuses: 3x10 A.
Network Analyzer Display. It shows:
Active, reactive and apparent power.
Active, reactive and apparent energies.
Lines and phase currents.
Line and phase voltages.
Frequencies.
Power Factor.
- N-MPS. Motor Protection Module.
ON/OFF commutator.
Limit thermal current:
From 1,6A to 2,5A.
Input Power Terminals:
Power input connections: L1, L2, L3.
Output Power Terminals:
Power output connections: L1, L2, L3.
Ground Terminal.
- N-ARS. Automatic Resistors Starter Module.
ON/OFF push-button.
START push-button.
STOP push-button.
Supply terminals.
Supply: 230 VAC.
Supply terminals L and N.
Input power terminals:
Power Input Connections: L1, L2, L3 and N.
Output power terminals:
Power Output Connections: L1, L2, L3 and N.
GND terminal.
Fuses:
Three fuses of 5A.

Tender Specifications (for main items)

- GMG1.25K3PH. 1.25 KW Generator-Motor Group.
 - Motor-generator group coupled in an aluminium frame with wheels.
 - Rated power of the generator: 1.25 KVA.
 - Stator rated I: 6.5A
 - Excitation rated I: 4A
 - RPM: 3000 rpm.
 - Motor rated power I: 5 KVA.
 - Rated I: 7.2A.
 - RPM: 3000 r.p.m.

- All necessary cables to realize the practical exercises are included.

The complete unit includes as well:

- Advanced Real-Time SCADA.
- Open Control + Multicontrol + Real-Time Control.
- Specialized EDIBON Control Software based on LabVIEW.
- National Instruments Data Acquisition board (250 KS/s, kilo samples per second).
- Projector and/or electronic whiteboard compatibility allows the unit to be explained and demonstrated to an entire class at one time.
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② **AEL-WPPI/CCSOF. Computer Control +Data Acquisition+Data Management Software:**

- The three softwares are part of the SCADA system.
- Compatible with the industry standards.
- Flexible, open and multicontrol software, developed with actual windows graphic systems, acting simultaneously on all process parameters.
- Management, processing, comparison and storage of data.
- Sampling velocity up to 250 KS/s (kilo samples per second).
- Calibration system for the sensors involved in the process.
- It allows the registration of the alarms state and the graphic representation in real time.
- Open software, allowing the teacher to modify texts, instructions. Teacher's and student's passwords to facilitate the teacher's control on the student, and allowing the access to different work levels.
- This unit allows the 30 students of the classroom to visualize simultaneously all the results and the manipulation of the unit, during the process, by using a projector or an electronic whiteboard.

③ **Cables and Accessories**, for normal operation.

④ **Manuals:**

- This unit is supplied with 7 manuals: Required Services, Assembly and Installation, Control Software, Starting-up, Safety, Maintenance & Practices Manuals.

Exercises and Practical Possibilities to be done with the Main Items

- 1.- Commissioning of the induction generator.
- 2.- Wiring procedure of the induction generator to the grid.
- 3.- Study of operation regimes of the wind turbines with three-phase induction generator of squirrel cage.
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- 12.- Active power compensation by mean capacitor banks and electrical measurement of the electrical machine response.

Other possibilities to be done with this Unit:

- 13.- Many students view results simultaneously.
To view all results in real time in the classroom by means of a projector or an electronic whiteboard.
 - 14.- The Computer Control System with SCADA allow a real industrial simulation.
 - 15.- This unit is totally safe as uses mechanical, electrical and electronic, and software safety devices.
 - 16.- This unit can be used for doing applied research.
 - 17.- This unit can be used for giving training courses to Industries even to other Technical Education Institutions.
- Several other exercises can be done and designed by the user.

a) Technical and Vocational Education configuration

⑤ AEL-WPPI/ICAI. Interactive Computer Aided Instruction Software System.

This complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

-ECM-SOF. EDIBON Classroom Manager (Instructor Software).

ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc...so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.

-ESL-SOF. EDIBON Student Labsoft (Student Software).

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.
- Test self-correction.
- Calculations computing and plotting.
- Equation System Solver Engine.
- User Monitoring Learning & Printable Reports.
- Multimedia-Supported auxiliary resources.

b) Multipost Expansions options

⑥ Mini ESN. EDIBON Mini Scada-Net System.

EDIBON Mini Scada-Net System allows up to 30 students to work with a Teaching Unit in any laboratory, simultaneously.

The Mini ESN system consists of the adaptation of any EDIBON Computer Controlled Unit with SCADA integrated in a local network.

This system allows to view/control the unit remotely, from any computer integrated in the local net (in the classroom), through the main computer connected to the unit.

Main characteristics:

- It allows up to 30 students to work simultaneously with the EDIBON Computer Controlled Unit with SCADA, connected in a local net.
- Open Control + Multicontrol + Real Time Control + Multi Student Post.
- Instructor controls and explains to all students at the same time.
- Any user/student can work doing "real time" control/multicontrol and visualisation.
- Instructor can see in the computer what any user/student is doing in the unit.
- Continuous communication between the instructor and all the users/students connected.

Main advantages:

- It allows an easier and quicker understanding.
- This system allows you can save time and cost.
- Future expansions with more EDIBON Units.

The system basically will consist of:

This system is used with a Computer Controlled Unit.

- Instructor's computer.
- Students' computers.
- Local Network.
- Unit-Control Interface adaptation.
- Unit Software adaptation.
- Webcam.
- Mini ESN Software to control the whole system.
- Cables and accessories required for a normal operation.

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.

REPRESENTATIVE



C/ Del Agua, 14. Polígono Industrial San José de Valderas.
28918 LEGANÉS. (Madrid). SPAIN.
Phone: 34-91-6199363 FAX: 34-91-6198647
E-mail: edibon@edibon.com WEB site: **www.edibon.com**

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