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↳ PRODUCTS
↳ 40.- ELECTRICITY

INTRODUCTION

One of the most initial concepts that has to be learned when you start to study electricity is the difference between the kind of connections you can do with the devices, namely, the difference between serial connection, parallel connection, etc. In general, some devices are in serial connection when they have the same current and different voltages, and some devices are in parallel connection when they have the same voltage and different currents.



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 Electrotechnics Application focused on Lighting, "AEL-AI13-E", is designed with the aim of students who are starting to learn about electricity, can differentiate clearly between the kind of connections of some devices, in this case, lighting devices, such as, serial connections and parallel connections and with control elements, such as, switches or push-buttons. For that, this application includes a main power supply, a power supply module, a fluorescent lamp with which you can learn the method of connection of this kind of lamps, a digital multimeter, a relays' module with switches and a lighting module with switches, push-buttons and a buzzer. Combining all of these modules, you can experiment some situations of lighting control to understand the working of these devices and reinforce concepts about electricity.

The AEL-AI13-E includes the following modules:

- N-ALI02. Domestic main power supply.
- N-ALI10. Power Supply Module.
- N-LAM09. Fluorescent Lamp.
- N-MED65. Digital Multimeter.
- N-REL50. Control Relays Module.
- N-LAM26. Lighting Module.

Expansion learning software:

In addition, Edibon provides expansion learning software (AEL-AI13-E/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-AI13-E can be mounted on rack (option A) or on rail (option B):

Option A:

This application needs the following racks:

- N-RACK-M.

Optionally the AEL-WBR. Electrical Workbench (Rack) can be supplied to place the rack/s.

Option B:

This application can be mounted on rail.

Optionally the AEL-WBC. Electrical Workbench (Rail) can be supplied to mount the modules.

SPECIFICATIONS

The application includes the following modules:

- **N-ALI02. Domestic Main Power Supply.**

Supply voltage (Single-Phase): 230 VAC, PH+N+G.

ON-OFF removable key.

Output Voltage Connections:

Two Single-Phase: 230 VAC

Single-Phase supply hose connecting plug.

Differential magnetothermal, 2 poles, 25 A, 30 mA AC 6 KA.



N-ALI02

- **N-ALI10. Power Supply Module.**

Supply voltage (Single-Phase): 230VAC PH+N+G.

Output voltage:

15-0-15 VAC.

24 VAC.

24 VDC.

0-24 VDC (adjustable).



N-ALI10

- **N-LAM09. Fluorescent Lamp.**

Nominal voltage: 230 VAC (PH+N)

Switch on/off.

Fluorescent lamp.

Nominal Power: 8 W.

Supply terminals (LN).

Ground terminal.



N-LAM09

- **N-MED65. Digital Multimeter.**

This module has a digital multimeter of about 3 ½ digits, with double-jack ending cables of about 4 mm to facilitate interconnections.

With this digital multimeter we will be able to measure:

Voltage.

Current.

Resistance.

Capacitors capacity.

Temperature.



N-MED65

- **N-REL50. Control Relays Module.**

Nominal voltage 24 V.

Two relays.

Two Normally Open contact (NO).

Two Normally Close contact (NC).

Ground terminal.



N-REL50

- **N-LAM26. Lighting Module.**

Four 24 V red lamps.

Two switches.

Two simple switches.

One crossover-switch.

One pushbutton.

One buzzer.

Ground terminal.



N-LAM26

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

Cables and Accessories, for normal operation.

Manuals:

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

EXERCISES AND PRACTICAL POSSIBILITIES

- | | |
|--|---|
| 1.- Checking the working of the main power supply. | 7.- Association of switch-controlled lamps. |
| 2.- Lamp controlled by a switch or a push-button. | 8.- Lamp control from three points. |
| 3.- Lamp controlled by relays. | 9.- Lamps managed through relays. |
| 4.- Acoustic indicator circuit. | 10.- Switch on lamps through a switch. |
| 5.- Parallel and series association switches. | 11.- Simultaneous lamp and switch connection. |
| 6.- Switching a fluorescent tube. | |

REQUIRED SERVICES

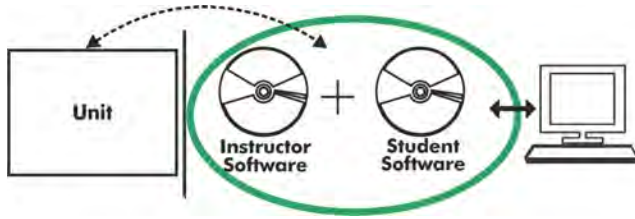
- | |
|--|
| - Electrical supply: three-phase, 380V/50 Hz or 208V/60 Hz, 20 Kw. |
|--|

DIMENSIONS AND WEIGHTS

- | |
|---|
| AEL-AI13-E |
| -Dimensions: 640 x 320 x 920 mm approx.
(25.19 x 12.59 x 36,22 inches approx.) |
| -Weight: 45 Kg approx.
(99 pounds approx.) |

Optional

AEL-AI13-E/ICAI. Interactive Computer Aided Instruction Software System:



With no physical connection between unit and computer (PC), 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.

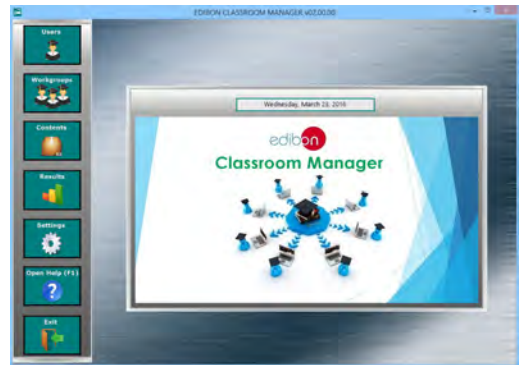
Instructor Software

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

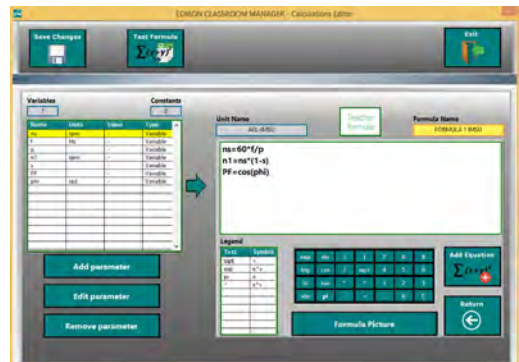
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

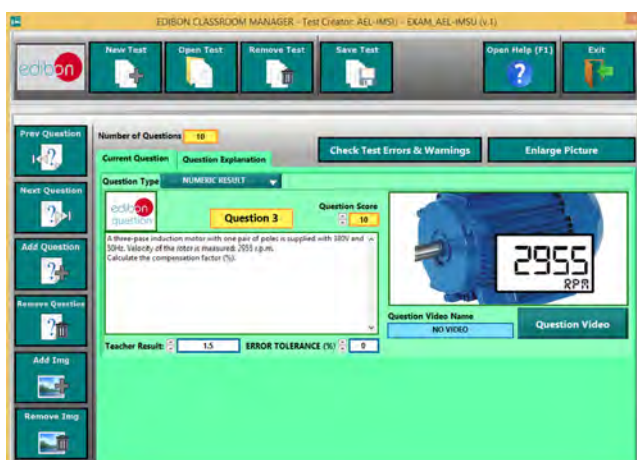
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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



ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



ECAL. EDIBON Calculations Program Package - Formula Editor Screen



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



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

Optional
Student Software

- 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.**

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

www.edibon.com/en/files/expansion/ICAI/catalog



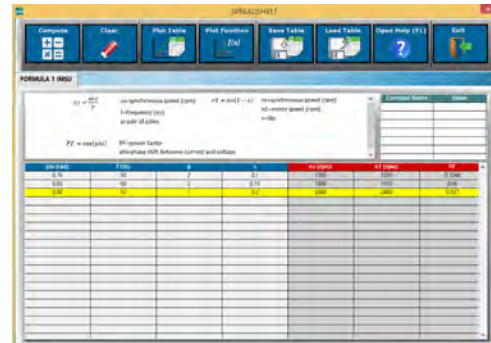
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

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



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REPRESENTATIVE:

