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↳ PRODUCTS  
↳ 40.- ELECTRICITY

### INTRODUCTION

Gas leaks in an installation may be very dangerous since, depending on the type of gas, it can cause an explosion or intoxicate people. Therefore, gas leaks control has become one of the most used security measures nowadays, especially in the newest buildings, in which by law, it is mandatory the installations of these security measures, depending on the place and the purpose of the building.



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 Gas and Smoke Detection Application, "AEL-AD30", is designed to study the operation of a gas leak detection and fire prevention system. This application includes two types of sensors. On one hand, there is a gas detector capable to detect explosive and toxic gases, such as natural gas, propane, butane, etc. It can also detect smoke from combustion, so it is a very complete sensor. On the other hand, there is an optic smoke detector, capable to detect visible gases, although it must not be installed close to water heaters to avoid a false positive result. The application also includes a solenoid valve to close the gas circuit in case of leakage. The student can simulate with all of these devices some emergency situations to understand the operation of the main gas detection systems in the market.

The AEL-AD30 includes the following modules:

- N-ALI02. Domestic Main Power Supply.
- N-ALI03. AC Auxiliary Power Supply.
- N-DET02. Gas Detector.
- N-DET03. Fitted Power Supply (gas and flooding detector).
- N-DET36. Smoke Detector.
- N-DET12. Gas Solenoid Valve.

Expansion learning software:

In addition, Edibon provides expansion learning software (AEL-AD30/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-AD30 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.**

Voltage supply (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-ALI03. AC Auxiliary Power Supply.**

Voltage supply (Single-Phase): 230 VAC PH+N+G.

Output voltage:

Single-Phase 24 VAC/12 VAC.

24 VDC.

0 - 24 VDC through potentiometer.



N-ALI03

- **N-DET02. Gas Detector.**

Voltage supply, 12 VAC.

Four alarm outputs.

Acoustic alarm indicator.

Status indicator light.

Test button.



N-DET02

- **N-DET03. Built-in Power Supply.**

Voltage supply, 230 VAC.

Output voltage 12 VAC.

Ground connection.

Service LED.



N-DET03

- **N-DET36. Smoke Detector.**

Voltage supply, 230 VAC.

Four alarm outputs.

Alarm sound and status LED.



N-DET36

- **N-DET12. Gas Solenoid Valve.**

Voltage supply, 230 VAC.

Power, 14 W.

Ground connection.

Automatic reset.

Maximum pressure, 500 mBar.

Closing time, 0.1 s.



N-DET12

- **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 and measuring on the main power supply.
- 2.- Checking the working of the auxiliary power supply.
- 3.- Checking the working of the built-in power supply module.
- 4.- Gas detection tests with the gas detector and the control of the electrovalve.
- 5.- Smoke detection tests with the smoke sensor.
- 6.- Real applications of a gas leakages control system.

### REQUIRED SERVICES

- Electrical supply: single phase, 230 V./50 Hz. or 115 V./60 Hz.

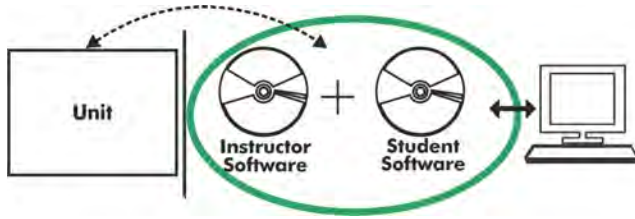
### DIMENSIONS AND WEIGHTS

AEL-AD30:

- Dimensions: 640 x 320 x 670 mm approx.  
(25.19 x 12.59 x 26.37 inches approx.)
- Weight: 60 Kg approx.  
(132 pounds approx.)

## Optional

### AEL-AD30/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.

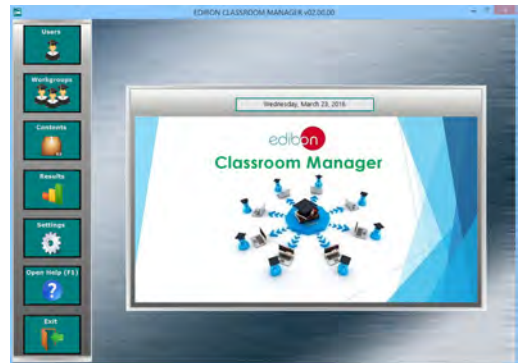
### Instructor Software

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

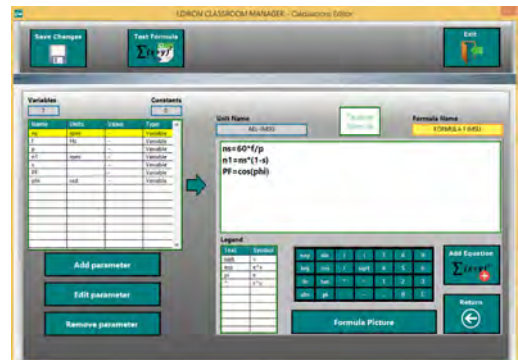
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

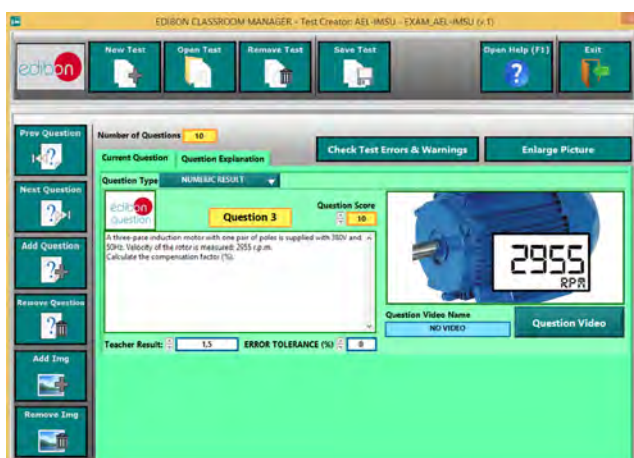
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- 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](http://www.edibon.com/en/files/expansion/ICAI/catalog)



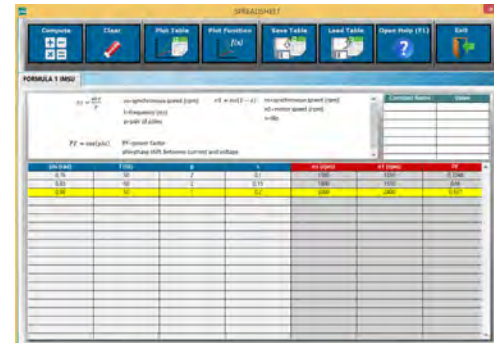
ESL-SOF. EDIBON Student LabSoft (Student Software)  
Application Main Screen



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:

