AUMIC
Microautomation

exxer
Skills for the Future

THE UNION OF EXPERIENCES AND COMPETENCIES A NEW LEVEL OF EXCELLENCE IN EDUCATION!

EXXER was born from the merger of two companies passionate about **technology**, **innovation**, and **education**.

With the purpose of offering more and more excellence tools to assist in technological education, we believe the union of practical and theoretical learning is what makes the difference in **accelerating human** and **world development**!

TECHNOLOGY ● INNOVATION ● EDUCATION

AUMIC
Microautomation

Automation is increasingly present in various applications and industries. Often, small and cost–effective systems can be used to transform simple systems into programmable and intelligent ones. This is the role of Microautomation, which, through the use of programmable relays, brings flexibility and connectivity to a wide range of applications.

The kits in this series can be used both as an introduction to automation in courses that will delve deeper into this topic in the future, and in courses with a different focus but aiming to present the fundamentals and practices of automation. Courses in areas such as electronics and electroelectronics can also benefit by incorporating this technology into disciplines related to residential and building installations.

This series is based on Siemens' LOGO! programmable relays and WEG's Clic02, which are programmable in various industrial languages and have connectivity. They allow for initial contact and practice of PLC fundamentals, enabling their direct use in small automations or serving as a foundation for further study in complete PLC systems.

They support intuitive programming languages, making learning and application easier. The software and applications complement the didactic solution, ensuring greater effectiveness through a more dynamic and modern learning experience.

All kits in this series come with comprehensive teaching materials focused on competency–based education and are easy for teachers to use.

We offer complete solutions for the training and updating of teachers, ensuring the maximum use of kit resources.

Consult with our specialists for more information and detailed technical specifications for each kit in the series.

MAIN SKILLS AND COMPETENCIES

- Understand the internal structure of a programmable relay;
- Program in different programming languages;
- Implement basic automatic systems;
- Use digital and analog inputs and outputs;
- Apply timers and counters;
- Implement communication between the programmable relay and the computer.

TECHNOLOGICAL HIGHLIGHTS

LOGO! and Clic02 are programmable relays (micro PLCs) designed for easy programming and use, catering to industrial, commercial, and residential applications. Both feature a built–in alphanumeric Human–Machine Interface (HMI).

The programming tools are intuitive and free, facilitating the initial contact with this technology.

LOGO! comes with an Ethernet port that enables communication with PCs, cloud applications, and other automation devices.

Clic02 has a Modbus communication port, allowing the creation of networks among Clic02 devices or control of other devices, such as inverters.

With the aim of enhancing usability and the learning process for each student, educational solutions have been developed and designed with unique benefits and features for users.

KEY BENEFITS

- Modularity;
- Protected components;
- Industrial devices;
- Easy storage.

DISTINCTIVE FEATURES

- Safety;
- No tools required;
- Educational materials.

DEVICE CONFIGURATION

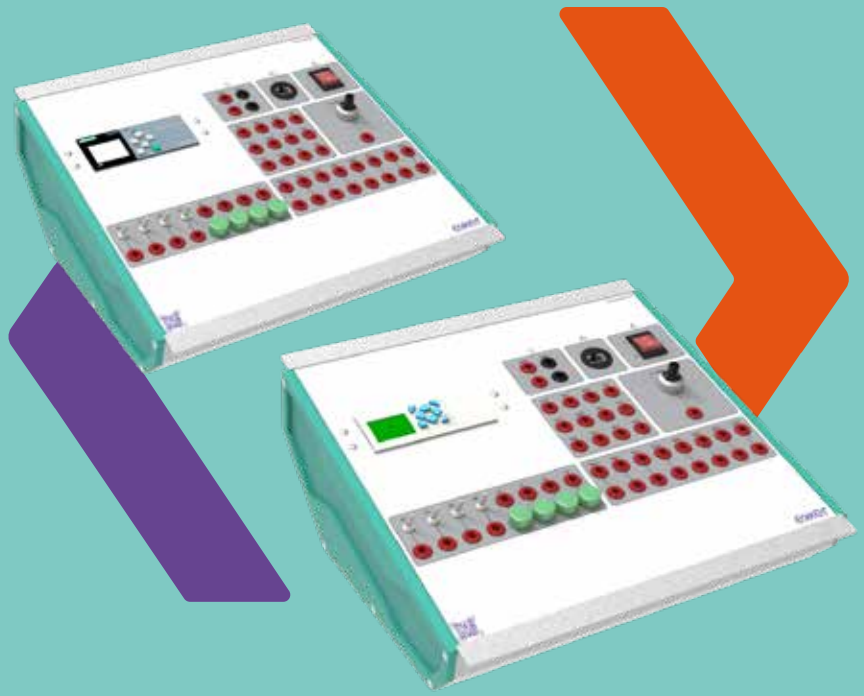
PARTNUMBER	DESCRIPTION	OPCTIONS	DEVELOPMENT TOOLS	APPLICATIONS
AUMIC2000-L1-001 AUMIC2000-L1-002	Microautomation Kit (Docking Station)	Siemens LOGO! 12/24 RCE + DM8 RCE WEG CLW-02 20HR-D	LOGO! Soft Comfort Clic Edit	Exxer App

CHARACTERISTICS

With modular configuration, NR–12 safety compliance, included development software, protection for main components, and included educational materials.

AUMIC2000

Microautomation Kit



Configurations

- Dock station: Compact, can be attached to benches and racks;
- Anodized natural aluminum rear closure;
- Plastic side closure;
- Front panel type TS with indelible identification.

DIMENSIONS	
Height	150mm
Width	300mm
Depth	340mm
Weight	15Kg

ELETRICAL CHARACTERISTICS	
Power Supply	Single–phase supply 110/220V AC 50/60Hz
Terminal connections	4 mm safety terminals.

MAIN DEVICES

	Siemens LOGO! LOGO! 12/14 RCE + Cartão DM 12/24 RCE	WEG Click02 CLW–02 20HR–D
Interfaces	1 RJ45 Ethernet port	1 puerto RS–485
Industrial Networks	Modbus/TCP	Modbus/RTU master/slave
Digital Inputs	8 digital inputs (12–24V DC)	12 (24VDC)
Digital Outputs	4 digital outputs (12–24V DC)	8 (8A, relé)
Analog Inputs	2 (0–10V DC)	4 (0–10Vcc)
Analog Outputs	4 (0–10Vcc)	–
Programming Language	LD – Ladder Diagram, FBD – Functional Block Diagram	LD – Ladder Diagram, FBD – Functional Block Diagram

USAGE

Guidance on the recommended use of the kit.

Under "equipment," define the optimal and maximum number of students expected per kit.

Usage can be "intensive," meaning one kit per working group, or "occasional/shared," meaning it is not used all the time, and therefore, we can have a lower number of kits than the number of teams. This should be indicated again, specifying the optimal number to the maximum number.

INFRASTRUTURE	
	AUMIC2000
Electrical	1 Single–phase Outlet

INFORMATION TECHNOLOGY (IT)	
Computer	Required at each workstation Minimum requirements according to development tools
Network	Switch for connection between kits and computers

CONECTIVITY	
Ethernet Connections per Workstation	2 puertos Ethernet (uno para la computadora, otro para el kit)
Wifi network	–
Internet access	Recommended
Computer	Recommended; according to the minimum requirements of the software programs

DEVELOPMENT TOOLS

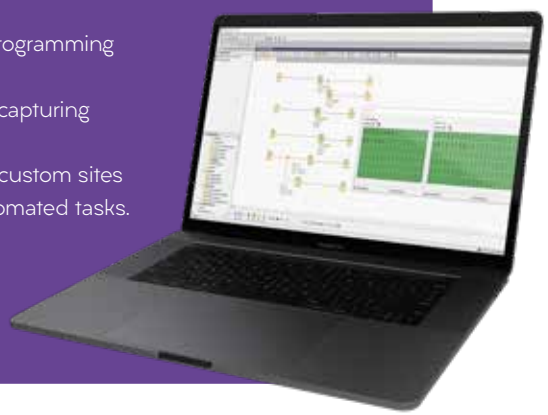
Our educational solutions are complemented by the necessary development tools and professional software for the comprehensive training of students.

Included licenses

LOGO!

- LOGO! Soft Comfort: development and programming tool for LOGO!
- LOGO! Access Tool: MS Excel add–on for capturing data sent by LOGO!
- LOGO! Web Editor: allows the creation of custom sites used to control and monitor LOGO!'s automated tasks.

  - Plataforma: Windows
  - Licenciamiento: freeware



Included licenses

Clic02

- FClic Edit: development and programming tool for Clic, compatible with ladder diagram (LD) and functional block diagram (FBD) languages

  - · Platform: Windows
  - · Licensing: Freeware

COURSEWARE

The educational kits come with instructional material enriched with a practical approach, presenting practice proposals aimed at developing skills and competencies.

In addition to the User Manual, which contains information about operation and maintenance, a Student Guide is provided with practical activity proposals to be carried out with the kit, as well as an Educator Guide that includes answers to proposed activities and guidance for the educational use of the kit. Additionally, video tutorials are offered to assist in the easy mastery of development tools and the use of the kit.

All this content is digitally available on our website in the Educator Portal.

SKILLS AND COMPETENCIES

Programmable Relays

- Understand the internal structure of programmable relays;
- Use different programming languages;
- Understand the use of different variables;
- Perform digital logic;
- Implement basic automatic systems;
- Apply timed logic in real–world problems;
- Understand analog variables;
- Understand the concepts of State Machines;
- Use State Machine logic to solve real–world problems;
- Create screens in the embedded Human–Machine Interface (HMI);
- Create pages on the embedded web server.

Communication

- Establish communication between Programmable Relay units;
- Establish communication between LOGO! and PC;
- Understand the behavior of FET types: JFET and MOSFET;
- ·Know the operation of the TDA amplifier.

TRAINING

As important as educational resources and tools is teacher training. We offer a comprehensive package of solutions to meet your training and updating needs.

Quick Start and Quick Start Tutorials

Quick Start is a quick video guide to get acquainted, test, and put the product into operation. Tutorials are videos that teach common procedures necessary in classes using the kit.

Technical Delivery

In technical delivery, our specialists present the product, its features, maintenance and safety precautions, and put it into operation with clients.

Operational Training:

The goal of operational training is to leave instructors trained to use the kit. The kit's instructional materials are presented, and some proposed practices are carried out. It also includes all activities from the technical delivery.

Technical Training:

Technical training involves a deeper study of the applied technology and concepts. These courses do not focus on the kits but on technical topics and competencies to update teachers.

exxer Skills for the Future

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