



**ZELIO Smart Relay** is a programmable small control system that forms the basis of the **ZELIO** training system developed by **GREEN ELECTRONICS**. **ZELIO Smart Relay** replaces many conventional switching devices, such as relays, auxiliary contactors, current impulse relays, timing relays, timers, counters and analog-value comparators.

Some of the **fields of application** are:

- Building installation and engineering.
- Heating, ventilation and air-conditioning systems.
- Machine control systems and transport equipment.

**In the field of education**, **GREEN ELECTRONICS** training systems with **ZELIO** offers new opportunities with an extremely favorable price-performance-ratio.

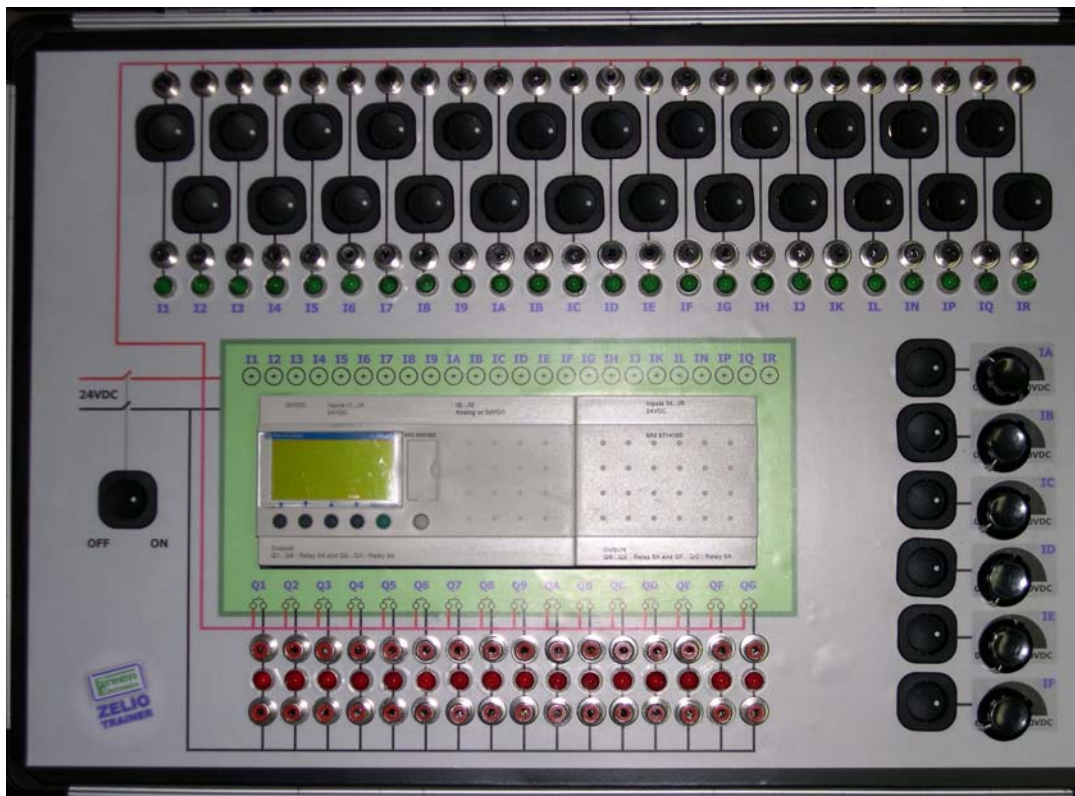
They allow students to practically investigate the basics of digital industrial control systems.

The module can be **programmed** either in **LAD** (ladder diagram) or **FBD** (function block diagram) Programming languages directly via the integrated button control and display panel or through a Personal Computer.



**Presentation:**

The main goal of this unit is to simplify testing any program a trainee can design, he can enter a digital input through the on/off switches or connect this input to a sensor, he can also enter an analog input from 0 to 10VDC by using the in-built variable resistance and watch the status on the digital outputs connected internally to LEDs, he can also connect the desired outputs to real loads if he wish.



**UNIT DESCRIPTION:**

- 1- System is protected in a metal bag.
- 2- Supplied from mains normal 220VAC.
- 3- System core is a **TELEMECHNIQUE ZELIO Smart Relay**.



Supply	24 VDC
Inputs	6 digital inputs + 2 digital <b>or</b> analog inputs
Outputs	4 digital outputs ( relays)
Display	LCD 4 lines
Programming keys	8 keys

- 4- Programming cable and software CD included.
- 5- System contains internal power supply for the smart relay, digital inputs and the loads as follow:

Output voltage	24V DC ( regulated)
Current	2A DC Max.

- 6- Main power switch and 2 fuses for protection.
- 7- Switch to convert the digital inputs 7,8 to analog and vice versa.
- 8- 2 variable resistors installed on front panel used to set the analog input voltage 0-10 VDC.
- 9- Light Emitting Diodes (LEDs) to view the digital inputs and digital outputs status.
- 10- External inputs or outputs can be connected to the system by using the supplied cables with Banana Plugs.
- 11- System contains a PULSE generator circuit, user can change the output pulse rate by using the in-built variable resistance, circuit description as follow:

Min. frequency	0 HZ
Max. Frequency	15 HZ
Output type	Positive logic

**ZELIO Smart Relay Specifications:**

- 1- 24 VDC Power supply.
- 2- 4 lines LCD.
- 3- 6 digital inputs, 24 VDC, positive logic.
- 4- 2 digital/analog inputs.
- 5- 4 output relays.
- 6- (Clear) button.
- 7- (Add) button.
- 8- (Arrows) buttons can be used as Push Buttons.
- 9- (Select) button.
- 10- (Exit) button.
- 11- Place to put additional memory or computer cable.



**Display:**

Contains 4 lines LCD for the following purposes:

- 1- View inputs status.
- 2- View operation status ( on/off)
- 3- View time and date.
- 4- View outputs status.
- 5- View arrow buttons in case of using as operation button.

**Electrical description of the system:**

Power	50 VA
Digital input	24 VDC, 5mA
Digital output	24 V
Analog input	0-10 V
Pulse generator	0-15 HZ

**Note:** This system can be custom modified for Different types of PLCs upon special request.