

# Modular Relay Control System

for Failure Insertion & Signal Control

## Characteristics:

- High performance system that supports fast relay response times
- Modular architecture
- Controls up to 2048 relays
- Switch up to 16 relays simultaneously
- Reset all relays simultaneously
- Interface via a PCI digital output board

## Multiprocessor architecture

The modular relay control system is designed to support numerous relay-based applications such as failure injection and hardware simulation. The highly flexible concept is easy to integrate and allows to be adapted to a variety of customer needs, especially considering the required relay response times.

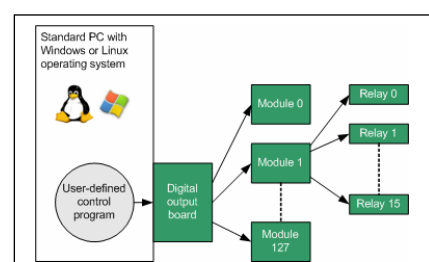
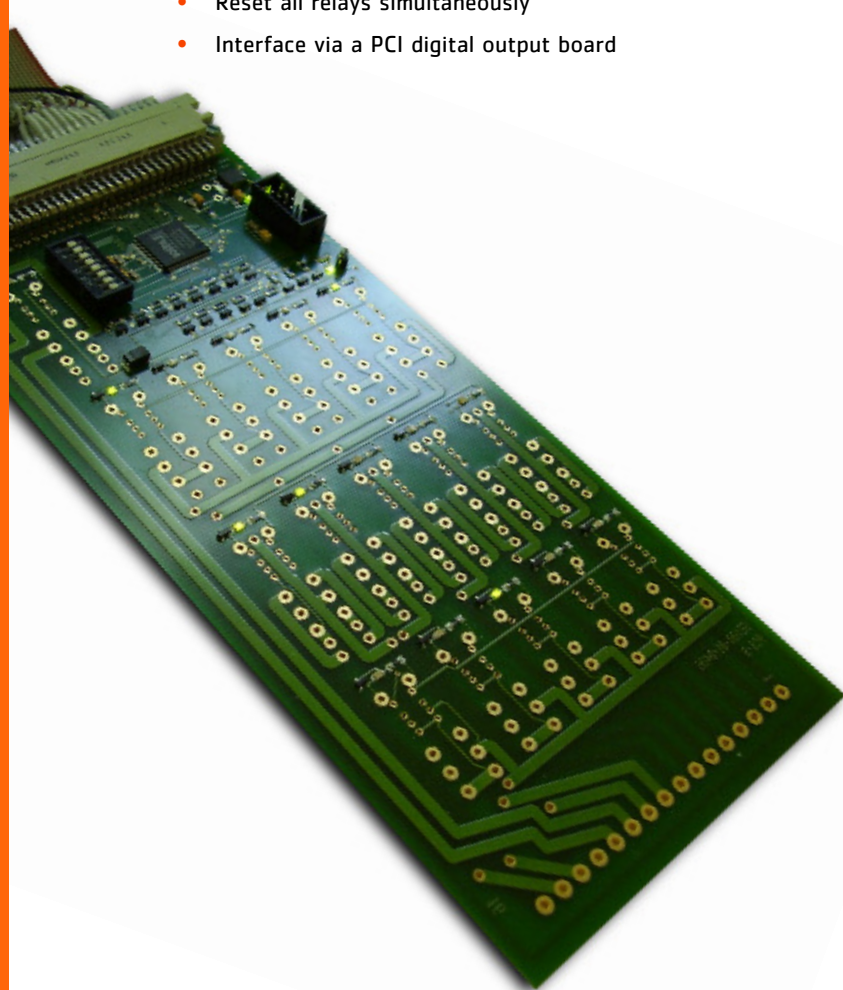
The basis for the modular relay control system is a standard PC with either a Windows or a Linux operating system installed. Running on this computer, a user-defined program can connect to and make use of each single relay.

From the point of view of the hardware, the system consists of a number of modules, each of them managing up to 16 relays. To address a single relay, the module number and its position on the module is required.

The communication between the modules and the user-defined program is accomplished via a digital output board based on PCI standard technology. The system uses 28 channels on this board: 8 for the module address, 16 for the relay mask and four channels representing the control lines.

The working principle supports the feature of simultaneously setting all relays on one module. In addition, a hardware function enables to reset all relays of the system at the same time.

Currently, the modular relay control system has the capability to address 128 modules. Considering that each module can manage up to 16 relays, the overall number of relays in the system can grow to 2048.



**Figure:**  
Overview of the modular relay control