



Programmable Logic Controllers Introduction

Part 2

PLC Advantages over Relay Systems



Programmable Logic Controllers (PLC's)

- Most widely used industrial process control technology
- Digital computer for machine control
- Operates in industrial environments
- Input/output interfaces
- Control programming language

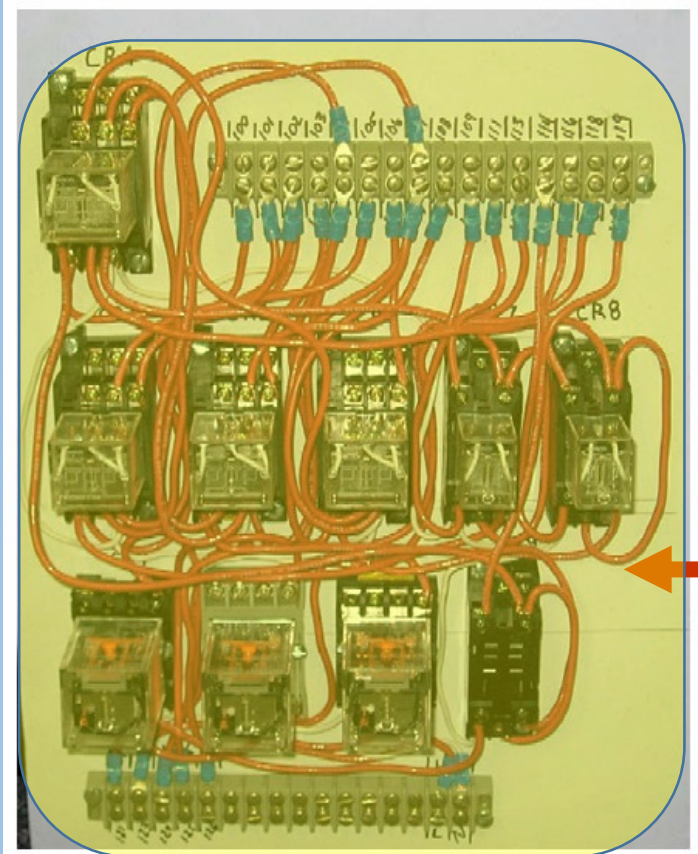


Programmable Logic Controllers (PLC's)

- Initially used to replace relay logic
- Range of functions includes:
 - Timing
 - Counting
 - Calculating
 - Comparing
 - Processing analog signals
 - Sequencing

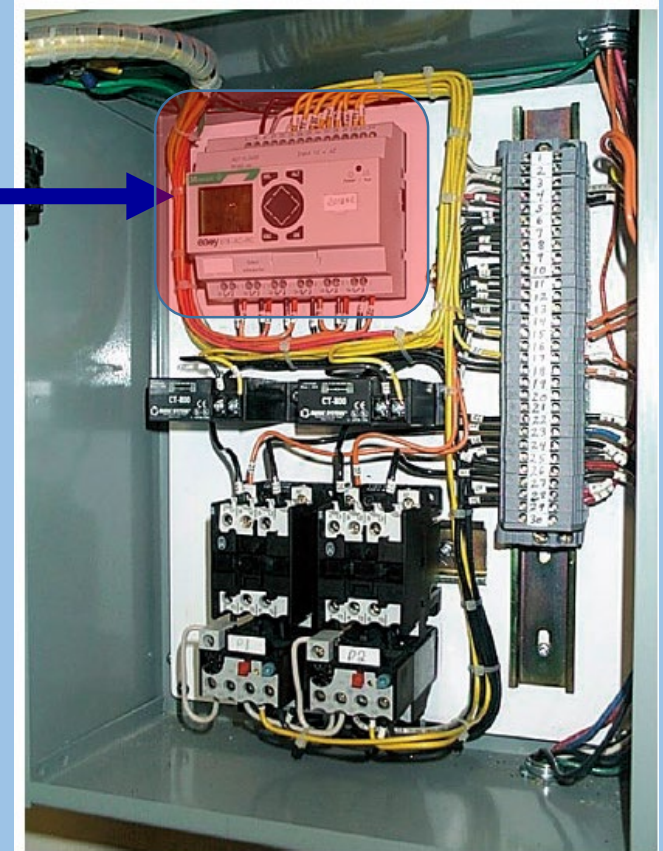


Advantages



**Relay
control
panel**

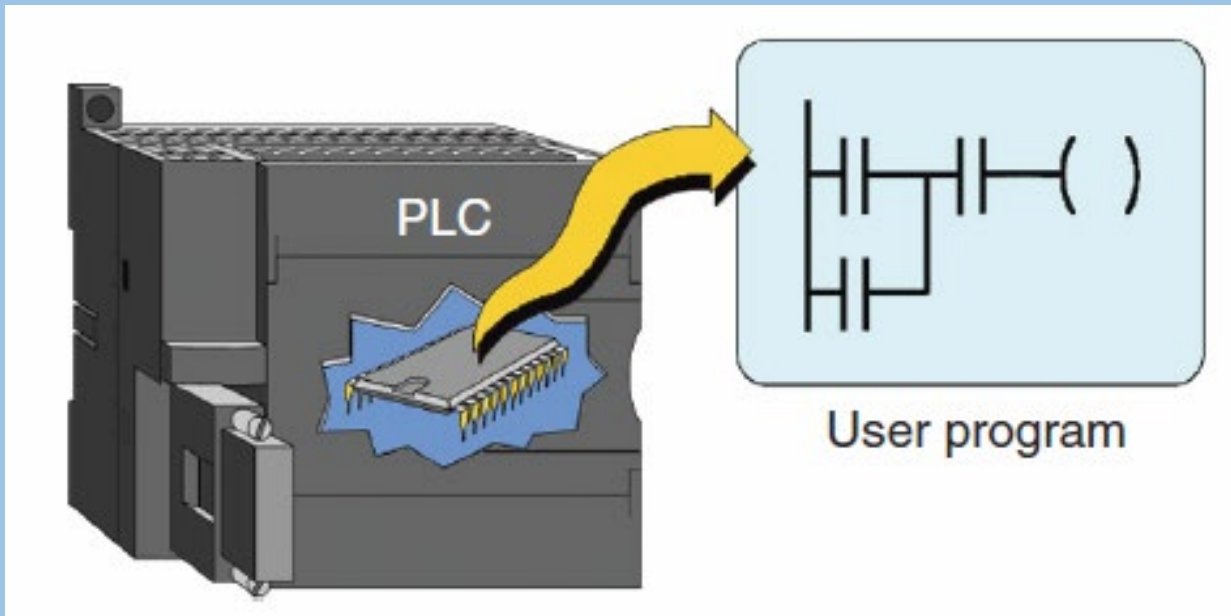
**PLC
control
panel**



Elimination of much of the hardwiring associated with conventional relay control circuits.



Advantages



Increased Reliability

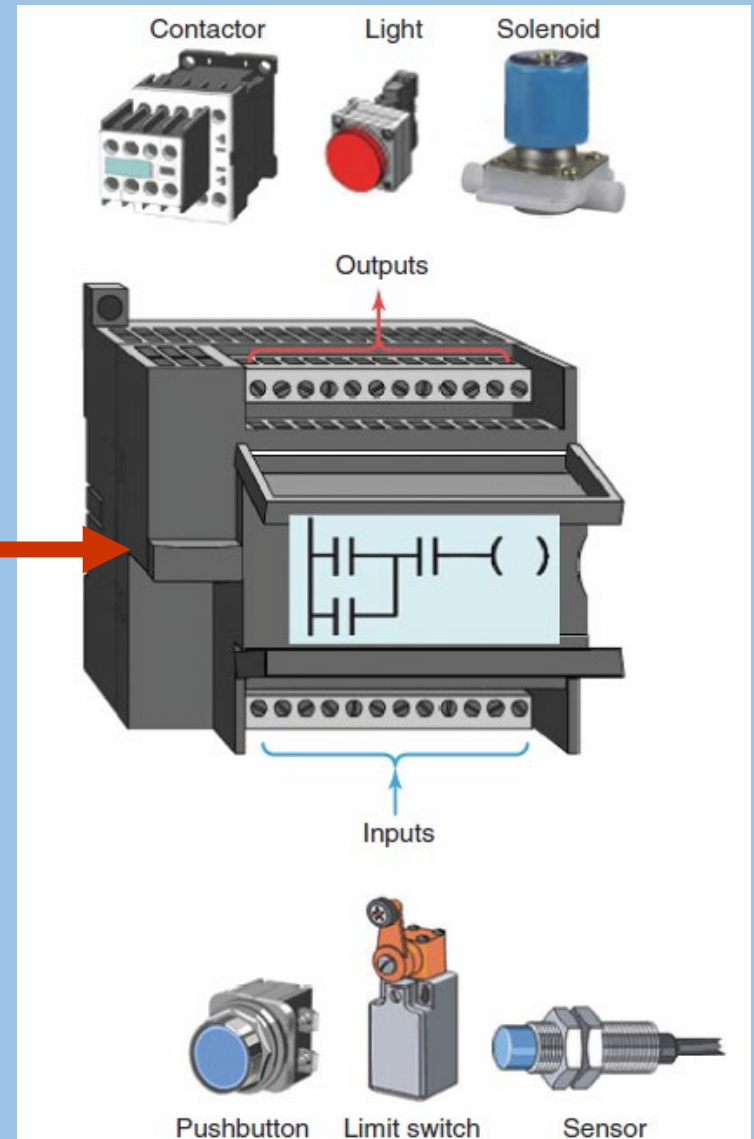
- *Wiring errors*
- *Relay failure*



Advantages

More Flexibility

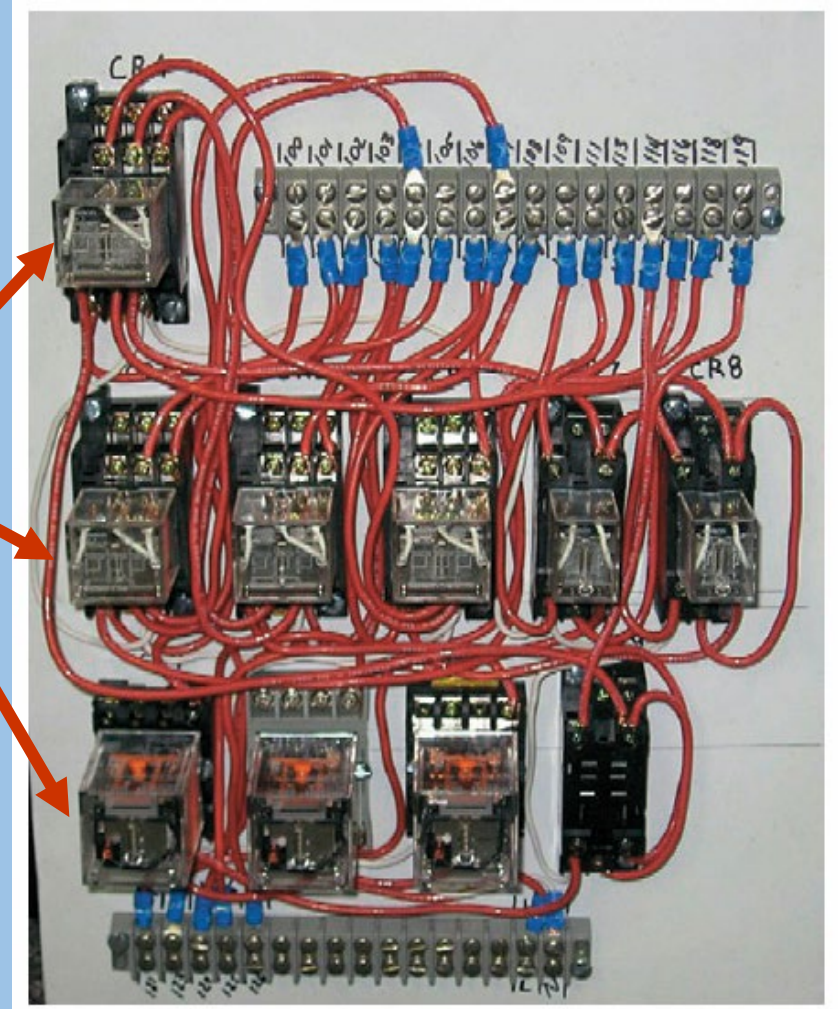
- Reprogramming versus re-wiring



Advantages

Lower Cost

- 6 or more relays – less expensive to use a PLC



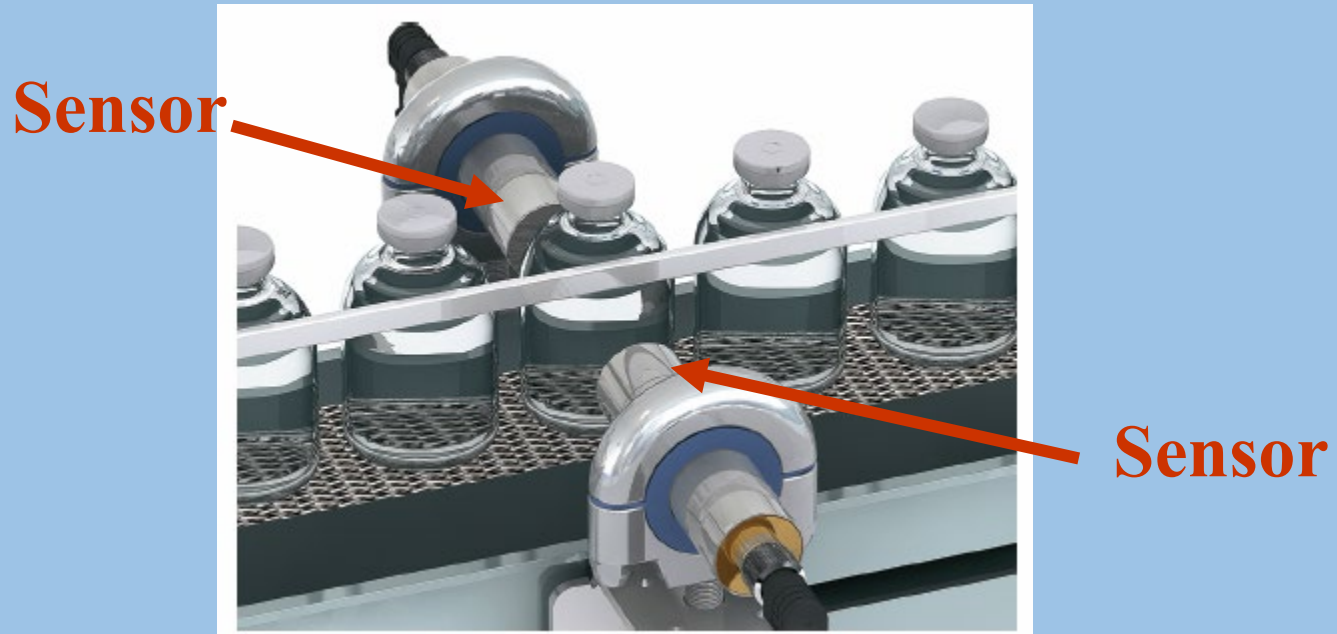
Advantages

Communications Capability

- Communicate with:
 - Other controllers
 - Computer equipment
 - Internal / External Networks



Advantages



Faster Response Time

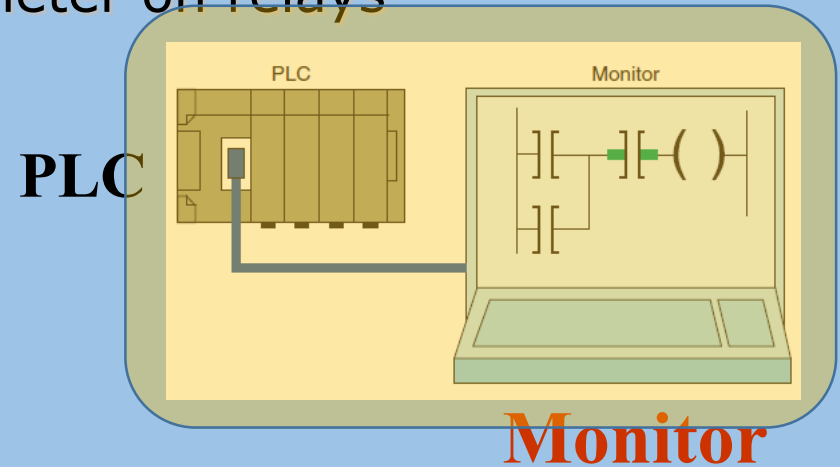
- Electronic response versus mechanical



Advantages

Easier to Troubleshoot

- Control program on a monitor in real time
- Versus using prints and multimeter on relays



Process

