

# Fundamentals of PLC - Level 1

## (Introduction to Programmable Logic Controllers)

A Programmable Logic Controller (PLC) is a device that is capable of being programmed to perform control functions. The first PLC was introduced in the late 1960s to replace relay logic controls in the automotive industry. Compared to relay logic controls, the PLC's advantages include easy programming and installation, high control speed, hardware and software security, network compatibility, troubleshooting and testing convenience, and high reliability.

PLCs are currently used widely in industrial and commercial environments. They can be found in almost any manufacturing facility. There are several manufacturers of PLCs. While the instruction formats may not be the same for different brands, the hardware structures and programming concepts are very similar. This course covers PLC hardware structure, input/output modules, software, and programming. PLC operation and ladder logic programs are discussed.

### Course Benefits:

After completing this course you will be able to: install, configure the PLC and write programs from scratch for different industrial processes.

### Course Pre-requisites:

Using computers and operating systems. Recommended industrial control course.

### What will you learn?

Installation and wire connections of PLC. Configure the PLC for different drivers. Programming PLC and learning different instructions. Troubleshooting PLC.

### Course Contents

- Installation and Wire connections.
- Drive configurations and communications.
- Programming PLC Off-Line using ladder programming.
- Verifying, download, and uploading programs
- Addressing and addressing types
- Program files and data files
- Number systems instructions
- Counters and Timers instructions
- Math Instructions
- Counter and Timer instructions
- Compare and move instructions.
- Control loops instructions.
- Systematic methods of programming
- Design and implement different control processes.

**For any further information please contact us at:**

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