

# **LECTURE - 1**

## **What is PLC ?**

*PLC means programmable Logic Controller. It is an electronic device. This is used to control field instruments as per the requirement of the job by the help of Hardware and other interfaces.*

- PLC is an assembly of solid-state digital logic elements designed to make logical decisions and give output.
- It is an electrically controlled hardware invented to replace sequential relay circuit.
- PLC works by looking at its inputs and depending on their state gives output.

## **Basic Operational parts of PLC.**

- POWER SUPPLY
- CPU
- INPUT MODULE
- OUTPUT MODULE
- RACK/CHASSIS & BACKPLANE
- SLOT
- BUS SYSTEM
- PROGRAMMING DEVICE

## **Types of PLC**

Compact PLC (Generally Fixed Type – Inbuilt I/O with processor. May/May not support additional I/O)

Modular Type PLC (Additional I/O can be connected.)

# PLC - ALLEN BRADLEY

## CPU

Different CPU series of Allen Bradley : CPU are segregated as per their Input / Output handling capacity.

### ➤ **LOW RANGE**

#### 1. PICO

Programming Software : PICO SOFT

Driver : RS-LINX

#### 2. MICRO LOGIX

1000 } Only Digital Input / Output

1100

1200 } Digital & Analog Input / Output

1300

1500

Programming Software: RS-LOGIX-500

Driver : RS-LINX

### ➤ **MEDIUM RANGE**

#### 1. SLC (SEQUENTIAL LOGIC CONTROLLER)

SLC 5/01, 5/02, 5/03, 5/04, 5/05

Maximum Digital Input / Output :: 4096

Maximum Analog Input / Output:: 256

Programming Software: RS-LOGIX-500

Driver : RS-LINX

### ➤ ***LARGE RANGE***

#### 1. PLC (PROGRAMMABLE LOGIC CONTROLLER)

PLC 5/20, 5/30, 5/40, 5/60

Programming Software: RS-LOGIX-5

Driver : RS-LINX

### ➤ ***VERY LARGE RANGE***

1. COMPACT LOGIX (L23, L31, L32, L35, L43, L45)

2. COMPACT GUARDLOGIX (L43S, L45S)

3. CONTROL GUARDLOGIX (L61S, L62S, L63S)

4. CONTROL LOGIX (L61, L62, L63, L64, L65)

Maximum Digital Input / Output: 136000

Maximum Analog Input/ Output:

Programming Software: RS-LOGIX-5000

Driver : RS-LINX