

## **Industrial Automation Training**

- Introduction to Industrial Automation
- PLC programming & Troubleshooting
  - Allen Bradley
  - Siemens
  - Delta
- PLC Wiring/Installation
- SCADA Designing
- SCADA – PLC Interfacing
- Motors & drives
- VFD panel configuration & Wiring
- VFD- PLC Interfacing
- HMI (Human Machine Interfacing)
- HMI – VFD interfacing
- HMI – PLC Interfacing
- Panel designing
- Hydraulic & Pneumatics

### **Introduction:**

- What is automation
- Necessity of automation
- Types of Automation
- Benefits of Automation
- Introduction of Devices required in designing of automation systems

Basic controls used in industry: Types of switches/indicators, Basic circuits – series/parallel, Industrial Drawing, Motor Control, Sensors, Relay logic control circuits.

PLC: Wiring, Programming – Logic commands, Arithmetic commands, Timer & Counter, Hardware interfacing to PLC, Factory Automation Exercises on Automation sandbox software – Factory IO.

SCADA: Screen designing & Controlling, Hands on training in tag development. SCADA interfacing with sensor signals, to other software to PLC hardware to control plant from remote location.

Motors and Drives: Commissioning, programming, maintenance, repairing & troubleshooting along with panel configuration and wiring. Interfacing with PLC. PLC – VFD Modbus, HMI – VFD Modbus.

Introduction to stepper motor, Wiring Position control, Direction Control.

Introduction to Servo motor, wiring, Position Control, Direction Control.

HMI: Wiring, screen designing, controlling and monitoring, interfacing of HMI & PLC.

Pneumatic: Electron-pneumatic valves/actuators, Interfacing of valve with PLC, Combined project on pneumatic+PLC+HMI.