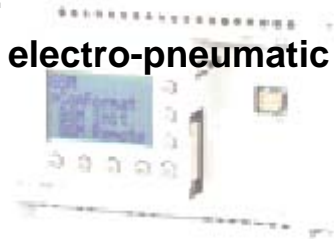


210M.16 Electro-Pneumatic Technology

Course Objectives

- Understand the construction and function of components in electro-pneumatic control systems.
- Identify and use control schematics.
- Design, construct, and troubleshoot electro-pneumatic circuits



Course Outline

- Structure of electro-pneumatic system
- Comparison between pneumatic and electro-pneumatic control systems
- Basic Electric Theory
- Different methods of generating voltage
- Guidelines in drawing electrical circuit diagram
 - JIC Ladder / DIN Rail
- Ohms Law
 - Voltage/Current/Resistance measurement
- Construction and operation of Electrical Components
 - Push button switches
 - Limit switches
 - Monostable & Bistable switches
- Logic Control System
 - AND, OR, NOT, NAND, NOR
- Directional Control Valves
 - Recognition of symbols : 2/2, 3/2, 4/2, 5/2, 4/3, 5/3
 - Methods of Operation & Reset
 - Construction of Solenoid valve
 - DC and AC solenoid valves



210M.16 Electro-Pneumatic Technology

- **Advantages & disadvantages**
 - Surge Voltage protection circuits
- **Back Emf**
- **Proximity Sensors**
 - Inductive, Capacitive, Photo-electric sensors
 - NPN, PNP outputs
- **Relay**
 - Construction and Operation
 - Functions
 - Application, Multiplication, Voltage change, Inversion, Conversion, Memory
- **Memory Control system**
 - Using Bistable valves
 - Using Monostable valves with relay memory function
 - On-priority / Off-priority
- **Coordinated Motion control**
 - Limit switches
 - Auto Switches
 - Reed Switches
 - Solid State Switches
- **Interlocking Control system**
- **Pressure dependent control system**
 - Adjustable type pressure switch (IS1000)
- **Sequence Control System**
 - Erasing Shift Register Method

