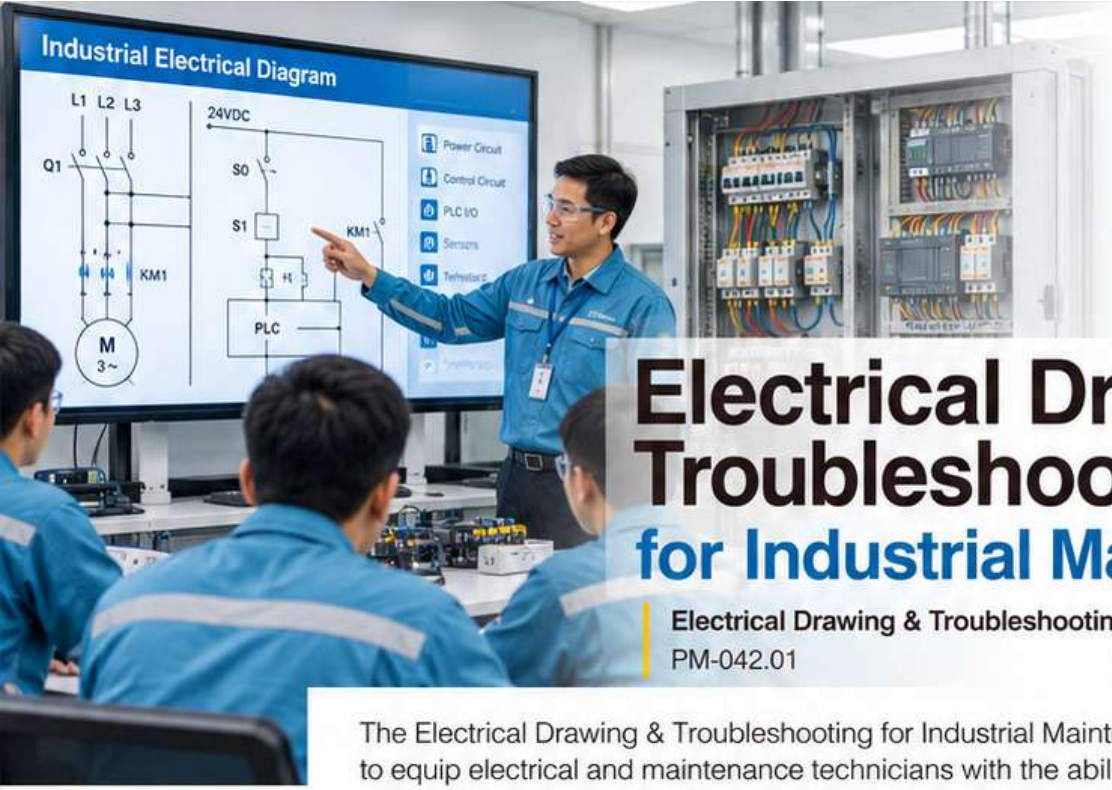


Electrical Drawing & Troubleshooting

for Industrial Maintenance

Electrical Drawing & Troubleshooting for Industrial Maintenance

PM-042.01

Level : **Basic**

The Electrical Drawing & Troubleshooting for Industrial Maintenance program is designed to equip electrical and maintenance technicians with the ability to read electrical drawings for industrial machine maintenance and troubleshooting. The training covers electrical symbols, wiring and schematic diagrams, power and control circuits, motor circuits, and sensor–PLC–actuator systems. It emphasizes circuit tracing, measurement points, fault identification, and troubleshooting for conveyors, pumps, solenoid valves, and motors.

Program Objective

- Understand the functions and types of electrical engineering drawings
- Read electrical and control symbols
- Read wiring and schematic diagrams
- Understand the relationship between power and control circuits
- Read motor circuits and sensor–PLC–actuator systems
- Use electrical drawings for circuit tracing and troubleshooting

Certification

- **Completion Certificate**
- **Certificate of Competence**

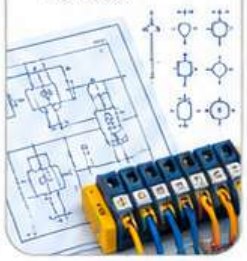
optional if needed

- National Standard Certificate of Competence — **BNSP**
- Industrial Standard Certificate of Competence — **ATMI**

Training Material Structure

1 Electrical Drawing Fundamentals

- Drawing types
- IEC symbols
- Reference designations
- Terminal and wire numbers



2 Power & Control Circuits

- Power and control circuits
- Protection
- DOL (Direct Online)
- Forward–reverse
- Star–delta



3 Industrial Machine Control Drawings

- Sensors
- PLC I/O
- 24 VDC
- Relays
- Solenoids
- VFDs
- Actuators
- Interlocks



4 Electrical Drawings for Troubleshooting

- Electrical circuit tracing
- Fault finding
- Measurements
- Fault analysis



Details and Outcome

Information

Duration **32 JP**
Method **Blended Learning**
Requirement **Background in Electrical Work, Maintenance, or Engineering**
Target **Electrical Technicians & Maintenance Technicians**

Output

Component identification results based on electrical drawings
Power and control circuit tracing results
Sensor–PLC–actuator circuit tracing results
Fault location findings and recommended corrective actions

Advantages

Electrical Drawing Reading Skills
Power & Control Circuit Analysis
PLC and Sensor–Actuator Tracing Skills
Troubleshooting & Fault Diagnosis Ability
Industrial Maintenance Readiness

TRAINING CENTER ATMI - PT ATMI BizDEC

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Experienced and **Evolved**