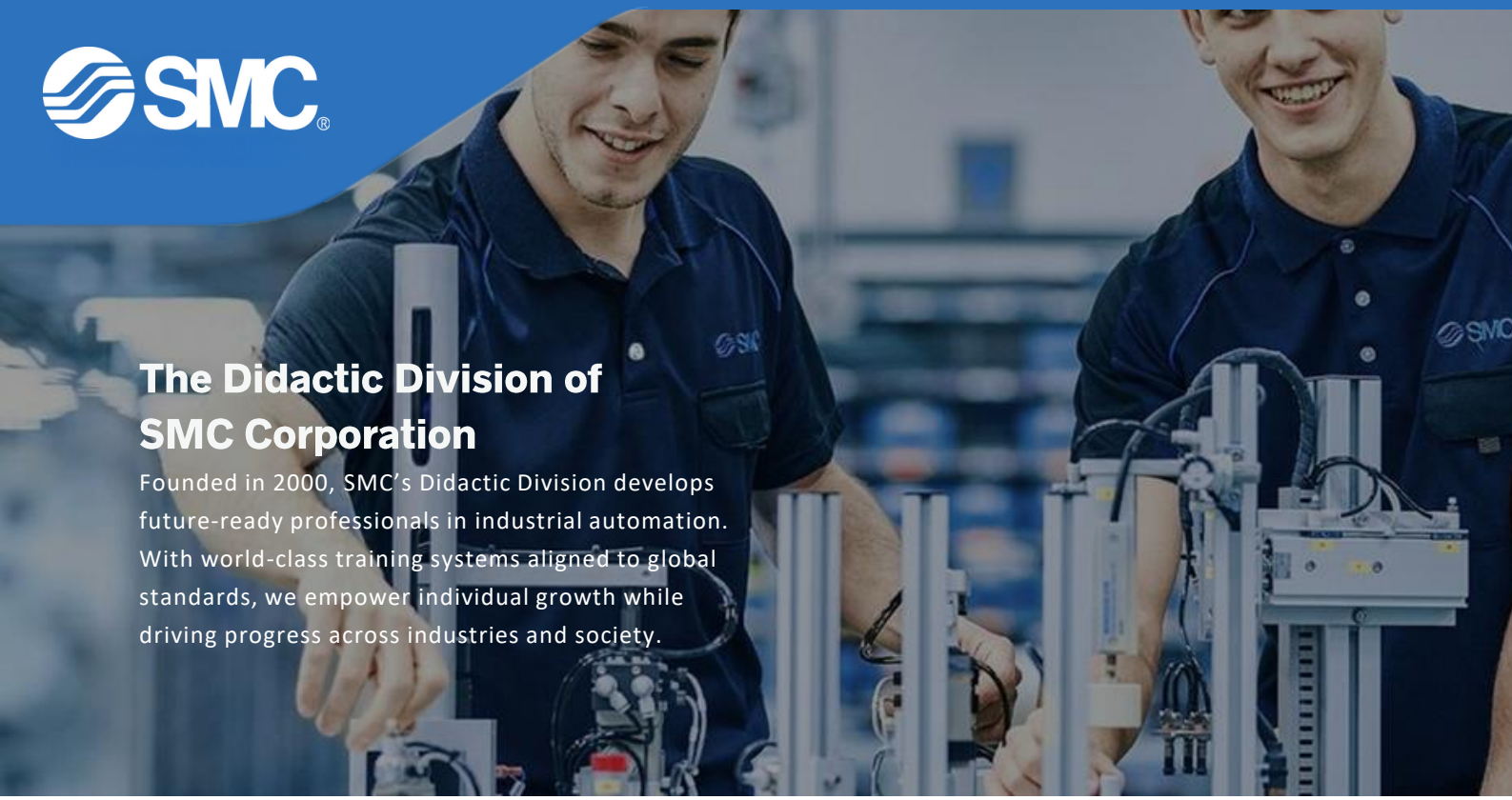
SMC Malaysia

Training Brochure

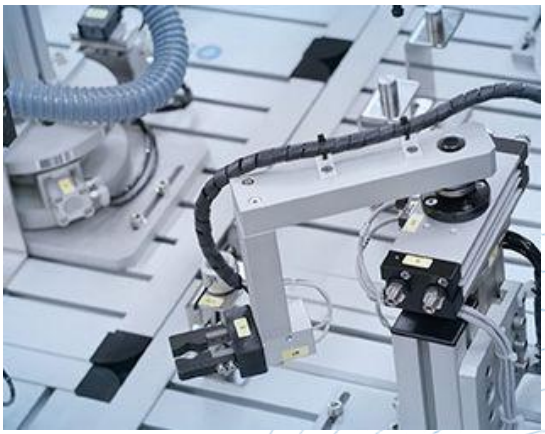


The Didactic Division of SMC Corporation

Founded in 2000, SMC's Didactic Division develops future-ready professionals in industrial automation. With world-class training systems aligned to global standards, we empower individual growth while driving progress across industries and society.

Future-Ready Skills for Industry

With extensive expertise and a global presence, SMC International Training delivers flexible and cost-effective programs designed to meet the demands of diverse sectors, including automation, pharmaceuticals, semiconductors, and food processing. Our solutions go beyond technical learning — they build real-world competencies, enabling professionals and organizations to remain competitive in an ever-evolving marketplace.



Learning Excellence

Our training courses are conducted in state-of-the-art facilities, purposefully designed to create an optimal learning environment. By keeping class sizes manageable and led by highly qualified instructors, we ensure every participant benefits from personalized guidance, practical insights, and hands-on experience — the hallmarks of SMC's commitment to excellence in education and training.

Course Outline

Practical Pneumatics 1 — Duration: 4 Days

Overview

This course provides fundamental knowledge of pneumatic systems across various industries. Participants will learn to identify the requirements for compressed air generation and purification, understand the construction and functions of pneumatic components, and gain practical skills in designing and troubleshooting pneumatic circuits.

Who Should Attend?

This course is designed for **technicians, engineers, and designers**, who wish to enhance their skills in designing and troubleshooting pneumatic systems that meet customer requirements.

Upon completion, participants will be able to:

- Identify the construction and function of the pneumatic components
- Identify the needs of compressed air production and purification
- Differentiate the symbol of pneumatic valves (3/2, 5/2, 5/3, dual air pilot, single air pilot)
- Design and troubleshoot the pneumatic circuits (etc: Auto-Return circuit)

Topics Covered

- Production, processing and distribution of compressed air
- Logic YES/NO, AND, OR
- Valves – 3/2, 5/2, 5/3, dual air pilot, single air pilot
- Speed Controllers, Needle Valve, Throttle Relief Valve, Quick Exhaust Valve
- Auto – return circuit
- Start and Stop button auto-circuit
- Sizing of cylinders and valves for projects
- Pneumatic Delay Timers
- Practical Exercises

Course Outline

Practical Electro-Pneumatics 1 — Duration: 4 Days

Overview

This course provides comprehensive knowledge of electro-pneumatic systems across various industries. Participants will learn to design sequential control circuits using ladder diagrams, understand the construction and operation of solenoid valves, and apply relays in circuit design. The course also covers the identification and differentiation of various types of sensors commonly used in automation systems.

Who Should Attend?

This course is designed for **technicians, engineers, and designers,** who wish to enhance their ability to design and troubleshoot electro-pneumatic systems that meet customer requirements.

Upon completion, participants will be able to:

- Identify the construction and function of components in electro-pneumatic control systems
- Interpret and utilize control schematics effectively
- Design and troubleshoot electro-pneumatic circuits

Topics Covered

- Economical and technical aspects of Electro-Pneumatic Control Systems
- Basic Electric theory
- Logic YES/NO, AND, OR, NOT
- Valves – 3/2, 5/2, 5/3, Single and Double Solenoid Valve
- Relays and Its Function
- Counters
- Sequential Circuit Projects
- Sizing of cylinders and valves for projects
- Delay Timers
- Practical Exercises

Course Outline

Maintenance of Pneumatics System & Circuit Design Duration: 4 Days

Overview

This course provides in-depth knowledge of pneumatic system maintenance and circuit design. Participants will learn to identify the functions and commonly worn parts of pneumatic components, as well as analyze possible causes of system failure using a systematic troubleshooting approach. In addition, the course covers the design and optimization of complex pneumatic circuits to ensure reliable system performance.

Who Should Attend?

This course is designed for **technicians, engineers, and designers,** who wish to enhance their skills in designing, maintaining, and troubleshooting pneumatic systems that meet customer requirements.

Upon completion, participants will be able to:

- Identify the functions and components prone to wear in pneumatic systems
- Diagnose potential causes of failure in complex pneumatic circuits
- Design and troubleshoot advanced pneumatic circuits
- Apply a systematic approach to fault detection and correction

Topics Covered

- Function and operation of air purification equipment
- Common wearing of parts in pneumatic components
- Preventive maintenance of pneumatic systems
- Design of various controls (Logic, Memory, Time – Dependent)
- Reading of complex circuits with step diagram
- Signal overlapping and various methods of signal cut-off
- Sequential design with supplementary conditions (Single / Continuous cycle, Manual / Automatic mode, Emergency Stop design)
- Practical exercises with system troubleshooting

Course Outline

Programmable Logic Controllers 1 — Duration: 4 Days

Overview

This course provides a comprehensive introduction to Programmable Logic Controllers (PLCs), emphasizing their structure, operation, and applications in industrial automation. Through a blend of theory and hands-on practical exercises, participants will gain the knowledge and skills to design, program, and troubleshoot PLC systems effectively.

Who Should Attend?

This course is designed for **technicians, engineers, and designers,** who wish to implement, operate, and maintain PLC-based control systems.

Upon completion, participants will be able to:

- Identify the structure and operation of PLCs
- Understand PLC hardware configuration and types
- Design and write PLC programs using ladder diagrams

Topics Covered

- Background of PLC development
- PLC Hardware Design
- Types of PLC System
- PLC Programming (Ladder diagram)
- Logic and sequence projects
- Timer and Counter Applications
- Procedure for selecting PLC Systems
- PLC System Maintenance
- Practical Exercises

Course Outline

Practical Mechatronics 1 — Duration: 4 Days

Overview

This course provides hands-on experience in designing, assembling, and programming pneumatic and electro-pneumatic systems. Participants will learn how to integrate mechanical, electrical, and control elements in mechatronic applications through practical projects and real-world exercises.

Who Should Attend?

This course is designed for **technicians, engineers, and designers,** who wish to enhance their practical skills in electro-pneumatic systems and automation control.

Upon completion, participants will be able to:

- Design pneumatic and electro-pneumatic circuits, pneumatics
- Assemble and operate electro-pneumatic manipulators
- Create and modify programs for electro-pneumatic systems
- Perform troubleshooting, diagnosis, and repair

Topics Covered

- Theory bases of the electro pneumatics
- General overview of the mechatronics system
- Pneumatic Diagram explanation
- PLC Programming (Ladder diagram)
- Wiring diagram explanation
- Assembly procedures
- GRAFCET in program planning
- Practical Exercises

Course Outline

Introduction of IO-Link — Duration: 3 Days

Overview

This course introduces participants to IO-Link technology, focusing on its fundamentals, practical implementation, and integration within industrial automation. Through hands-on exercises with SMC devices, participants will explore IO-Link architecture, communication protocols, and real-world applications.

Who Should Attend?

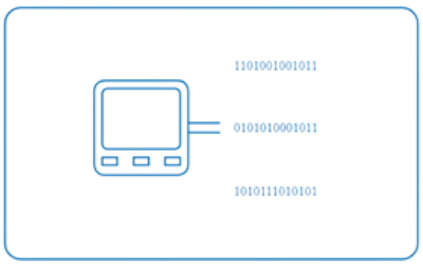
This course is designed for **technicians, engineers, and designers,** this course equips participants with the skills to implement, operate, and troubleshoot IO-Link systems effectively.

Upon completion, participants will be able to:

- Understand the principles of IO-Link and its relevance to Industry 4.0
- Differentiate IO-Link from conventional sensor communication methods
- Explain IO-Link communication and data exchange principles
- Configure and integrate SMC IO-Link devices into automation systems

Topics Covered

- IO-Link's role within Industry 4.0
- Benefits of IO-Link
- Predictive Maintenance
- IO-Link Devices and Data Types
- Configuration and Parameterization
- Integration of IO-Link Devices into automation systems
- Practical Exercises



TRAINING TIMETABLE 2026

Scan to Register

All courses are HRD Corp CLAIMABLE

Code	Course Title	Day	Fees (MYR)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PNEUMATIC / ELECTRO-PNEUMATIC SERIES															
SMCT P1	PRACTICAL PNEUMATICS 1	4	700	13-16		10-13		5-8		7-10		8-11		3-6	
SMCT P2	MAINTENANCE OF PNEUMATICS SYSTEM & CIRCUIT DESIGN	4	900		3-6		7-10				4-7		6-9		1-4
SMCT EP1	PRACTICAL ELECTRO PNEUMATICS 1	4	800	27-30		17-20			23-26	14-17		22-25		17-20	
PROGRAMMABLE LOGIC CONTROLLER (PLC) SERIES															
SMCT PLC1	PROGRAMMABLE LOGIC CONTROLLER 1	4	850				14-17		9-12		11-14		13-16		
MECHATRONICS SERIES															
SMCT MT1	MECHATRONICS	4	1400			24-27				27-30				24-27	
INDUSTRY 4.0 SERIES															
SMCT IOL1	INTRODUCTION OF IO-LINK	3	1000				21-23				18-20		20-22		15-17

Issued by:

Vincent Leong

Senior Technical Trainer

All courses will be from 9.00 am to 5.00 pm daily

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