

- Factory Automation

FACTORY AUTOMATION TRAINER

ED-4031

- Comprehension of basic production automation processes such as transfer, fabrication, classification, inspection and storage
- Convenient wiring and pipe arrangement with a label of each component such as sensors and actuators
- PLC training system function(various types of sequence actions through a change in PLC control program)
- Counter/timer function and motor control by PLC or without PLC(electrical method)
- Aluminum profile worktable & control modules for easy mounting

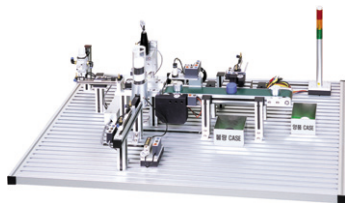


> EXPERIMENTS

- Configuration elements of factory automation system
- Characteristics and principles of the object detection sensor
- PLC(Programmable Logic Controller) control programming
- Main processes of factory automation system(supply, fabrication, classification, storage)
- Methods of DC motor control(speed, direction)
- Mechanical structure and assembly for the factory automation system
- Utilization of the optional PLC simulation software(EDS-SimPL)

> SPECIFICATIONS

Configuration



Main Structure

- Aluminum profile working board for durability
- 4mm sockets for wiring convenience
- Convenient piping practices with one-touch fitting in use
- Easy to control by the cylinders with Speed Control Valve and Reed Switch mounted
- DC24V ensuring safety

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OP-4031 Operating Panel

- Indication of the Main Structure's operation in real time
- Block diagram for better understanding and convenience
- Modular structure for mounting or dismounting modules on the rack easily
- Easy to change the module's position with cables



PL-4031 PLC Control Panel

- Programmable Logic Controller under the IEC standard
- Built-in power supply for the I/O connection
- Motor Speed Controller and Speed Indicator as mounted
- Switches mounted for additional functions
- Easy to wire and connect Programmable Logic Controller
- Standard PLC unit : GLOFA GM6

> SPECIFICATIONS

MAIN STRUCTURE

MATERIALS SUPPLY UNIT

- Magazine
 - » Shape : A tower that can store eight pieces of $\phi 40$ dummy object
 - » Material : Aluminum
- Cylinder
 - » Double Acting Cylinder(Diameter : $\phi 16$, Stroke: 75mm)
- Sensor
 - » Reed Switch(for detecting the position of cylinder) : 2ea
 - » Optical Fiber Sensor(for detecting absence of the materials) : 2ea
- Others
 - » Flow Control Valve(for speed control): 1ea
 - » One-touch fitting mounted

FABRICATION UNIT

- Electrical Drill
 - » DC 12~24V, 1300rpm, 3.5W
- Cylinder
 - » Double Acting(Rodless) Cylinder
 - » Diameter : $\phi 16$, Stroke: 50mm
- Red Switch
 - » 10~30V, a contact, built-in LED : 2ea
- Flow Control Valve
 - » One touch fitting, speed control 2ea

TRANSFER & LOADING UNIT

- Double Acting Cylinder
 - » Diameter: $\phi 16$, Stroke : 80mm
- Reed Switch : 10~30V, a contact, built-in LED : 2ea
- Flow Control Valve
 - » One touch fitting, speed control : 2ea
 - » Ejection of the defective object

CONVEYOR UNIT

- Double Acting Cylinder
 - » Dimension : 600(W) x 100(H) x 50(D)mm
 - » Polyurethane 1.4t, belt type
- Motor
 - » DC 24V geared motor, 1600rpm
 - » Speed Control : 1~15m/min
 - » Connection by using Pulley, deceleration ratio(40 : 1)
- Encoder
 - » Pulse generation for speed indication

GENERAL CHARACTERISTICS

- Input Voltage : AC 220V, 60Hz
- Temperature : 0~45°C, Below RH 85%
- Dimension
 - » Table type : 1100(W) x 1050(H) x 750(D)mm
 - » Rack type : 1100(W) x 1300(H) x 750(D)mm
- Work Board : Aluminum Profile type, Groove Space : 25mm

KEY COMPONENTS

OPERATING PANEL

- **Dimension** : 340(W) x 125(H) x 296(D)mm
- **Materials**
 - » Front Panel : Aluminum
 - » Outer Case: Coated steel
- **Characteristics**
 - » Module type for mounting / dismantling
 - » Main Structure/Controller's status indication
 - » Connector for PLC control panel: 25pin x 2
- **Others**
 - » Power Terminal: +(3ea), -(3ea)

PLC CONTROL PANEL

- **Dimension** : 340(W) x 125(H) x 296(D)mm
- **Materials**
 - » Front Panel: Aluminum , Box: Coated steel
- **Characteristics**
 - » Module type for mounting / dismantling, built-in power supply
- **PLC**
 - » Standard: GLOFA GM6
 - » Options: GLOFA GM4 or other types of PLC (in case of replacing GLOFA GM6)
- **Motor Control**
 - » Speed control switch, motor output terminal
 - » Encoder input terminal, speed indicator
- **Others**
 - » OP Connector: 25pin x 2
 - » Power terminal: + (3ea), - (3ea)

SOLENOID VALVE MODULE

- **Double Acting Solenoid Valve**
 - » DC 24V, LED mounted type: 1ea
 - » Applicable pressure 2.5~8bar
- **Single Acting Solenoid Valve**
 - » DC 24V, LED mounted type: 3ea
 - » Applicable pressure 2.5~8bar

SENSOR MODULE

- **Optical Fiber Sensor**
 - » ø18, 10~30V DC, sensing distance of 100mm
- **Inductive Sensor**
 - » ø18, 10~30V DC, sensing distance of 4mm
- **Capacitive Sensor**
 - » ø18, 10~30V DC, sensing distance of 10mm

ACCESSORIES

- Patch Cord (ø4 plug): 1set
- AC Power Cord: 1ea
- 25pin Cable: 2ea
- Pneumatic Hose (10 meter): 1set
- User Manual: 1ea

OPTIONS

- Simulation Software for Programmable Logic Controller (EDS-SimPL)