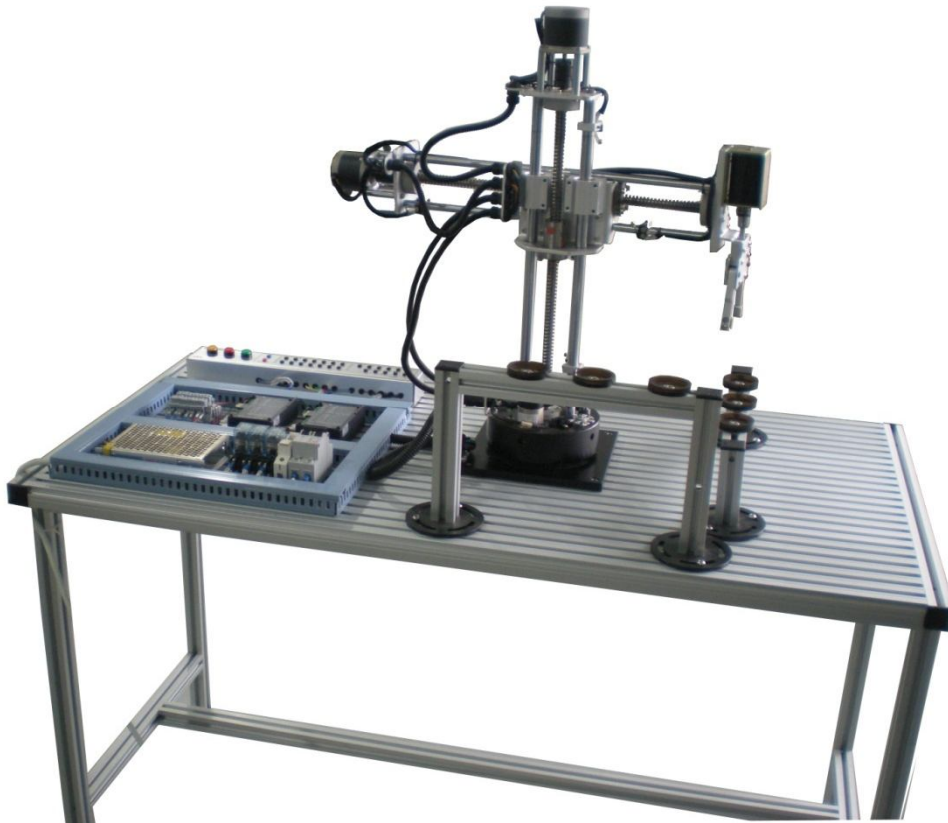


## **DLFA-JXS2 Manipulator training system**



**Reference picture**

### **I Overview**

The industrial control integration technology regards the programmable controller as the core ,At present in colleges and universities has rapidly developed into a new subject, its content is rich theory and a wide range of practice.Not only can exercise the practice ability of the student, and to cultivate students' innovative thinking, has formed an important backbone courses of the automation, mechatronics,mechanical profession. The teachers are pay attention to the teaching material, practice, laboratory construction planning of the the programmable controller , fully appreciated by the leaders at all levels and professional teachers.

This equipment is a PLC professional control training platform,which is designed for vocational and technical education, higher education and the development,it is specifically designed for the current institutions Programmable Logic Controller

Technology, Principle and Application of Program Logic Controller, Maintenance Electrician ,PLC Application Technology ,PLC Principle and Application and other courses .

The system uses the sensor signal acquisition and PLC programming to carry out the complex switch control ,position control and sequential logic control for the stepping motor and electromagnet, and realize the function of grabbing, moving and releasing the object in the scope of worktable.

The system is suitable for the senior vocational schools, colleges and universities students of the programmable logic controller learning and application training, pre-job training of the students and staff retraining, not only meet the various institutions of higher learning, vocational schools for PLC experimental teaching, Related curriculum design and the assessment requirements, but also as engineering and technical personnel training equipment.

## **II Equipment function**

The equipment consist of the base , rotation base ,Gripper, Three-dimensional(X, Y, Z) ,motion mechanism and electrical control, etc., with the function of the rotation base, arm lift,arm stretching ,three degrees of freedom control functions, can manual, automatic , Single-step, multi-step, integrated grasp, shift, put , can practice timer, counter usage, familiar with the four arithmetic instructions, transmission and comparison instructions, high-speed counting instructions. The equipment is made by the aluminum alloy, beautiful and durable.

## **III Features**

- 1, the training system consist of the floor, rotating base, gripper, three-dimensional (X, Y, Z) and electrical control and other components.
- 2, the training system transmission mechanism consist of the ball screw and the optical axis.
- 3, the electrical parts consist of the programmable controller board, switching power supply, limit switches, sensors, position switches and other components.

4, The system uses the computer simulation modern information technology to through the three training levels of the operation, simulation to solve the link up problem of the previous professional training theory, experiment and practice practical application .

5, The configuration software, and provide application guidance and application engineering examples.

6, The protection function:The chassis mechanical rotation angle limit protection; rise and fall mechanical limit protection; the mechanical arm protection of front and rear position

## **VI The technology parameter**

1.power input : 24V DC

2.air source : 0.2Mpa~0.55Mpa

3、 work environment: -10~40°C

4、 overall size: 1200\*750\*1500mm

5.The Training workbench is made of the special mode aluminum alloy and the surface is treated by the anodic oxidation coating. The structure is scientific, the appearance is beautiful, the bottom has the adjuster, the height is adjustable to keep the smoothness . Customized safety test leads and connectors, more than the US military MIL standards and international IEC standards. The Personnel touches without electric shock.

## **V The Training content**

- The Manual control experiment
- The robot left and right movement
- The robot up and down movement
- The Single-step distance experiment
- The Pulse measurement
- The Single step distance operation
- The Single step shift control

- The One button sequence control
- The Multi-step positioning experiment
- The step running equipment
- Step position pick and place control
- Automatic pick-and-place operation
- Automatic operation control
- Fixed step sequence operation
- Continuous step running
- Comprehensive control experiment
- Place and take experiment
- stepper motor control
- DC motor control
- The optical encoder usage
- Assembly and disassembly of the electrical and mechanical parts
- Integrated control

## VI 、 Configuration

No.	Name	Specification	Qty
1	Training workbench	Special mold profiles	1 piece
2	Manipulator training system	4 free degree,up and down movable distance >280mm Overall rotation angle<180 degree, Front and rear movable distance>260mm Overall size: 620*200*620mm	1set
3	PLC	Mitsubishi or Siemens series	1set
4	Download line	Match with PLC	1 piece
5	Work tools bench	Upside and downside each one	2 pieces
6	Switch power	AC220V/DC24V 3A	1 piece

7	Stepper driver and stepper motor	CW230	1set
8	Stepper driver and stepper motor	CW250	1set
9	DC motor	DC 24V	1 piece
10	Limit switch		3 pieces
11	Photoelectric Sensors	Output type NPN NO Detection distance: 30cm Detection way : Diffuse reflection control voltage 12—24V	1 piece
12	proximity sensor	Output type NPN NO Detection distance: 10mm Control voltage 12—24V	1 piece
13	Power supply unit	Modular, aluminum alloy panel	1 set
14	Ball screw	Outside diameter is 16mm, guide stroke 5mm	1 piece
16	connecting wire	satisfied training circuit and connecting requirement	1 set
17	documents	Relate software and guide book	1 set
18	program example	CD	1 set