



## **DLCIM-01 Robot Training System: Computer Integrated Manufacturing and Handling System**

### **1.1 Overview**

DLCIM-01 computer integrated manufacturing and handling system is training system based on industrial robots as the core, demonstration, assembly and storage of parts processing,. The device for students to provide a typical, can be integrated training system environment, to build a training platform full play to the potential of students. In the experiment, the industrial robot processing line involved in a variety of basic knowledge, professional skills and application skills can be reflected in the operation, not only to meet the requirements of professional teaching, but also can exercise students to a variety of disciplines and comprehensive use of knowledge and system think ability.

The device is a set of industrial robots, programmable controllers, servo motors, sensors and organic integration in one of the training system, through the signal acquisition, PLC programming, industrial robot programming, the implementing agencies for more complex switch control, position control and timing logic control, in order to achieve parts processing, assembly and storage automatic control.

### **1.2 System functions**

The control system adopts module combination, which is mainly composed of storage unit, CNC lathe, CNC milling machine, handling unit, PLC module, servo control module, power module, transfer module and so on, according to the training needs of the module for a single action or flexible combine and install and commission. Adopt the process involved in the study, such as industrial robot programming, CNC machine programming, motor drive, pneumatic, PLC programming, servo system parameter settings, sensor applications, and many other application technology, to provide students with a typical system Comprehensive training environment, so

that students master the professional knowledge to be comprehensive, comprehensive to consolidate and flexible application. The main function of this training equipment is the processing, assembly and storage of parts.

### **1.3 System Features**

1, intuitive equipment: the main equipment are used in the form of direct exposure, the equipment can be more intuitive to show in front of students, shorten the students from the classroom to the industrial site transition and adaptation time.

2, close to the actual: the training of the equipment are the mainstream industrial technology applications.

3, easy to connect: the training system PLC module I / O terminals, inverter terminals, the commonly used module terminals, are used safety socket, the use of safety plugs with the wire for wire connection; PLC and Taiwan The wires are connected by two cables for the DB15 plug.

4, advanced equipment technology: the combination of industrial equipment with the actual control needs to modular design-oriented, the use of modern PLC control technology, sensor technology, optical technology, mechanical different transmission principle technology, pneumatic technology, servo control technology, etc. A variety of elements in the equipment embodied, for students to provide a broad training space, a comprehensive and systematic grasp of the cutting-edge knowledge of various disciplines.

5, the system operability: the work unit can be independent operation, that can be networked and can work offline.

6, beautiful appearance: the training platform with steel structure, after surface treatment, structural science, beautiful appearance, the bottom of the regulator, height adjustable to ensure smoothness; support aluminum alloy structure (surface electrophoresis treatment).

7, safe and reliable: The device has short circuit, overload and grounding protection, to ensure the safe and reliable operation of the equipment.

### **1.4 Technical Parameters**

1, AC power: single-phase AC220V  $\pm$  10% 50Hz

2, Temperature: -10 °C ~ 40 °C; environmental humidity:  $\leq$  90% (25 °C)

3, Dimensions: 2810mm  $\times$  1500mm  $\times$  2100mm (length  $\times$  width  $\times$  height)

4, The whole capacity:  $\leq$  1KVA

5, The control system: Siemens S7-1200 series PLC

6, Industrial robots: MZ04-01-CFD