



# Microcontroller Trainer

## Equipment Overview

- This trainer adopts modular and open type design, each module can be used separately for basic experiment or combined for training experiment and course design.

- The training table is designed with drawer cabinet for module storage and four lockable universal caster wheels for easy movement. When doing experiment, the top surface of table can be folded so that students can put modules on base plate to conduct training. The table can also be used as a normal desk when the top surface is closed.



**Note :** Due to keeping innovation, the specification and Machine pictures or color are subject to alteration without notice!

- The modules use high strength PCB as the carrier, the front side is printed with terminal signals and equipped with main components, the wiring is conducted on the back side.
- It covers various microcontroller training courses, such as I/O training, A/D training, D/A training, LED/LCD dot matrix module experiment, motor control, etc. Besides, mechatronics application can be extended on this trainer by adding an intelligent material handling device.
- Safety protections: grounded, lead protection, safety in accordance with related standards. Insulated safety sockets, sheathed cables and wires.

## Training Content

- Lights flash training
- Marquee's training
- Independent key input training
- Photoelectric isolation input and output training
- Metal detection training
- Dynamic nixie tube display training
- Matrix keyboard interface training
- Relay isolation control training
- Buzzer playing training
- The expansion of IO port with 8255 chip training
- 1602 liquid crystal display module control training
- 128\*64 LCD module control training
- Dot matrix LED screen character display training
- AD conversion training

- DA conversion training
- LM35 temperature sensor acquisition training
- Single bus temperature sensor acquisition training
- The control of AC/DC gear motor training
- Open loop control of step motor training
- RS232 communication training

## Technical Parameters

1. Power input: AC220V $\pm$ 10% (safety plug output, with leakage protection function)
2. Output voltage: (DC $\pm$ 12V $\pm$ 5%, 1A); (DC $\pm$ 5V $\pm$ 5%, 1A); (DC24V $\pm$ 5%, 1.5A)
3. Working environment: Temperature -10 $^{\circ}$ C $\sim$ +40 $^{\circ}$ C, relative humidity<85% (25 $^{\circ}$ C), height<4000m
4. Dimension: 1220mm $\times$ 700mm $\times$ 820mm (approx.)



## Training Modules



MCU01



MCU02



MCU03



MCU04



MCU05



MCU06



MCU07



MCU08

|       |                            |
|-------|----------------------------|
| MCU01 | Mainframe module           |
| MCU02 | Power module               |
| MCU03 | Emulator module            |
| MCU04 | Nixie Tube Display Module  |
| MCU05 | Relay module               |
| MCU06 | ADC/DAC module             |
| MCU07 | Command module             |
| MCU08 | AC/DC motor control module |

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## Training Modules



MCU09

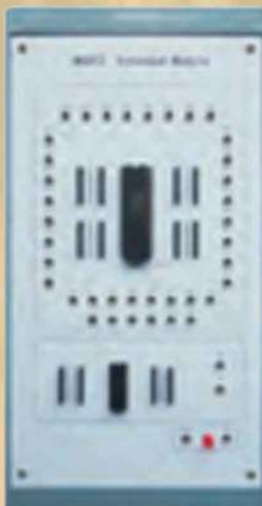
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MCU10



MCU11



MCU12



MCU13

|        |                               |
|--------|-------------------------------|
| MCU09  | Stepping motor control module |
| MCU10  | Sensor adapter module         |
| MCU011 | LCD module                    |
| MCU012 | Extended module               |
| MCU013 | Temperature sensor module     |