M21-FPGA01 CE NEW

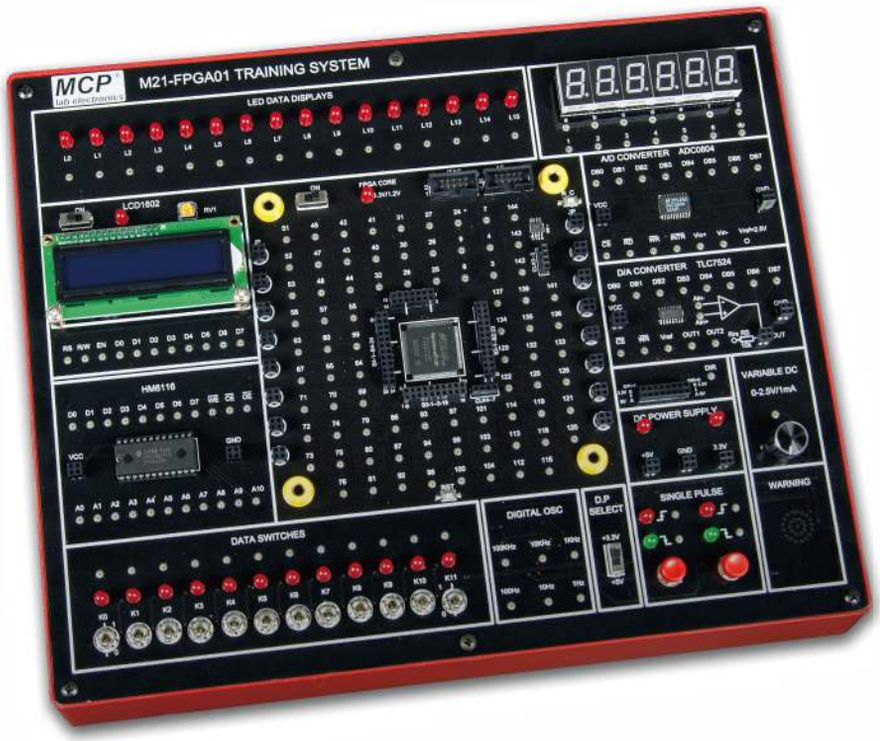
The FPGA (Field Programmable Gate Array) have emerged as a semi-customed circuit in the application-specific integrated circuit (ASIC) domain, solve the problem of both the shortage of customed circuits and the limited number of gate circuits of the original programmable device.It contains three parts: configurable logic module CLB, input and output module, and internal connection. Users can use the development software and development platform to realize the designed digital system with the hardware description language.

FPGA is widely used in video image processing, communication, digital signal processing and other fields, and has the advantages of fast speed, rich internal resources and flexible configuration. FPGA devices have become an integral part of electronic products, and its design and application have become a necessary skill for electronic engineers.

The FPGA training system allows students and engineers to learn and master the basic programming skills of FPGA and be familiar with the various download methods of burn in files. This system supports simulation testing to on board debugging, easily verify the correctness of the program. This system provides each module an example program, users can use directly or modify it for their own program, reducing the difficulty of development.

Features

. High grade, high quality FPGA training device
. Developed with FPGA model EP2C5T144 of CYCLONE II family (4068 programmable cells)
. Equipped with external flash memory model EPC1S4 (1Mb)
. Experiment various basic experiments of FPGA
. Combined with 6 digits of 7 segment LED display, ADC, DAC, LCD 1602, HM6116
. 2mm high-strength panel, double-sided PCB with more than 200 self-locking sockets fitting AWG#22 and #23 pins (about 0.6mm) as well as 16 set of jumps for multi-contact.
. Use USB-Blaster for serial port (AS) configuration or JTAG download, support plug and play functionality
. Classic MCP housing case



Main installed components:

1.FPGA EP2C5T144 with 144 both DIP pins and 144 big spacing pins

2.Download mode: both AS and JTAG

3.DC POWER SUPPLY
Fixed DC output: +5V/0.5A, +3.3V/0.5A,
FPGA core power supply (internal connected): +1.2V
Power supply protected against short circuit and over current, the buzzer get on in case of short circuit

4.DIGITAL OSILLATORS (5V/3.3V)
Digital oscillators: frequencies of 1Hz,10Hz,100Hz,1kHz,10kHz and 100kHz.

5.VARIABLE DC: Reference level output: 0~+2.5V

6. TWELVE BITS DATA SWITCHES (5V/3.3V):
12 pcs toggle switches and corresponding output point.
When switch is set at 'down' position, the output is LO level.
Contrarily, it is to be HI level while setting at 'up' position.

7. SIXTEEN BITS LED DISPLAY
16 pcs red LED's separate input terminals. The LED will be lighted up when
input is at 'HI level' ,and it will be turned off when it is at no input or at 'LO level'.

8.SIX DIGITS OF 7 SEGMENT LED DISPLAY
Displays of seven segments of the common anode type.

9.8-BIT A / D CONVERTER: ADC0804

10.8-BIT D / A CONVERTER: TLC7524

11.LIQUID CRYSTAL DISPLAY: 16x2

12.EXTERNAL RAM MEMORY: HM6116

13.EXPERIMENT MANUAL: CD Rom

14.OTHER STANDARD ACCESSORIES
(1) Power cord
(2) Pin:10cm 20pcs / 20cm 10pcs / 30cm 10pcs

15. INPUT VOLTAGE: 110~127VAC±10% 60Hz,220~240±10% 50Hz Switchable

16. DIMENSIONS(W×H×D): 334×95×258mm

17. WEIGHT: 2.5kg