

Shenzhen BIGTREE Technology CO., LTD.  
BIG TREE TECH

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# BIGTREETECH

## TFT35 V3.0

### User Guide



# **I .Product Introduction**

BIGTREETECH TFT35-E3 V3.0 is a medium size, dual-mode, ultra-clear 3D printing machine display launched by the 3D printing team of Shenzhen BIGTREE Technology CO., LTD., which can perfectly replace the original LCD screen of Ender3 printer.

## **1.Product characters:**

- 1) ARM Cortex-M3 series STM32F207VCT6 chip with 32-bit CPU 120MHz;
- 2) Upgrade the firmware by SD card. It is easy and convenient to operate.
- 3) This display board has higher compatibility. Users can select two work modes: UART serial port screen mode and 12864 screen mode.
- 4) Serial port screen mode supports two printing modes: SD card and U disk.
- 5) Reserve WIFI port, and WIFI function is realized by external WIFI module;
- 6) Reserve the extension port of filament breaking detection (FIL-DET);
- 7) Reserve the extension port of automatic shutdown after printing (PS-ON);;
- 8) LCD12864 mode uses EXP1, EXP2 and EXP3. EXP1 and EXP2 are LCD screen ports of normal motherboard. EXP3 is the LCD interface used by E3 series motherboard (such as SKR MINI E3 V1.2, SKR E3 DIP V1.1, etc.) ;
- 9) TFT touch screen mode: serial port screen RS232 port;
- 10) 2 sets of UART serial port extension ports are reserved for DIY use.

## **2.Product Parameters:**

Appearance size: 93\*87mm

Installation size: Perfectly replace the original LCD screen of Ender3 printer, detail information please check TFT35-E3 V3.0 SIZE

Microprocessor: STM32F207VCT6

Power Input: DC 5V

SD card logic voltage: 3.3V and 5V (Such as: support MEGA2560 main control chip motherboard, higher compatibility)

# **II .Indicator Information**

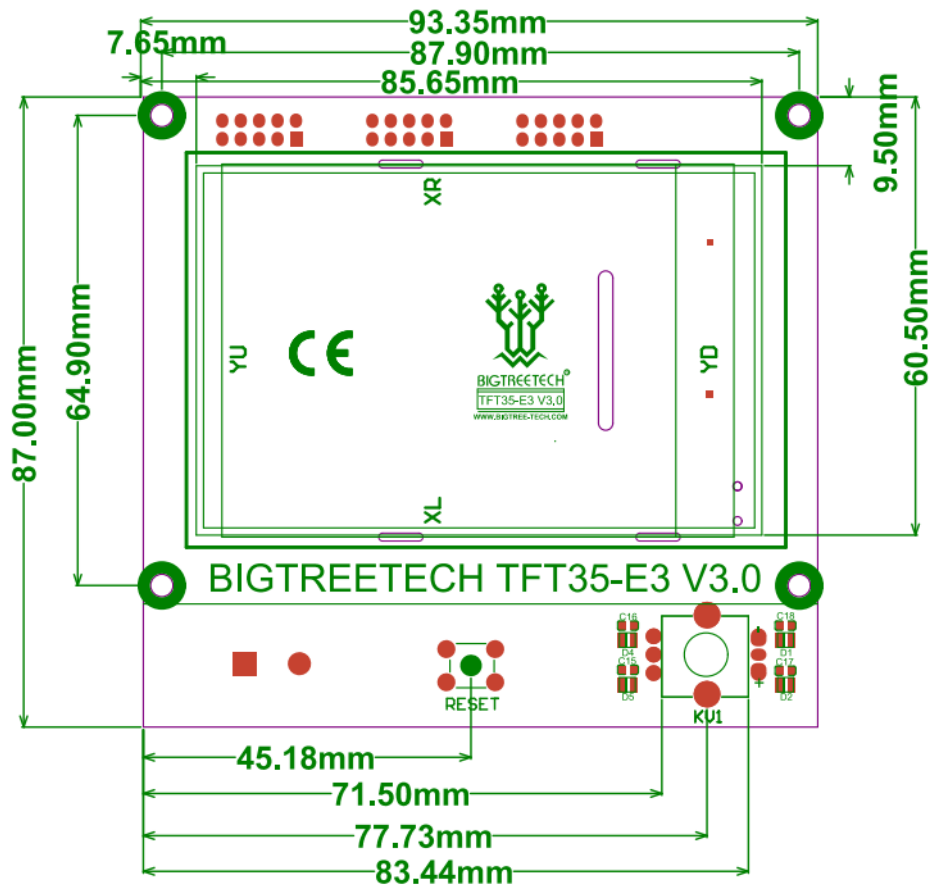
After the board is powered on:

Red light D6 is the power indicator: the red light is on, indicating normal power supply;

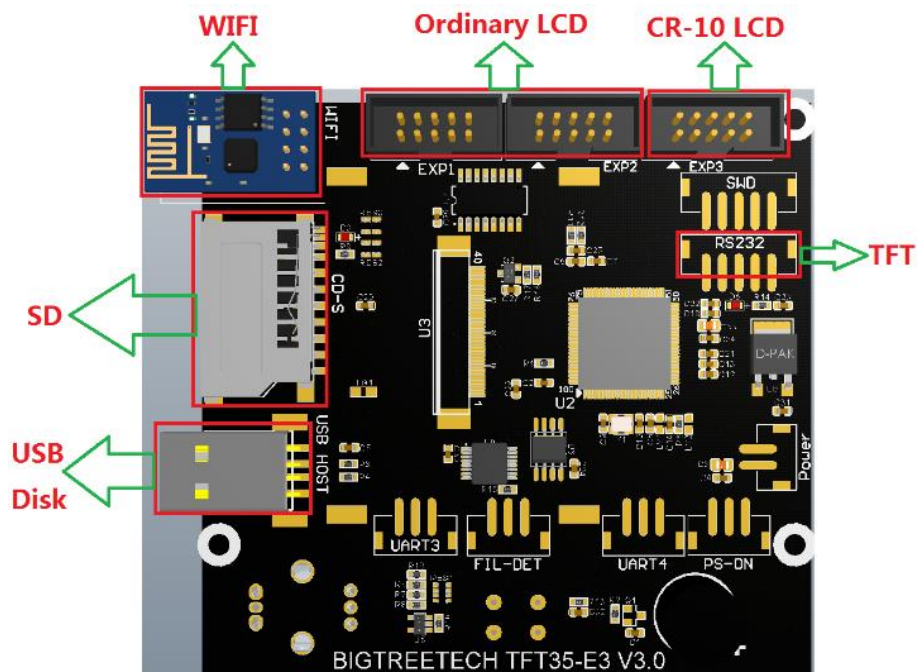
Green light D3 is SD card detection indicator: D3 is always on when the SD card inserted, and then off when SD card pulled out

### III. Ports on the board

#### 1. Size diagram



#### 2. Connection diagram



Notes:

1. When using 12864 screen mode, connect the port EXP1 and EXP2 to the motherboard. There is no touch function in this mode.
2. When using serial port screen mode, connect with TFT or AUX-1 on the motherboard via RS232. This mode has touch function;
3. Two work modes can be changed by one key. Press the encoder about 3 seconds until the mode selection page appears, then press the encoder after selecting the mode.

## IV. Firmware Introduction

Factory board will be equipped with test firmware, it can be used directly. It can also be upgraded according to our company's open source website.

1. Ways to obtain the firmware of motherboard  
Get it from customer service or technical staff;  
Log in the open source website of our company to download :  
<https://github.com/bigtreetech>
2. Firmware update  
Firmware file name: :  
**BIGTREE\_TFT35\_V3.0. (version number).bin**  
First copy the above firmware to SD root directory, and then insert the card into the SD card slot of the board. Next please re-power the board or press the reset key, and wait for about 10 seconds before the update is completed.;
3. For DIY board firmware, please refer to the file TFT35-E3 V3.0PIN.

## V. Notes:

1. The name of the firmware file in the SD card cannot be changed. (including capital and small letters);
2. The wiring process must be carried out under the premise of power failure. The power can be put on after checking the correct connection of the circuit and the correct insertion of the drive. This prevents boards and screens from burning up due to faulty wiring, causing unnecessary damage.;

3. Pay attention to the wiring sequence and do not insert the wire inversely. Please refer to PIN file for detailed line order.

If you encounter other problems, please contact us, we will definitely answer your questions patiently; If you have any good suggestions on our products, please give feedback to us, we will consider them. Thank you for choosing BIGTREETECH products!