

## BLTouch Guidebook for Creality V1 Mainboard



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### AUTO BED LEVELING SENSOR FOR 3D PRINTER

This guidebook is for Creality V1 mainboard. It includes but is not limited to the following 3D printer:

CR-10/Ender-3

File download: <https://www.creality3d.cn/download/>

### SHENZHEN CREALITY 3D TECHNOLOGY CO., LTD.

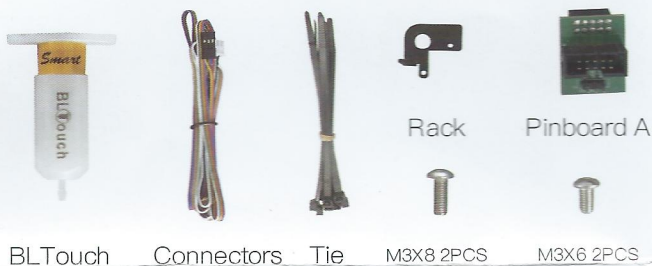
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### ① Packing List



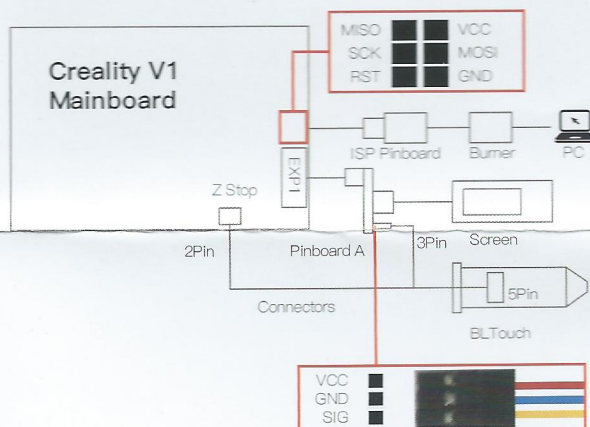
BLTouch    Connectors    Tie    M3X8 2PCS    M3X6 2PCS



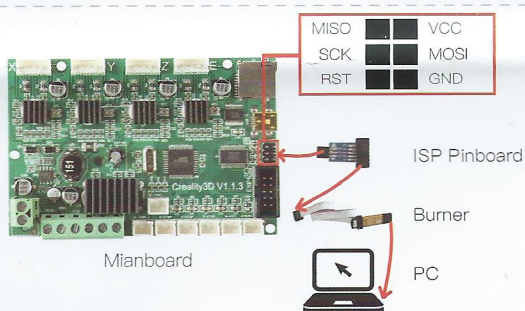
ISP Pinboard

Burner

### ② Circuit Principle



### ③ Update Firmware



- 1、Connect ISP Pinboard and Burner.
- 2、Open the control box and find out the mainboard
- 3、Insert ISP pinboard into the mainboard 2X3 pins as the sign shows.
- 4、Insert the burner into computer USB port.

**Select Chip**  
ATmega1284P

**Flash File**  
CR-10Marlin1.1GENBLTouch.hex  
Ender-3Marlin1.16BLTouch.hex

**Flash Lock**

Low Fuse Bits	High Fuse Bits	Extended Fuse Bits	Lock Bits	Calibration
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00
OSCFR	OSCFR	MC	MC	0.0 900.00

**Flash Lock** (Legend):  
Read: High Value FF, Default: 00, Write: 00, Read: 00

- 1、Open progisp.exe
- 2、Select Chip ATmega1284p.
- 3、Click ... → Set Low Value=DC, HighValue=D6, ExtValue=FD → Click Write and close the window.
- 4、load Flash → Select .hex file.
- 5、Click Auto to update firmware, wait until it finishes, then close.
- 6、Unplug the ISP Pinboard from mainboard.

#### ④ Install BLTouch

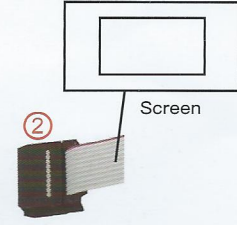
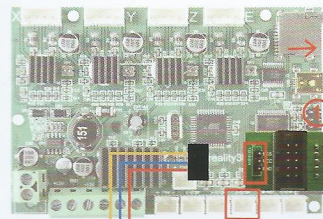
1、Insert connectors into 5 Pin Port.

2、Install BLTouch on the rack with 2 M3X6 screws

3、Loosen all fan cover screws, Install the frame on the corresponding position with 2 M3X8 screws

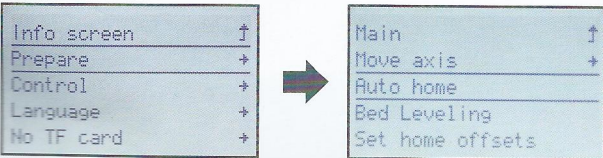
4、Secure the cable to the guide tube and cable with a cable tie and bypass the rear side of the gantry.

#### ⑤ Circuit Wiring



1、Unplug the screen cable, connect the pinboard A to the screen port (EXP1).  
 2、Insert the screen cable into 10 pins port.  
 3、insert the connectors to the 3 pins port as the sign shows.  
 4、Unplug the Z limit switch(Z-stop port),and insert the connectors.

#### ⑥ Platform Adjustment



1、Prepare→Auto home, and wait until it stops.

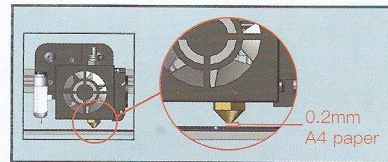
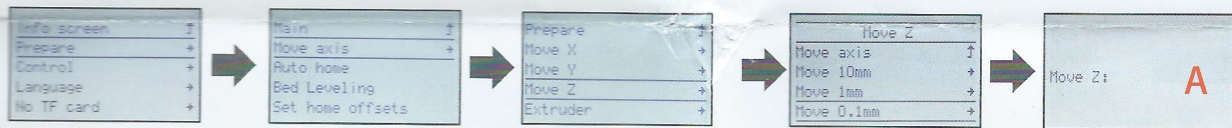
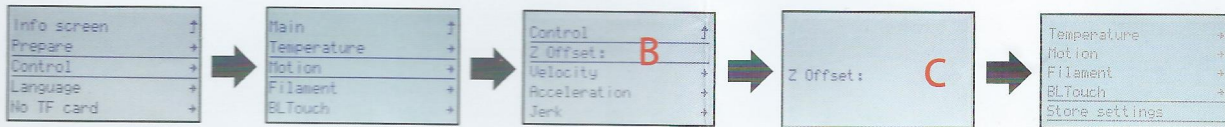


figure 3



2、Prepare→Move axis→Move Z→Move 0.1mm→Rotate the knob until the distance between them is about 0.2mm (as a sheet of A4 paper), write down the value of A.

3、Rotate the knob until the distance between them is about 0.2mm (as a sheet of A4 paper), write down the value of A (For example, figure 3)

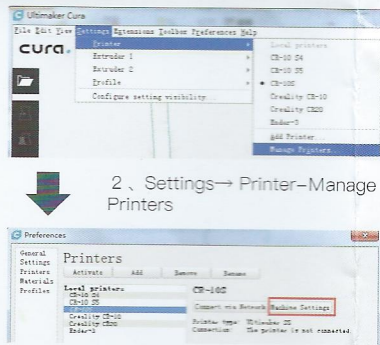


4、Control→Motion→Z Offset→write down the value of B, then rotate the knob until it comes out as: C=B+A. Return Control and Select Store settings.

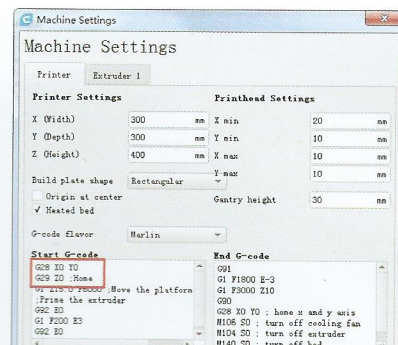
#### ⑦ Software Settings



1、Open Cura



3、Machine Settings



4、Change "G28" to "G28 X0 Y0 G29 Z0"