

MINI UPS V2.0

Power failure module

User Manual



SHENZHEN BIGTREE TECHNOLOGY CO., LTD.

BIGTREE-TECH.COM

VERSION BETA 1.0

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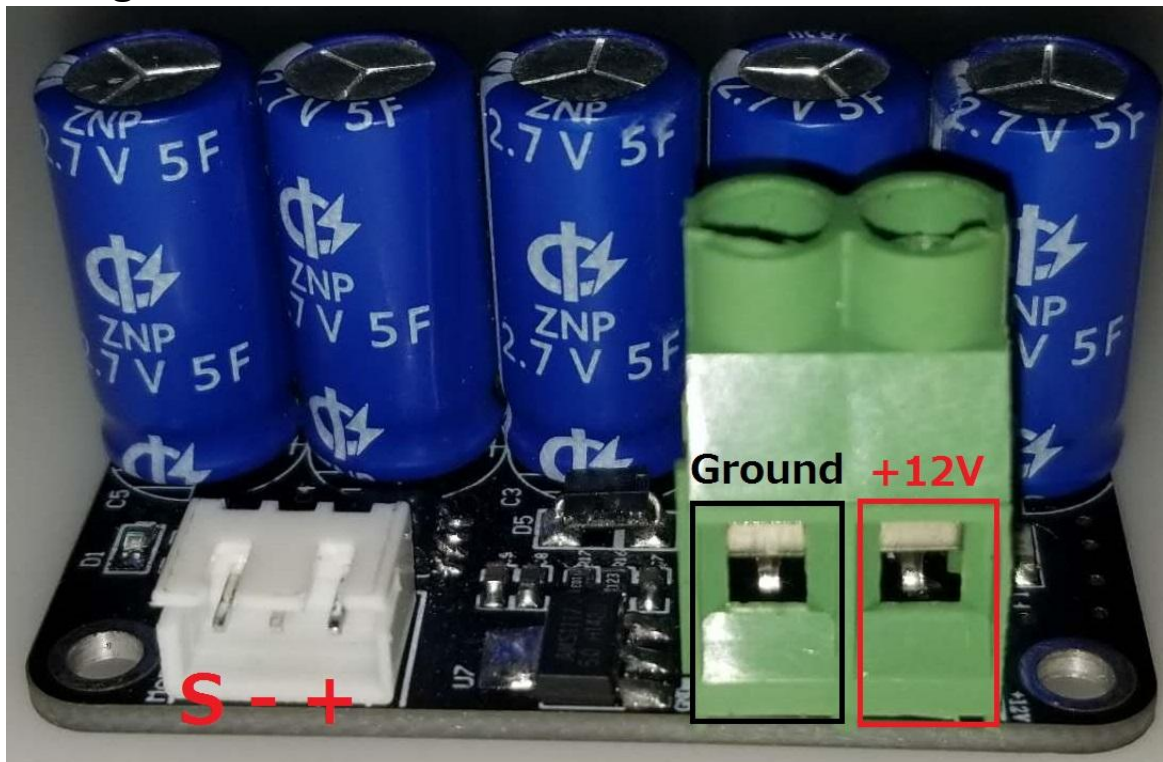
Product Introduction

BigTree Technology Co., Ltd. developed this power failure module to detect a power failure during printing and ensuring the print can be resumed after power is returns.

Board specifications

- 1) Size: 50 x 32.5mm
- 2) Input voltage: min. 10V DC, max.12V DC
- 3) Max. current: 25A

Wiring



The green connector should be connected to a 12V power supply.

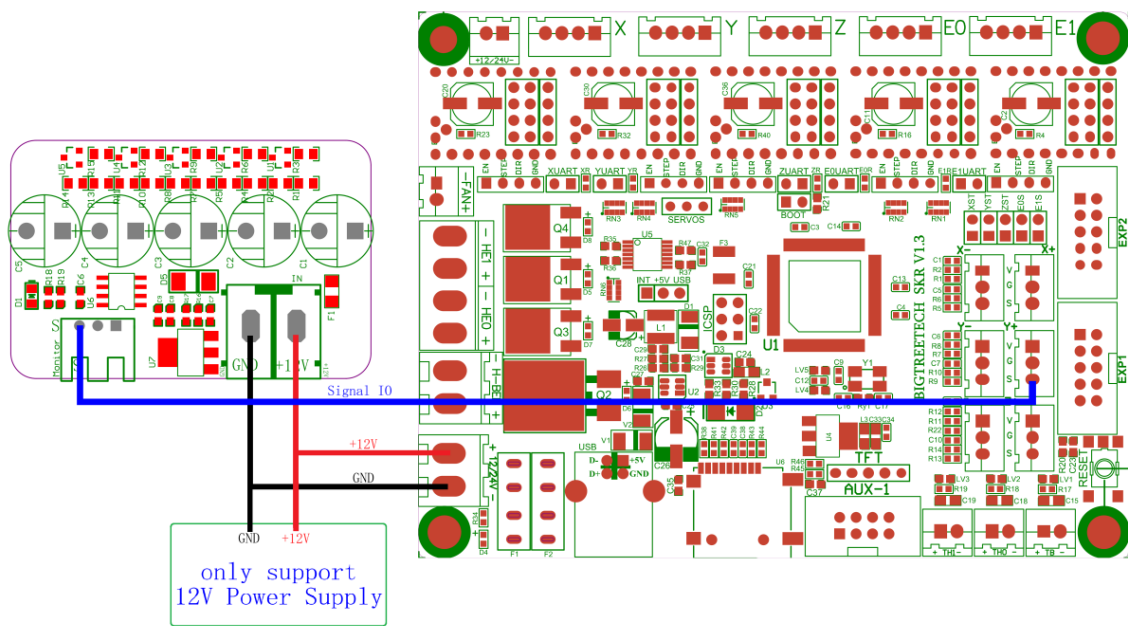
The white connector should be connected to any of the endstops or other suitable port.

Note:

The module can only work normally at 12V voltage, when the working voltage is higher than 13V, the module will be burnt out.

The module outputs a low level when it is working normally, and outputs a high level when it detects a power failure(<10V power input).

Connect to BIGTREETECH SKR V1.3



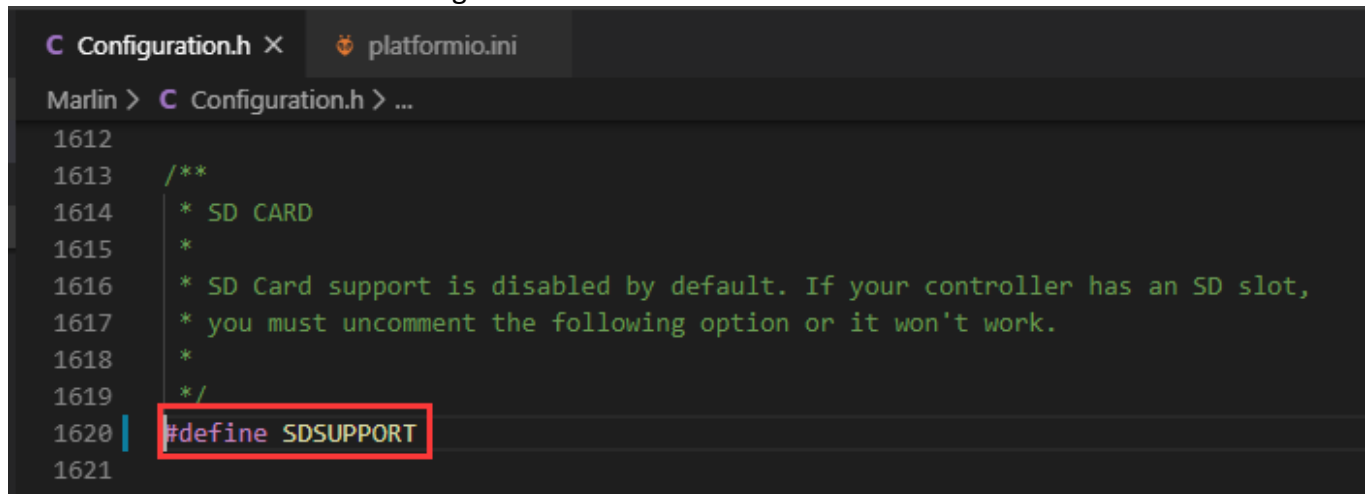
Firmware

Download the Marlin 2.0:

<https://github.com/MarlinFirmware/Marlin/tree/bugfix-2.0.x>

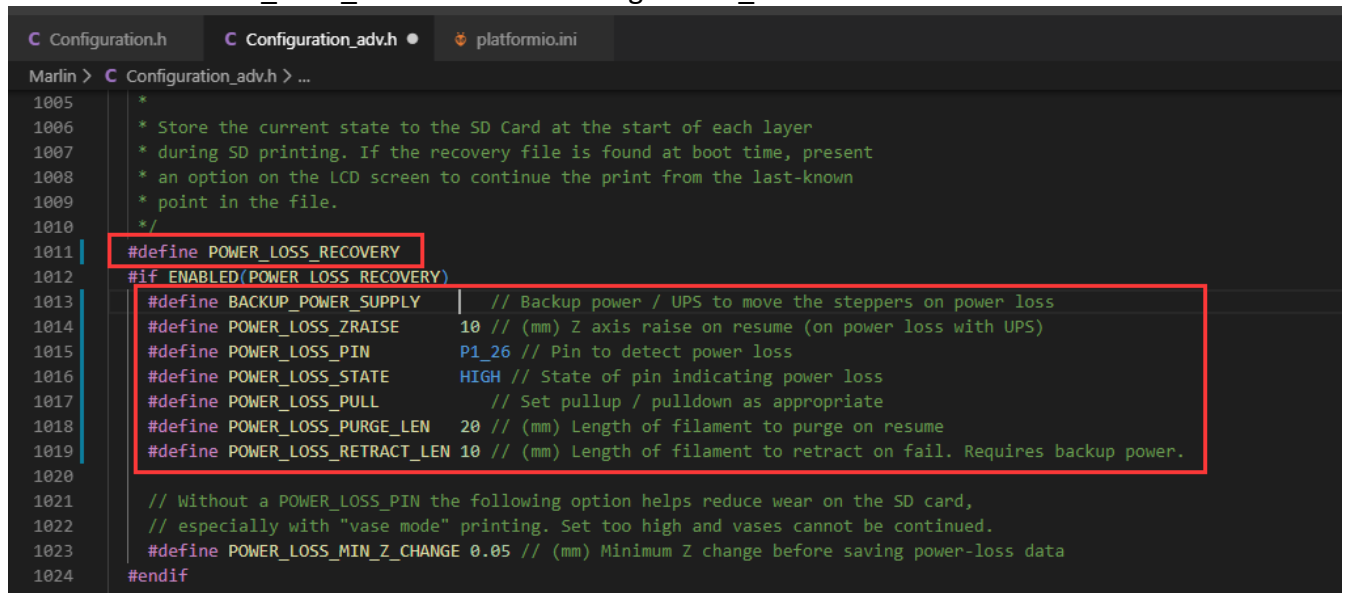
Please modify the parameters according to the printer and then add the function of this power failure module.

1. Enable "SDSUPPORT" in "Configuration.h" file



```
1612
1613  /**
1614   * SD CARD
1615   *
1616   * SD Card support is disabled by default. If your controller has an SD slot,
1617   * you must uncomment the following option or it won't work.
1618   *
1619   */
1620  #define SDSUPPORT
1621
```

2. Enable "POWER_LOSS_RECOVERY" in "Configuration_adv.h" file



```
1005  *
1006  * Store the current state to the SD Card at the start of each layer
1007  * during SD printing. If the recovery file is found at boot time, present
1008  * an option on the LCD screen to continue the print from the last-known
1009  * point in the file.
1010  */
1011  #define POWER_LOSS_RECOVERY
1012  #if ENABLED(POWER_LOSS_RECOVERY)
1013    #define BACKUP_POWER_SUPPLY // Backup power / UPS to move the steppers on power loss
1014    #define POWER_LOSS_ZRAISE 10 // (mm) Z axis raise on resume (on power loss with UPS)
1015    #define POWER_LOSS_PIN P1_26 // Pin to detect power loss
1016    #define POWER_LOSS_STATE HIGH // State of pin indicating power loss
1017    #define POWER_LOSS_PULL // Set pullup / pulldown as appropriate
1018    #define POWER_LOSS_PURGE_LEN 20 // (mm) Length of filament to purge on resume
1019    #define POWER_LOSS_RETRACT_LEN 10 // (mm) Length of filament to retract on fail. Requires backup power.
1020
1021    // Without a POWER_LOSS_PIN the following option helps reduce wear on the SD card,
1022    // especially with "vase mode" printing. Set too high and vases cannot be continued.
1023    #define POWER_LOSS_MIN_Z_CHANGE 0.05 // (mm) Minimum Z change before saving power-loss data
1024  #endif
```

Enable "BACKUP_POWER_SUPPLY" means that we have a backup power supply for the stepper so that the hotend can leave the printed model when power failed.

"POWER_LOSS_ZRAISE" is the height of Z-axis rise when power failed.

"POWER_LOSS_PIN" is the GPIO port to which the module is connected, Modify "P1_26" to the GPIO to which the module is actually connected.