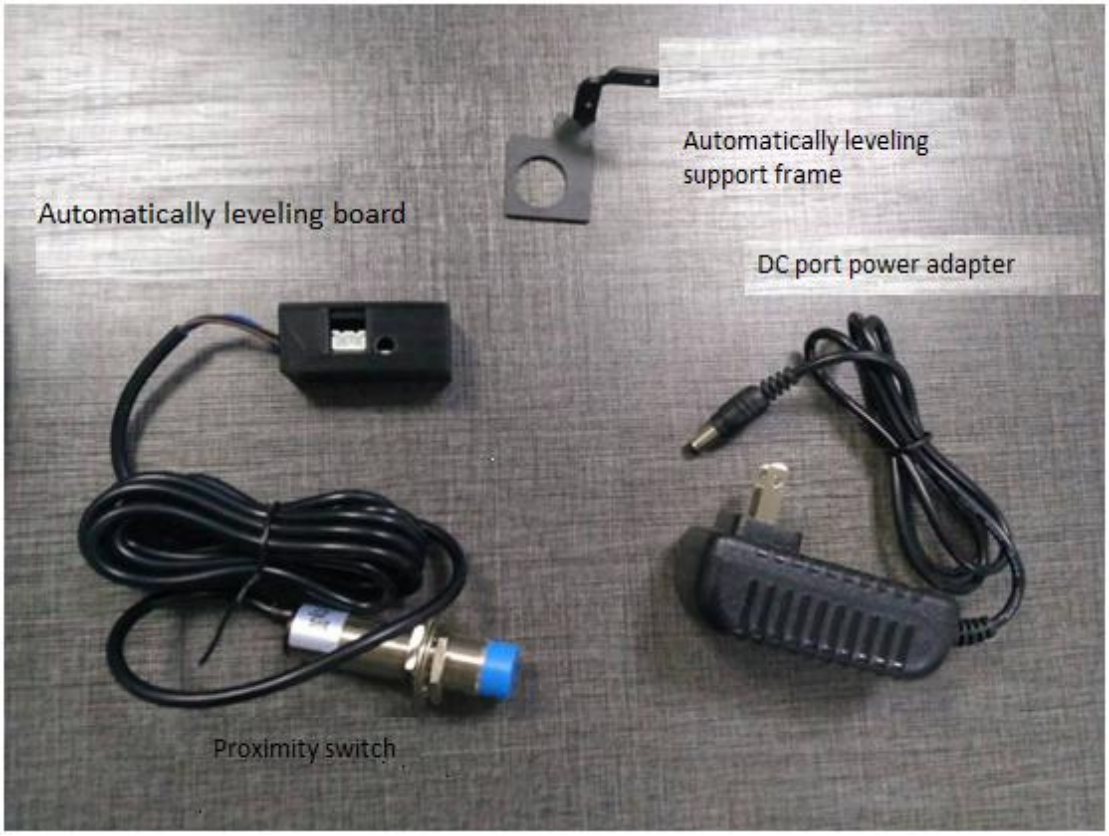
Automatic Leveling Module Operation Manual

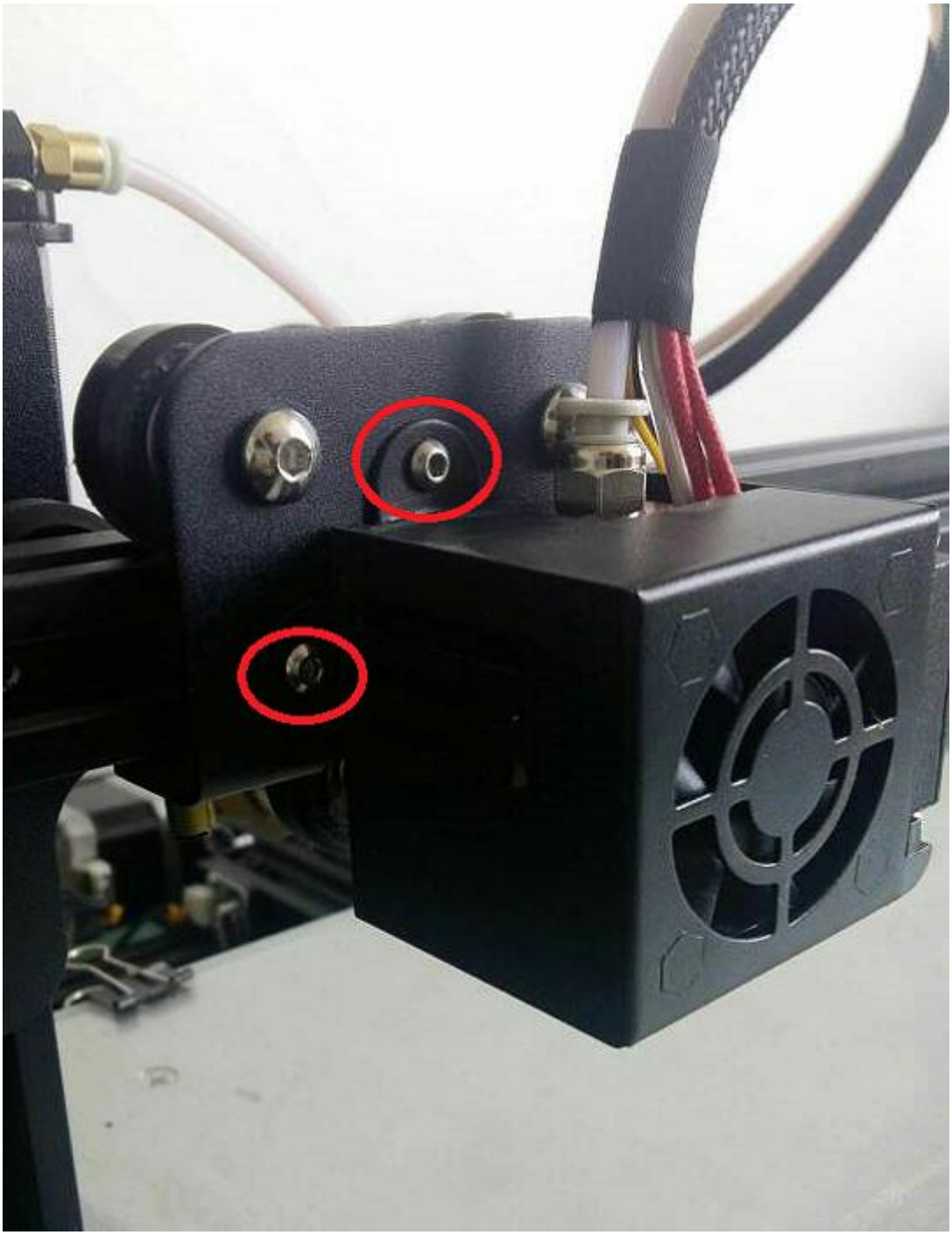
The automatic Leveling Function expansion of 3D Printer Based on FDM (fused deposition modeling) Marlin Structure

1.Material samples of the module with the automatically level system



2.Assembly diagram of automatic leveling module

(1) Remove the screw in the red circle on the right side of the nozzle of the 3D printer



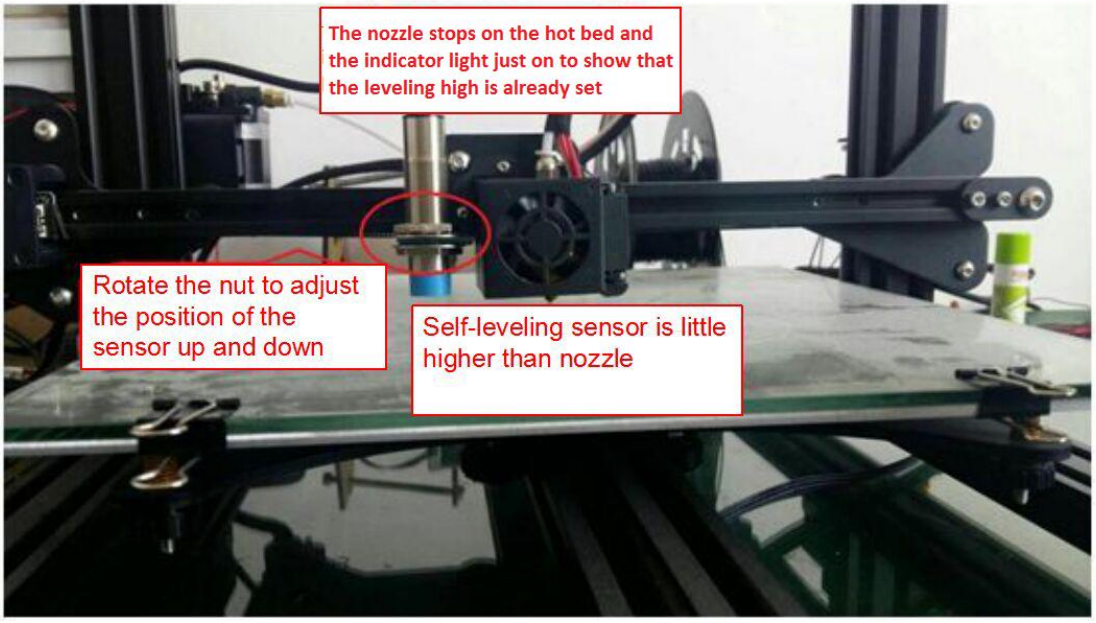
(2)Align the auto-leveling sheet metal parts with the nozzle assembly holes to ensure that the assembly ring of the auto-leveling sheet metal part is parallel to the platform, and then tighten the screws.

(3)Unplugging the wiring pin of Z-axis limit switch

(4)Insert the Z-axis wiring PIN foot into the automatic leveling module box

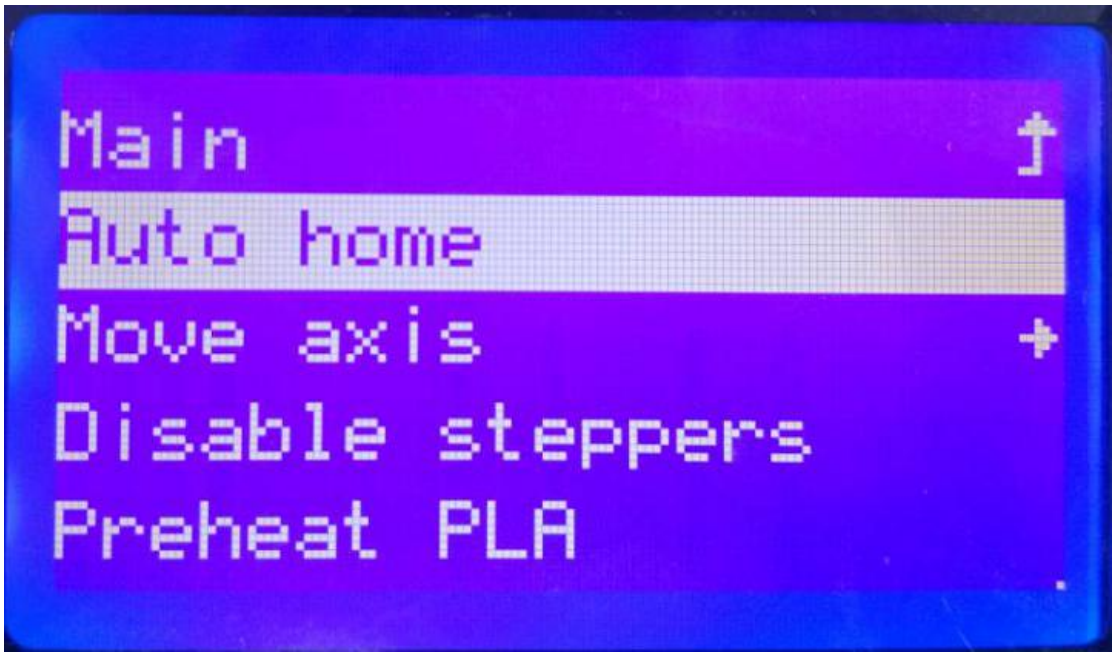
(5)The proximity switch can be adjusted by turning the screw to adjust the sensing distance of the proximity switch sensor. When the proximity switch senses an object, the sensor light will emit red light.

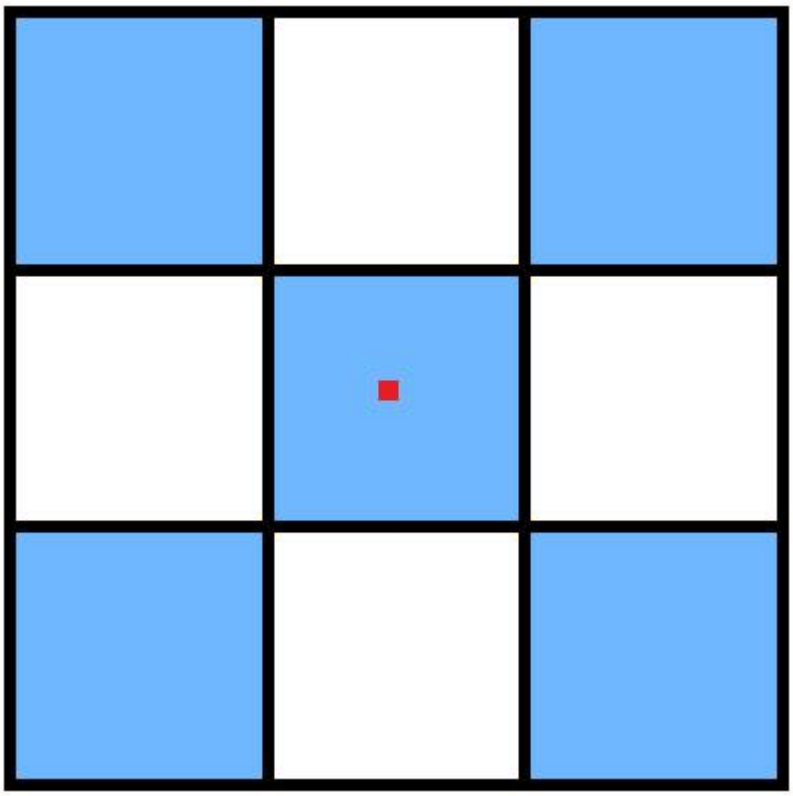
(6) Connect the power adapter to 100~240V power supply, and connect the automatic leveling plate box so that the nozzle just stop on the hot bed, and then install the auto-leveling sensor with voltage type， which must be higher than the nozzle in order to avoid that the model will be scraped while printing and make the state above the auto-leveling sensor indicates that the red light is just on. This is how the auto-leveling module is assembled.



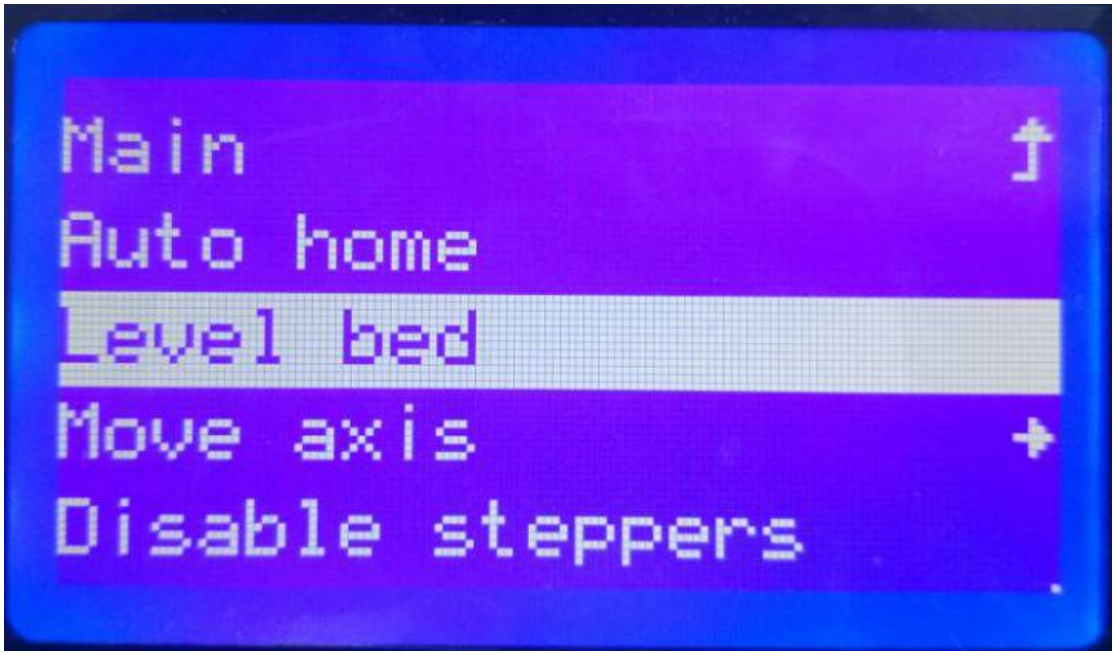
3.Automatic leveling function operation

(1) Automatic leveling Auto home means the XY axis back to the middle of the platform, Z axis back to the position that the sensor sensing



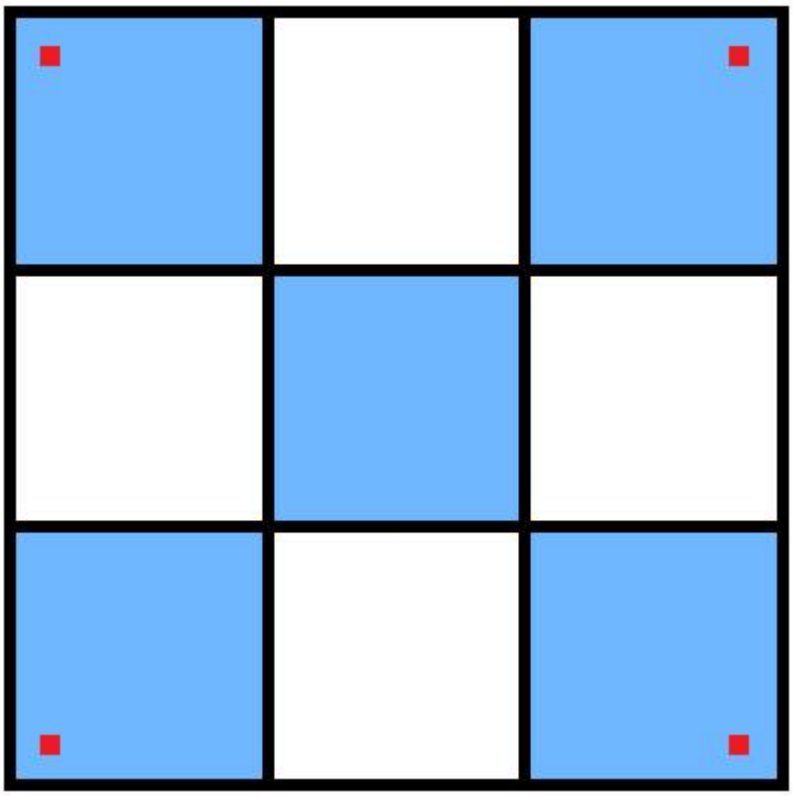


(2)After the auto-leveling Auto home, the function of the Level bed option will show on the operation interface. This is the basic auto-leveling function. The design based on the software code starts to measure the actual distance between the nozzle and the platform at each measuring position on the platform.

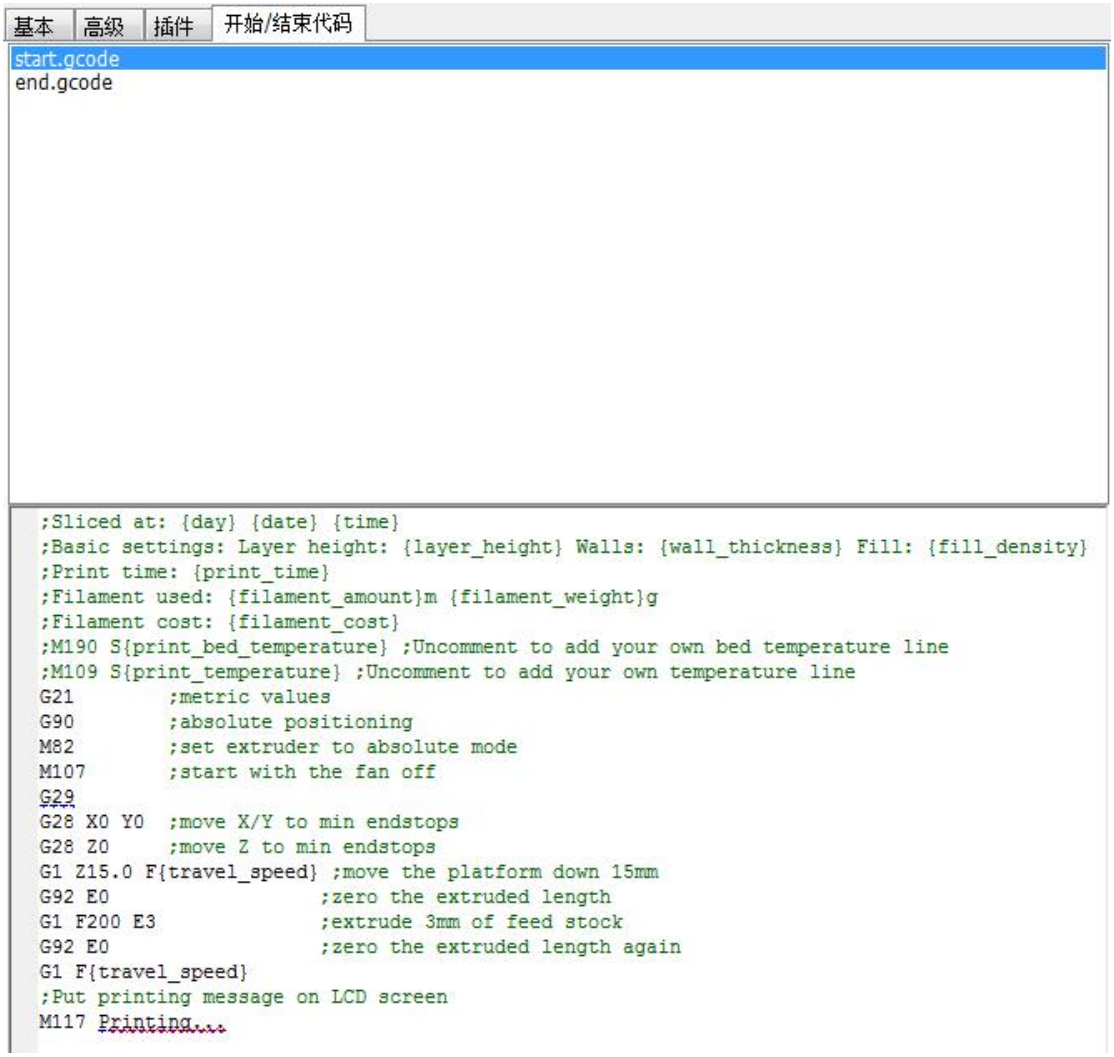


Level bed

After the Level bed option is executed, the sensor will detect at four spots on the platform



(3)Automatic leveling printing function, add the automatic leveling command G29 in the slicing software, Z-axis will automatically adjust to make the auto-leveling compensation printing according to the actual distance between the nozzle and the hot bed platform at each measuring position while printing for the better printing effect



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