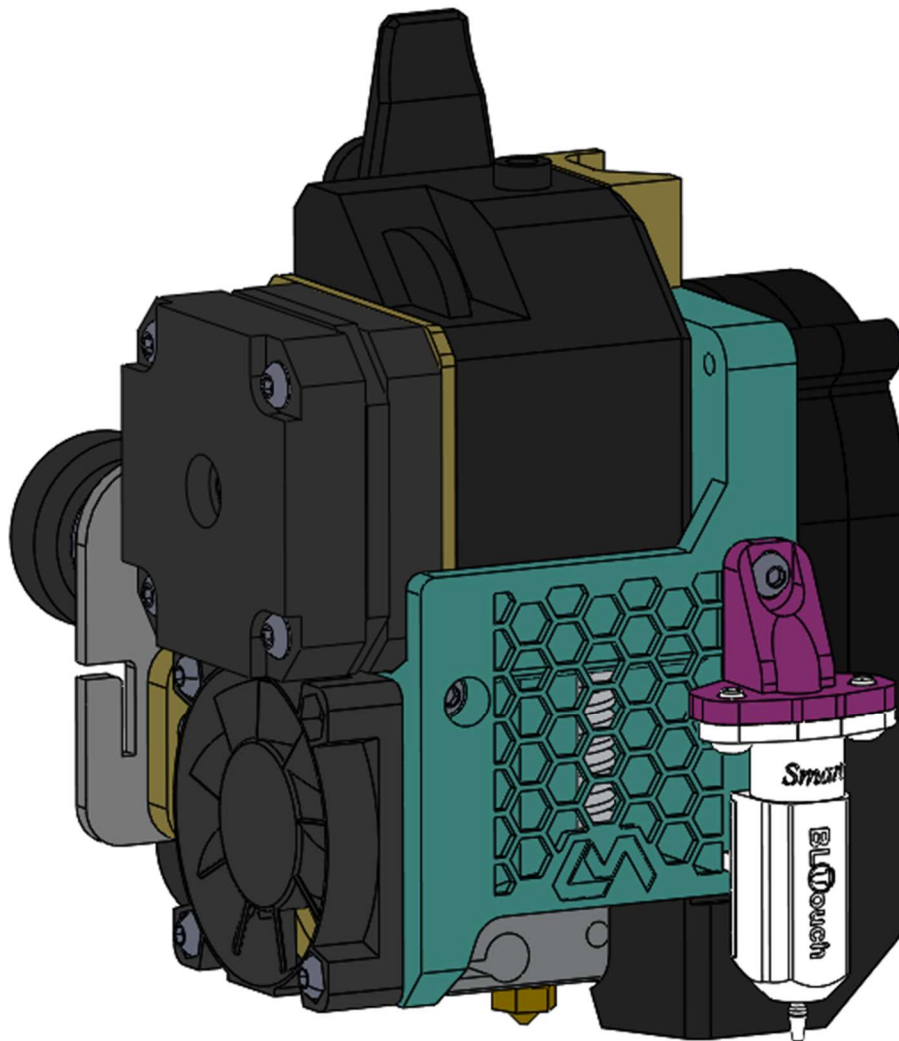




ASSEMBLY INSTRUCTIONS

DDB EXTRUDER + V6

ENDER 3-ENDER 5-CR10





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1. PARTS LIST

1.1 Commercial components

- 1 unit – DDB Extruder V2.1 https://s.click.aliexpress.com/e/_9ilSZl
- 1 unit – Motor Nema 17 25mm https://s.click.aliexpress.com/e/_AMM00r
- 1 unit - Hotend V6 https://s.click.aliexpress.com/e/_A75843
- 60-70 mm -- PTFE Capricorn https://s.click.aliexpress.com/e/_Af9umf
- 1 unit – Thermistor ATC Semitec 104GT https://s.click.aliexpress.com/e/_AWYFtD
- 1 unit – 40W Heater Cartridge 24V https://s.click.aliexpress.com/e/_AKmcoT
- 1 unit – Fan 5015 24V https://s.click.aliexpress.com/e/_A4D7kr
- 1 unit – Fan 4010 24V https://s.click.aliexpress.com/e/_ArgKHN
- 2 units – Screw DIN 7380 M3x6 https://s.click.aliexpress.com/e/_9v|SEl
- 3 units – Screw DIN 7380 M3x8 https://s.click.aliexpress.com/e/_9v|SEl
- 3 units – Screw DIN 7380 M3x16 https://s.click.aliexpress.com/e/_9v|SEl
- 3 units – Screw DIN 7380 M3x20 https://s.click.aliexpress.com/e/_9v|SEl
- 2 units – Screw DIN 7380 M3x30 https://s.click.aliexpress.com/e/_9v|SEl
- 3 units – Self-Locking Cable Ties 2,5x100 https://s.click.aliexpress.com/e/_AekMif

Optional:

- 1 m – Cable Sleeve Self Closing PET 13mm https://s.click.aliexpress.com/e/_Af2vPd

1.2 3D printed parts

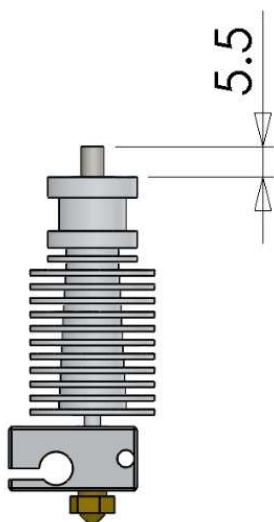
- 1 unit – Back_Ender_BMG
- 1 unit – Front_Ender_BMG
- 1 unit – Layer_Fan_Ender
- 1 unit – BLTouch_Front_Bmg

2. **A**SEMBLY

3.1 DDB extruder + Hotend V6

Parts list

- 1 unit – [DDB Extruder V2.1](#)
- 1 unit -- [Hotend V6](#) (2)
- Tube [PTFE Capricorn](#) (3)

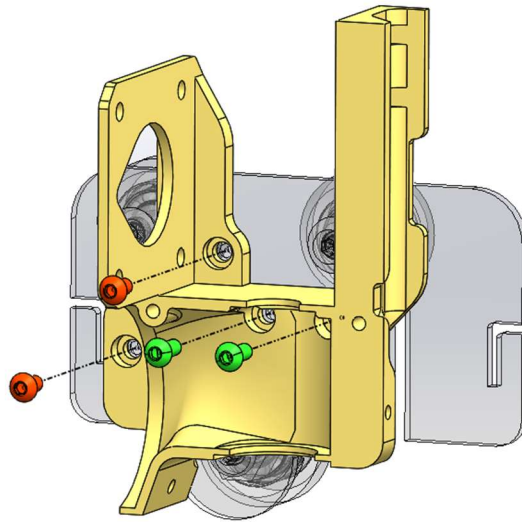


ATTENTION: Please put the block with the orientation indicated in the pictures

3.2 Assembly back to carriage

Parts list

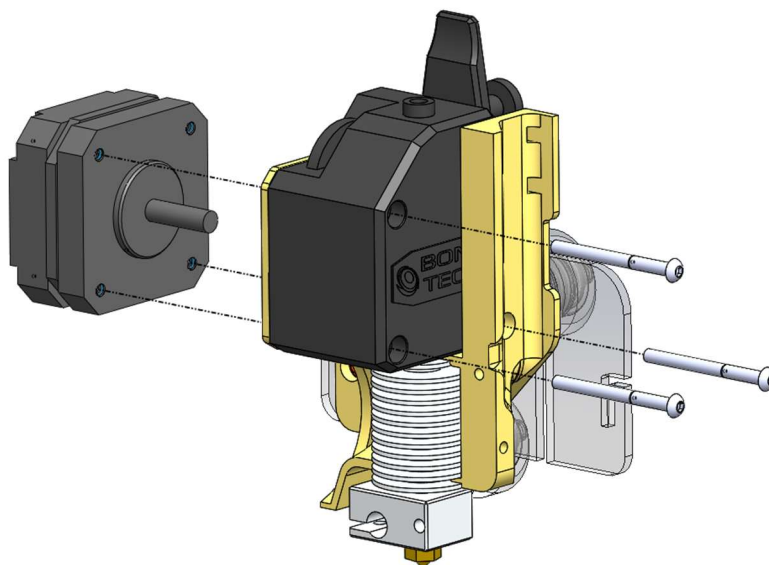
- 1 unit – Back_Ender_BMG
- 2 units – [Screw DIN 7380 M3x6 \(red\)](#)
- 2 units – [Screw DIN 7380 M3x8 \(green\)](#)



3.3 BMG + Back case

Parts list

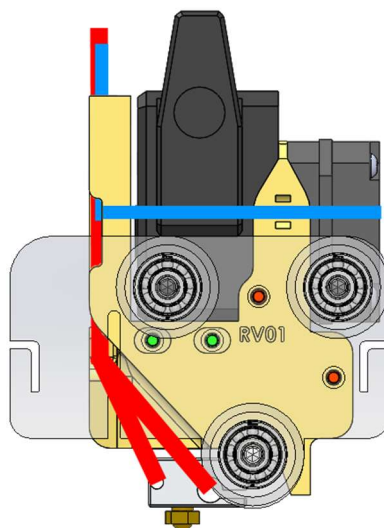
- 1 unit – [Motor Nema 17 25mm](#)



3.4 Back wiring

Parts list

- 3 units – [Self-Locking Cable Ties 2,5x100 mm](#)
- Opcional : 1 m – [Cable Sleeve Self Closing PET 13mm](#)

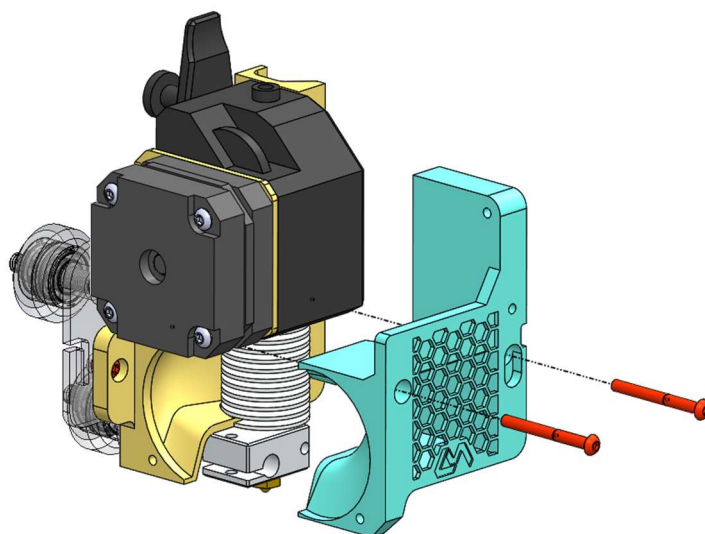


- **Blue** – Stepper motor & hotend fan wiring
- **Red** – Heater Cartridge & thermistor wiring

3.5 Front case

Parts list

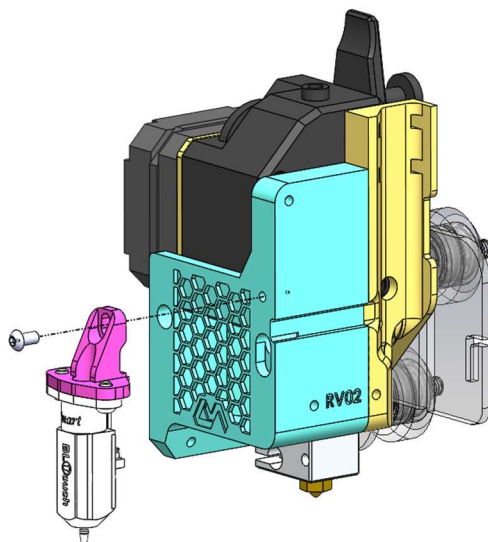
- 1 unit – Front_Ender_BMG
- 2 units – [Tornillo DIN 7380 M3x30](#)



3.6 BLtouch (Optional)

Parts list

- 1 unit – BLTouch_Front_BMG (Optional)
- 1 unit – [Tornillo DIN 7380 M3x8](#)

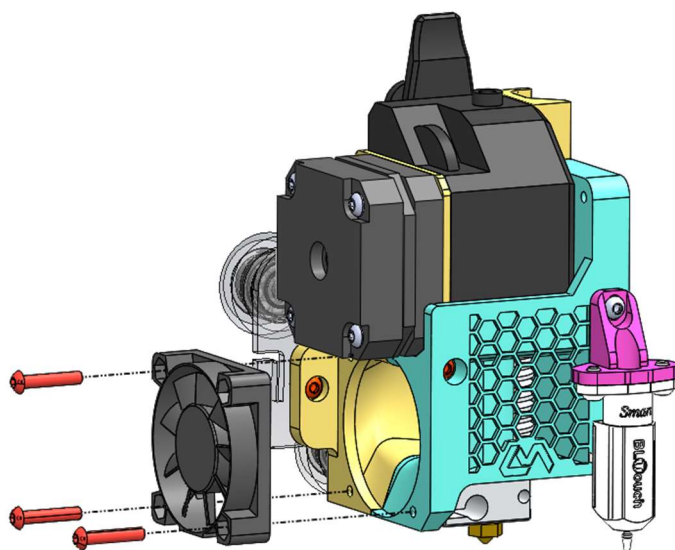


NOTA: BLtouch offset {16.7 , -39.7 , 0}

3.7 Hotend fan

Parts list

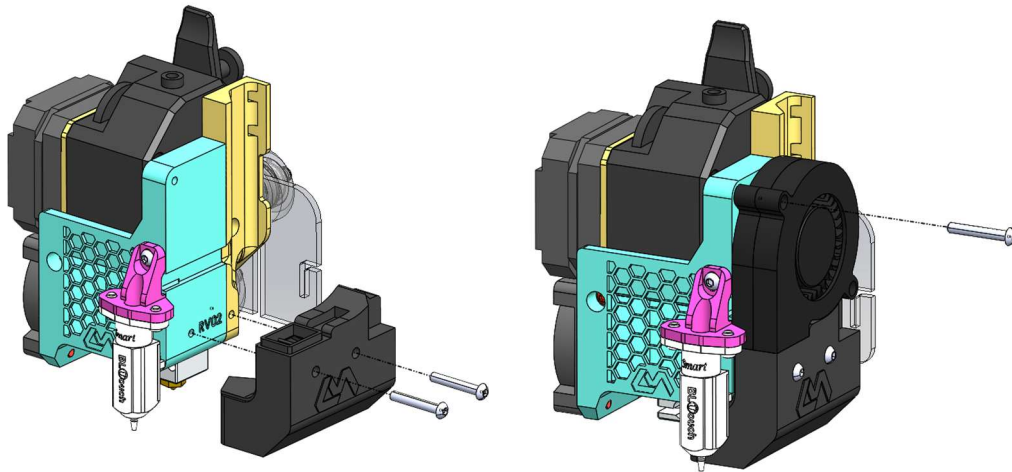
- 1 unit – [Fan 4010 24V](#)
- 3 units – [Screw DIN 7380 M3x16](#)



3.8 Layer fan

Parts list

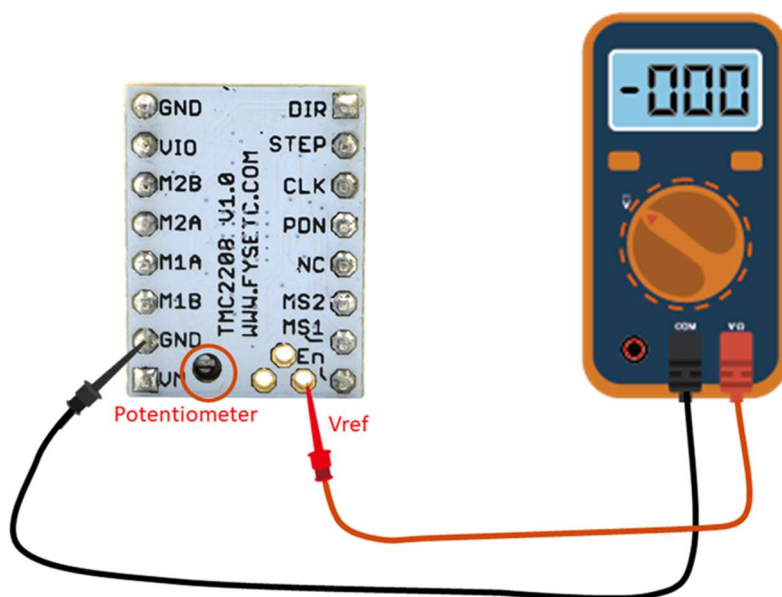
- 1 unit – Layer_Fan_Ender
- 1 unit – [Fan 5015 24V](#)
- 3 units -- [Screw DIN 7380 M3x20](#)



3. DRIVERS ADJUSTMENTS

3.1 Adjust extruder driver vref.

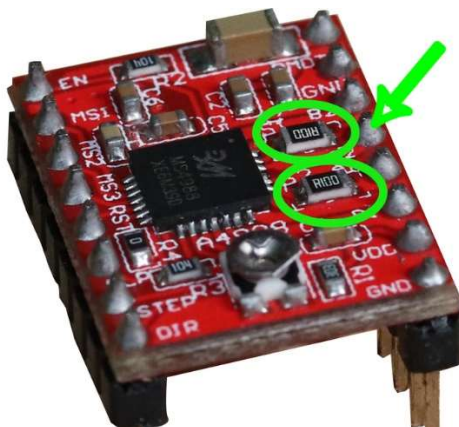
- Motor current : 0.56A RMS
- Motor peak current: 0.7A
- **Vref. TMC2225: 0.8 V**



Calculate Vref for Driver A4988

$$V_{ref} = 0.56 * 8 * R_{sense} (\Omega)$$

Sense resistors vary from vendor to vendor, ranging from 0.05 up to 0.2 Ω . Look for two equal resistors in the A4988, as shown in the image above. In this example, R100 is 100 m Ω , or 0.1 Ω





4. FIRMWARE

4.1 Sensor type for hotend

File **configuration.h**

```
#define TEMP_SENSOR_0 5 //LMaker
```

4.2 Change steps per unit

File **configuration.h**

```
#define DEFAULT_AXIS_STEPS_PER_UNIT { 80, 80, 400, 415 } // LMaker
```

4.3 Change max feedrate & max acceleration

File **configuration.h**

```
#define DEFAULT_MAX_FEEDRATE { 200, 200, 20, 80 } //LMaker
```

```
#define DEFAULT_MAX_ACCELERATION { 1000, 1000, 100, 10000 } //LMaker
```

```
#define DEFAULT_RETRACT_ACCELERATION 3000 //LMaker
```

```
#define DEFAULT_EJERK 5.0 //LMaker
```

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