MTVESC6.12 cooling fan installation instructions

1. Fan specifications:

Model no: AVC DV05028B12U

Size: 50×50×28mm

Bearing type：Double ball bearing

Life span: 100 000H（Under the circumstances of 25℃，45～85% relative humidity）

RPM: 15000

Rated voltage / current: 12V/1.65A

Advantages: Maintenance-free double ball bearings, long service life, with sufficient cooling air volume and pressure.
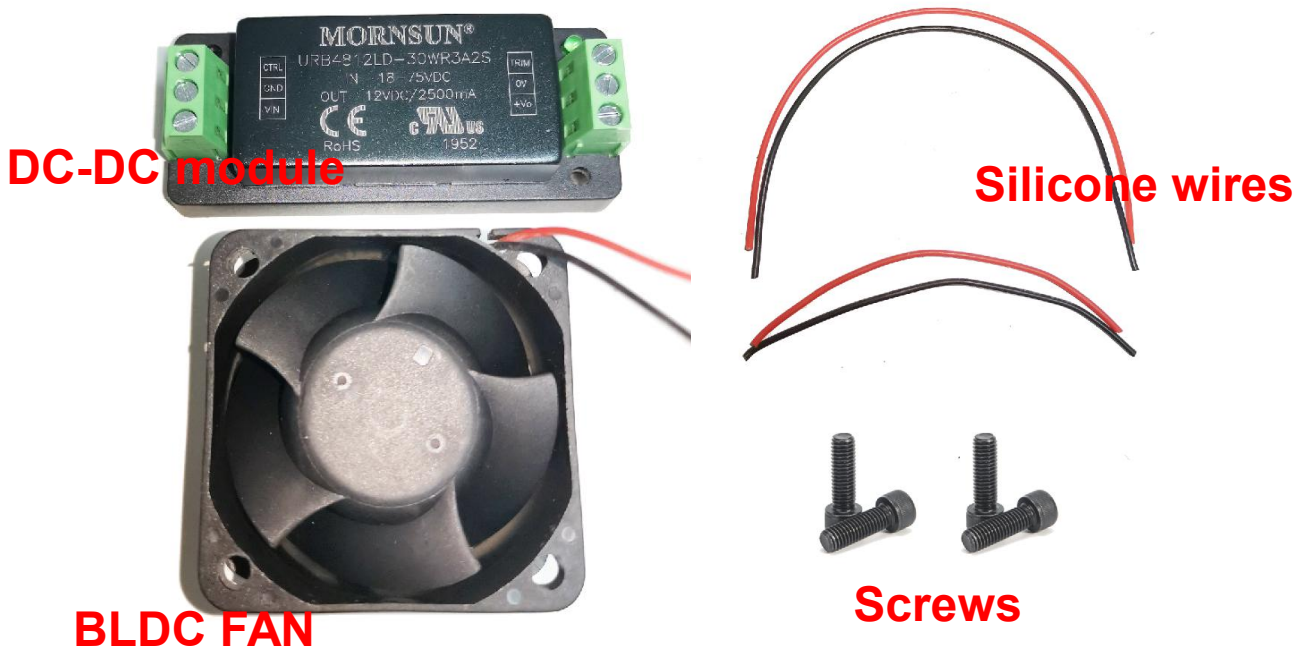
2. Accessories quantity:

BLDC Fan 1 pcs

M3*8 Hexagon socket head cap screws 4 pcs

DC-DC(UBEC) module 1 pcs: input 18-75V, output 12V 2500mA.

22AWG silicone wires 200mm length 2pcs

22AWG silicone wires 100mm length 2pcs

DC-DC module

Silicone wires

BLDC FAN

Screws

3. Installation process:

   3.1 Weld 100mm black and red silicone wires to Fan's balck and red wires. And please wrap the welding part with heat-shrink tubes.

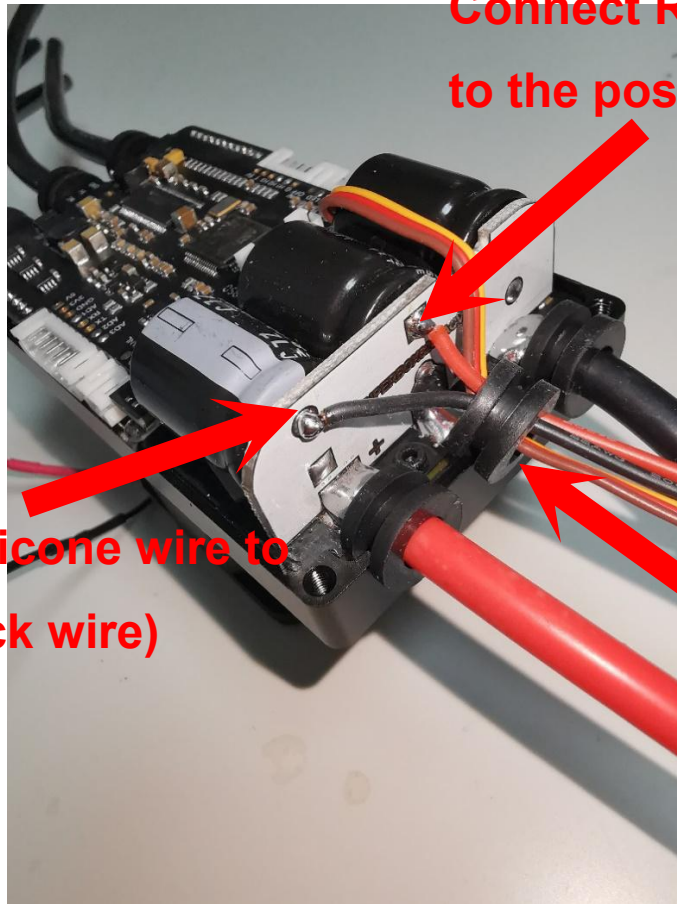   3.2 Unscrew the MTVESC6.12 case M3 screws (4pcs) and gently remove MTVESC6.12 case.

   3.3 Weld 200mm black and red silicone wires to ESC capacitor PCB as following

picture. Pay attention to the position of the red and black wires.

3.4 Lead the 200mm red and black silicone wires through the black rubber ring. Close the case and install the screws.

Connect Red silicone wire to the positive (red wire)

Connect Black silicone wire to the Negative (black wire)

Lead them through this black rubber ring.

3.5 Connect the 200mm and 100mm wires to DC-DC module:

200mm Red wire to VIN, 200mm Black wire to GND;

100mm Red wire to +Vo, 100mm Black wire to 0V.

3.6 After checking all in good and correct connection, connect the ESC to a power supply above 18V. After one second of power-on, the fan starts to run. Be careful not to touch the fan blades.

4. Fan switch:

The fan switch is not provided in the kit. Once the power is turned on, the fan will rotate normally. If you want to add a fan switch, there are two options:

4.1 Connect a switch in series between the 12V output port + Vo of the DC-DC module and the fan power cable. Note that you must choose a switch that can withstand more than 2A.

4.2 Connect a switch in series between the CTRL port and GND of the DC-DC module. When CTRL and GND are connected, the module turns off the output, and when CTRL and GND is disconnected, the module turns on the output. Recommend this option.

5. other instructions:

5.1 The DC-DC module does not work when the input voltage is lower than 18V. If you need a DC-DC module that can also work below 18V, please contact us.

5.2 In this solution, the fan speed is constant. If you want to adjust the fan speed, a DC voltage regulator is needed to adjust the fan voltage between 5-12V. You can even DIY a temperature-controlled speed control board to automatically adjust the speed according to the temperature of the housing.

5.3 The fan usually does not need to be lubricated during its life. If you want to add lubricating oil, you need to disassemble it: remove the fan label, remove the nylon retaining ring and the blade and then add oil on the bearing.