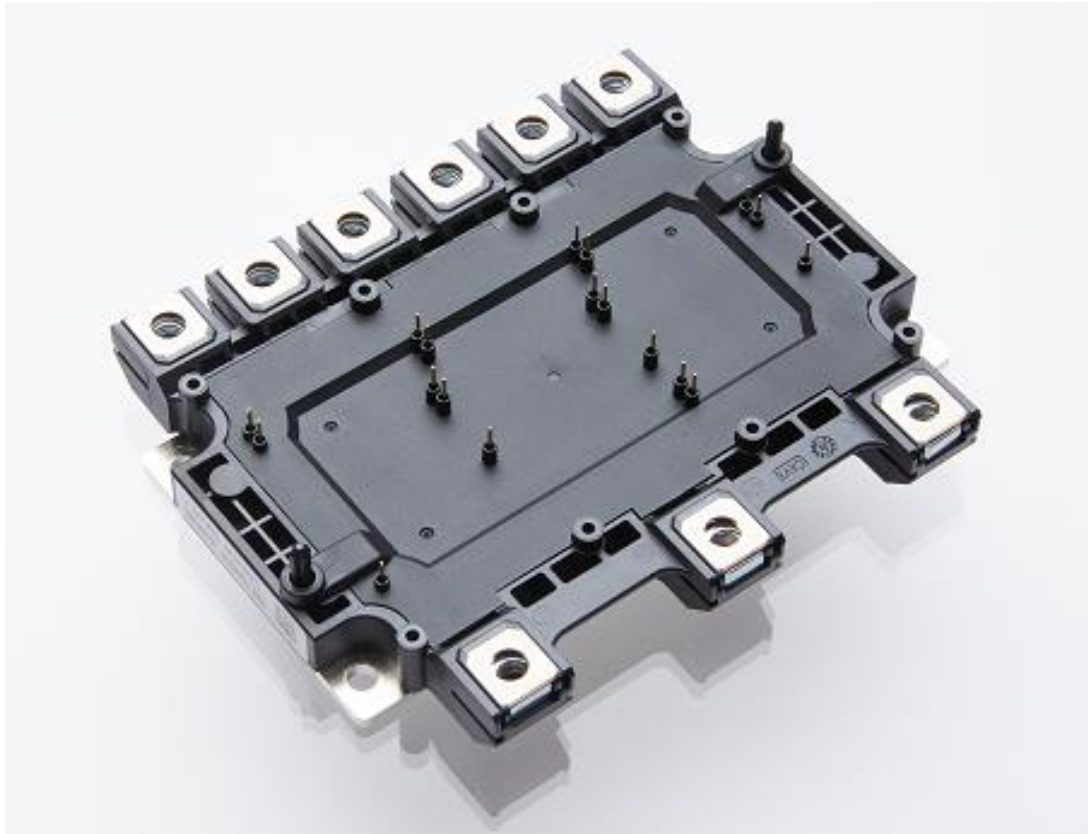


P7 Module Installation Instruction



1. Introduction to P7 Application
2. Module Dimensions
3. Heat Sink
4. Module Installation Process And Requirements

1. Introduction to P7 Application



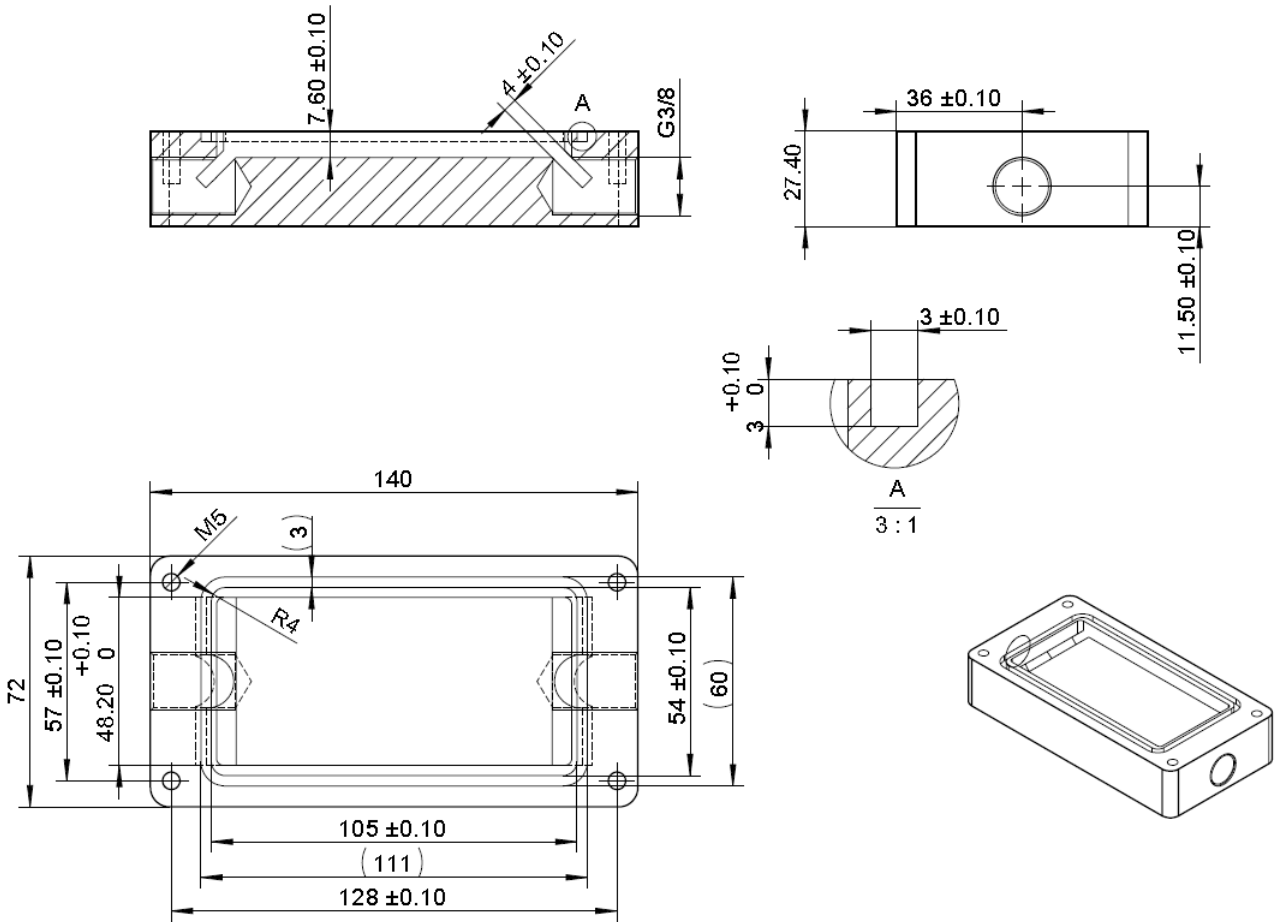
P7 module has the following advantages:

- 1) Low thermal resistance, water cooling system, higher power density;
- 2) Optimize the layout of chip, suitable for electric automobile drive applications;
- 3) High reliability process , enhance the lifetime of module;

Suitable for electric automobile and other fields.

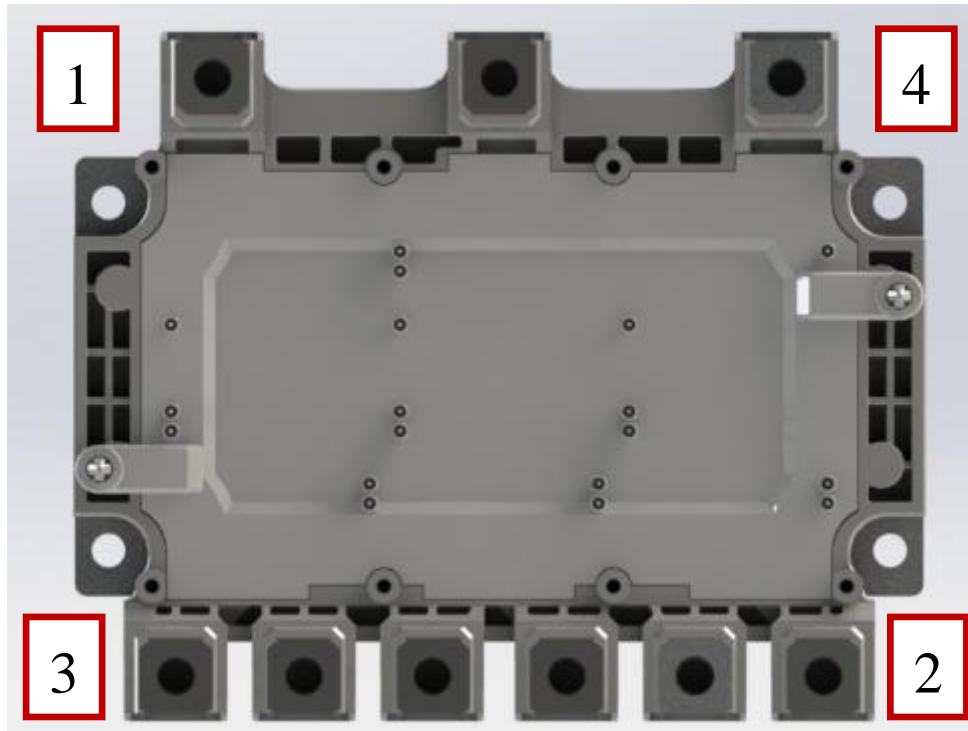
3. Heat Sink

3.1 Appearance diagram for recommended heat sink



4. Module Installation Process and Requirements

4.1 P7 module installation



Description:

In order to achieve good installation effect, the module is required to be installed according to the number sequence in the figure above, 1 → 2 → 3 → 4. The screws are pre-tightened with 0.5N m at first, and then tightened with standard torque.

The baseplate connected to cooler with M5 screw, the standard torque range 3 to 6N m.

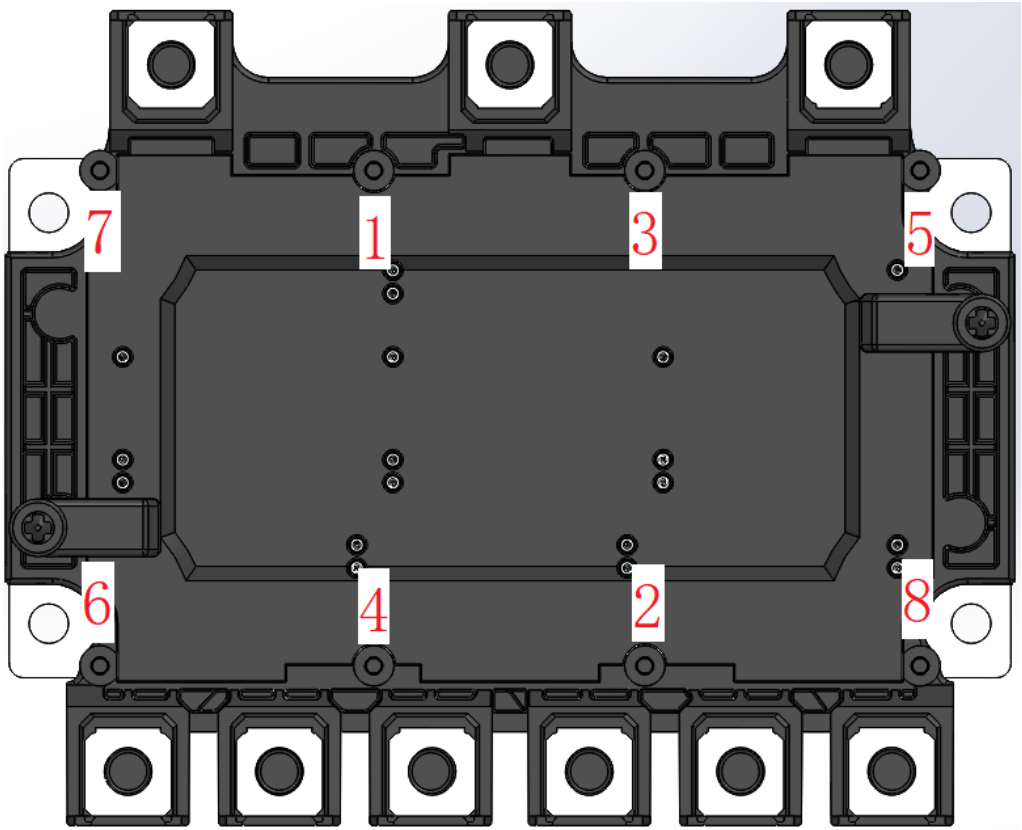
Module power tabs connected to to busbar, capacitor, etc with M6 screw to terminal. The installation torque range is 3 to 6 N m; The strength grade of M6 screw shall not be lower than 6.8, and suitable washer and spring washer shall be combined during installation. The length of the screw thread entering the module is the effective length,

therefore, when selecting the screw length, the thickness of the connector should be removed from the screw length to ensure that the effective length of the screw does not exceed 10.8mm.

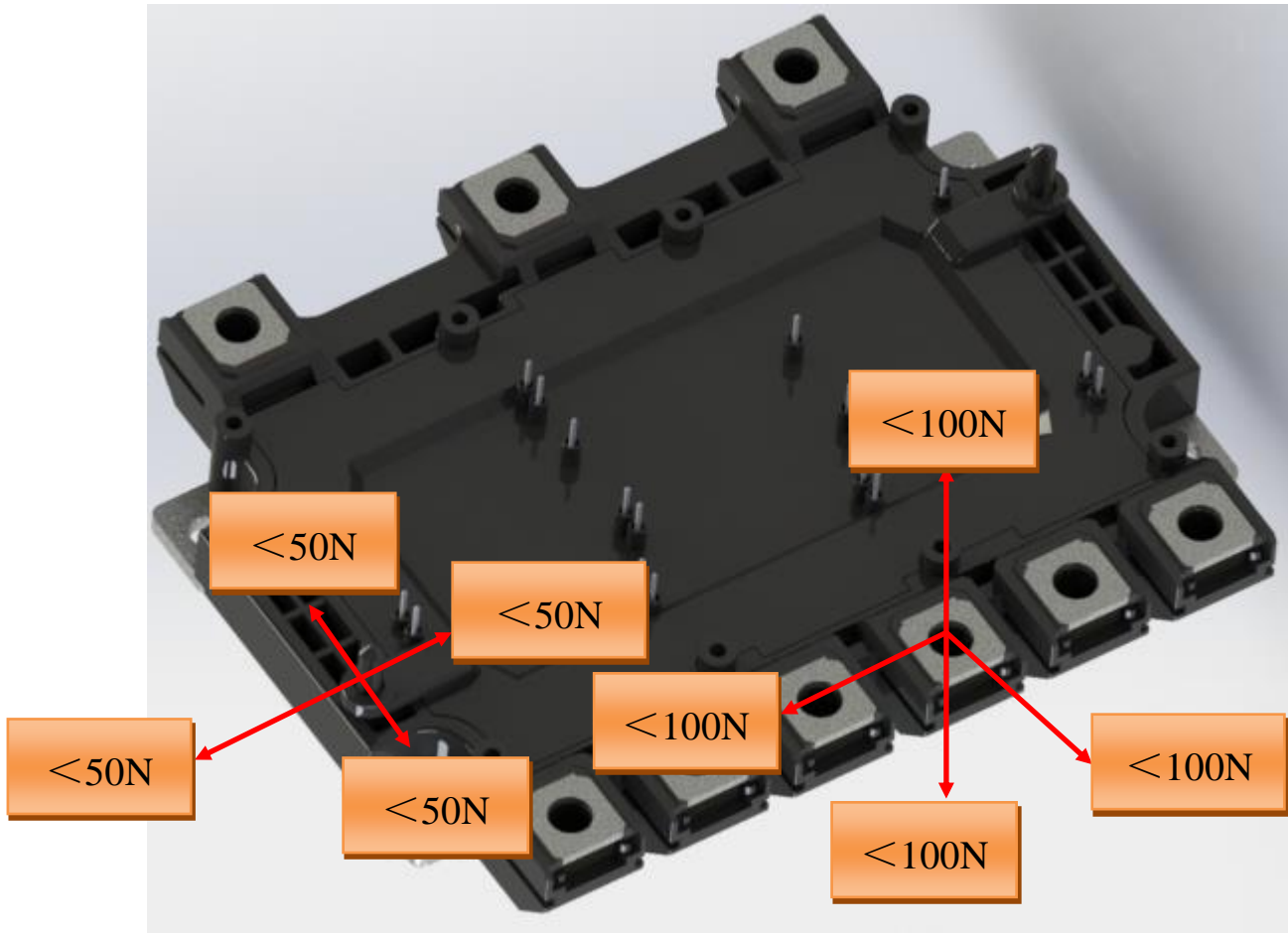
The screw length should be based on the depth of the heat sink mounting hole. It is recommended that the depth of heat sink hole should be greater than 10 mm.

Vibration applications require screws with anti-skid gasket.

In order to achieve good installation effect, the module is required to be installed according to the number sequence in the figure above, 1 → 2 → 3 → 4 → 5 → 6 → 7 → 8. The self tapping screw is driven in the vertical module state. M2.5 self tapping screw installation torque range $\leq 0.8\text{Nm}$, The length of the tapping screw is selected according to the thickness of the PCB. For example, to install a 1.6mm thick PCB, you need to use 10mm long M2.5 self-tapping screws.



The power terminal of the module shall not bear large pulling force in any direction, and the installation point shall be firm and effective, in this way, the forces related to installation and application only act on the fixed plate of the module, not on the module itself.



4.2 suggestions on the design of driving board

Based on the pin size of P7 module, it is suggested that the welding hole size of drive board connecting P7 module 's pin is $1.15 \pm 0.1\text{mm}$ 。 The aperture of PCB positioning pin is recommended to be $\geq 4.3\text{mm}$. The positioning pin of the module shall avoid any thrust greater than 50N in any direction.

Note: the technical department of your company should make a detailed inspection and evaluation to verify the rationality of the proposed weld hole size of the drive plate.