This high-quality TT motors are equipped with high-precision hall sensors for accurate speed measurement. And it has better anti-interference ability, stable speed, and supports PID control. It can also be used with a motor bracket to install it on the smart car. For these two motors, we will provide detailed drive codes and tutorial materials for user reference.

Blue 3-line motor:

1) Working voltage 6V, rated current 0.25A, torque 1.2N.m, maximum speed can reach 7000+5%rpm.
2) Plastic double shafts, wider applicability.
3) Built-in carbon brush motor, low power consumption.
4) Suitable for basic smart car, Mecanum wheel car or student user groups with limited funds.

Product Specification Parameters

Product	13 line metal single-shaft TT motor	Motor model	130 motor
Motor type /brush material	Copper brush	Reduction ratio	1:45
Rated voltage	6V (Recommended scope of use:5-13V)	No load current	0.08A
Rated current	0.3A	Locked rotor current	1.1A
Torque	1.2N.m	Speed before deceleration	16000±5%rpm
Speed after deceleration	355±5%rpm	Encoder type	Hall AB phase encoder
Encoder power supply	3.3-5V	Number of encoder lines	13 lines
Maximum count of one wheel turn	2340	Features	With pull-up shaping, the single chip microcomputer can read directly

The 13 line metal single shaft has high structural strength and can support heavy chassis structure.The copper brush motor has low heat and noise and high encoder accuracy. It is suitable for intelligent cars with high requirements for speed measurement accuracy, such as balance car, navigation car, etc.

1.The data in the above table are measured by the output shaft of reducer;
2.The number of encoder lines refers to the number of pulses that can be output by the encoder when the motor output shaft rotates for one turn; If the single chip microcomputer such as STM32 is used for quadruple frequency counting, the number of lines *4 pulses can be obtained.

Wiring Instructions

Interface specifications: PH2.0-6P

01 Encoder ground wire

02 Encoder output A phase

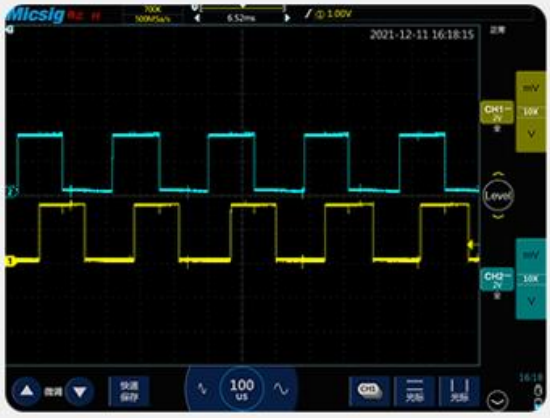
03 Encoder output B phase

04 Encoder power supply

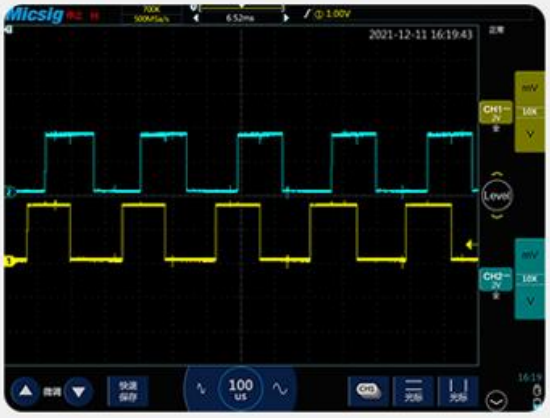
05 Motor line+

06 Motor line-

Encoder Output Description



Forward

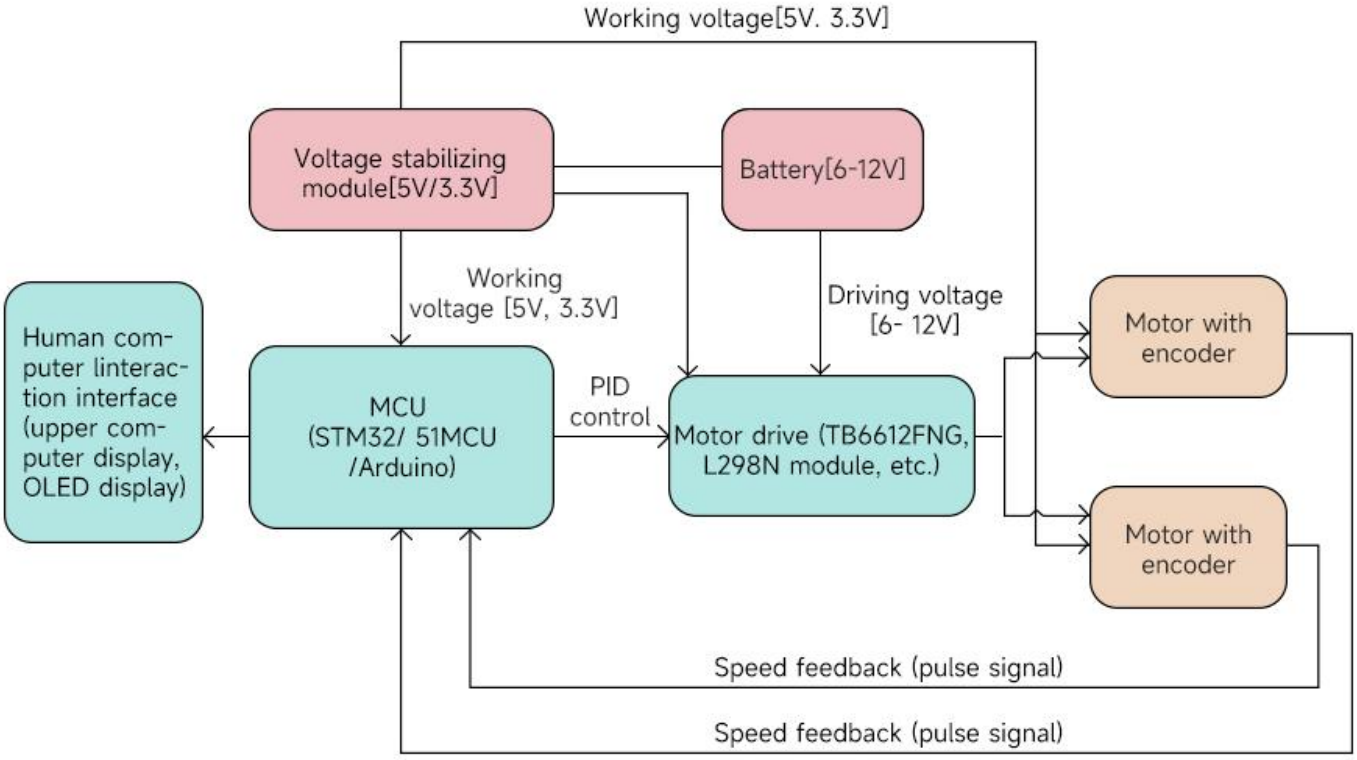


Reverse

If the phase difference between the two signals is 90°, the two signals are orthogonal. The phase difference between the two signals is 90°, so the rotation direction of the motor can be judged according to the sequence of the two signals. The current tire travel distance can be calculated according to the number of signal pulses per unit time and tire circumference. If only the number of phase AB pulses per unit time is detected, the current motor speed can also be measured.

Taking the metal output shaft encoder motor as an example, the motor rotates one circle and outputs 13 pulses in single phase, with a reduction ratio of 1:45. The maximum output of the motor output shaft rotates one circle (45* 13 * 4 =) 2340 counts. The phase difference of AB two-phase output pulse signal is 90°, which can detect the rotation direction of the motor.

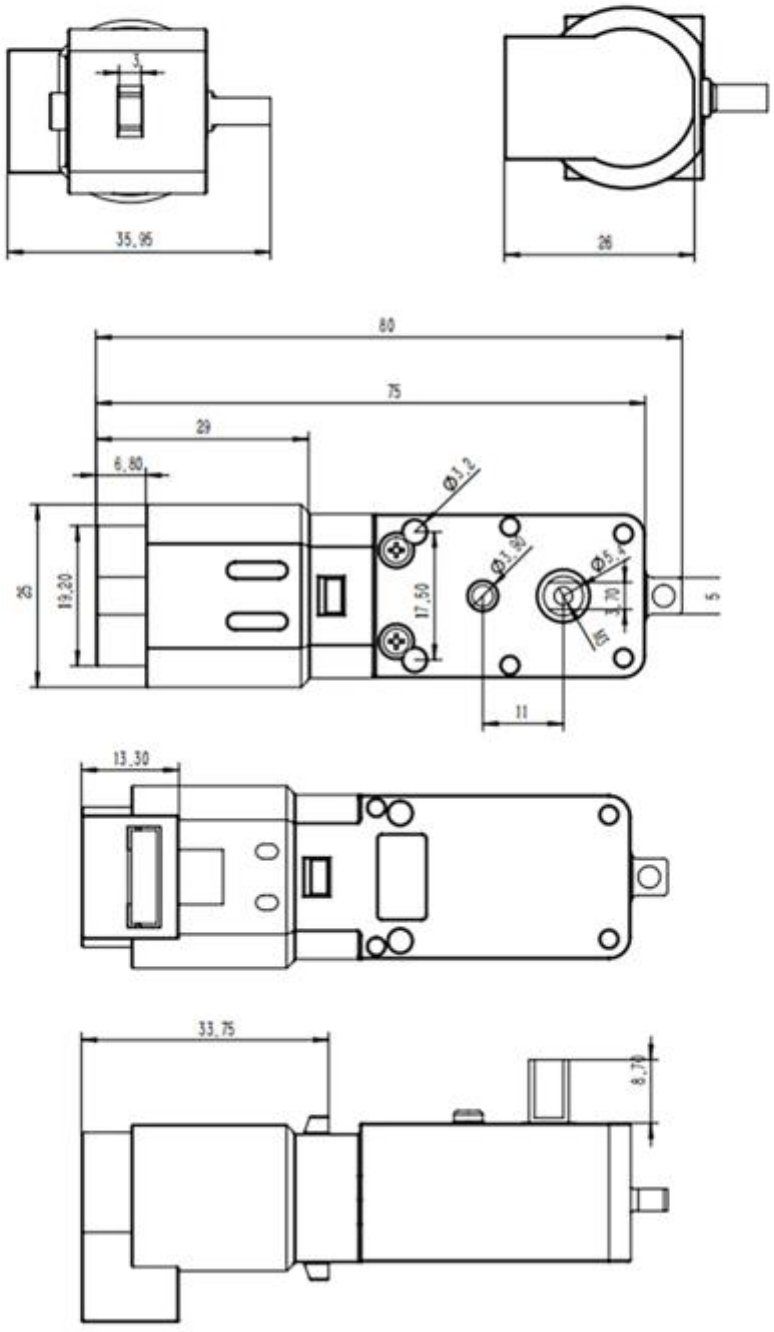
Smart Car Common Motor Control Frame Diagram



Product Size

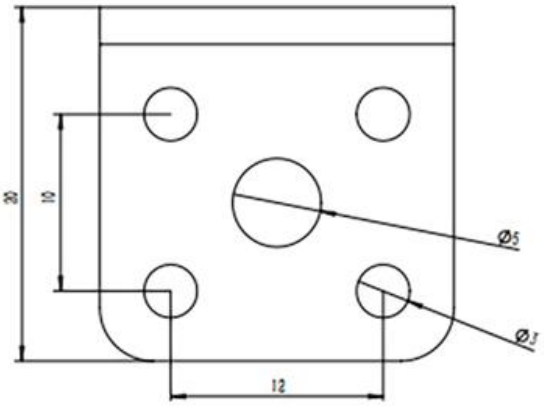
Unit: mm

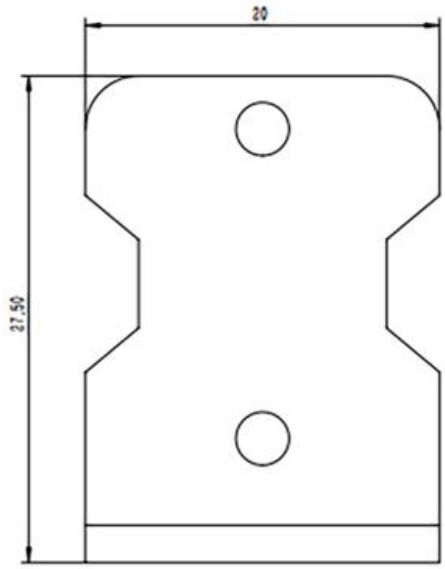
TT motor size

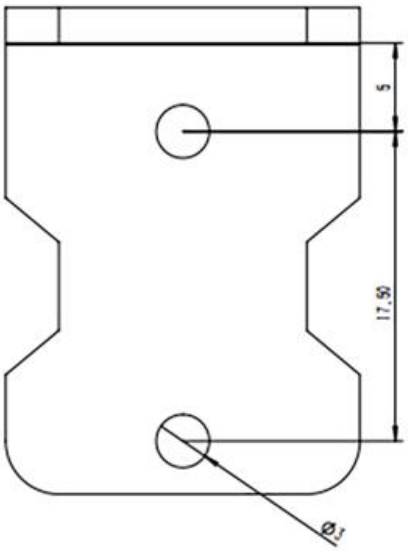
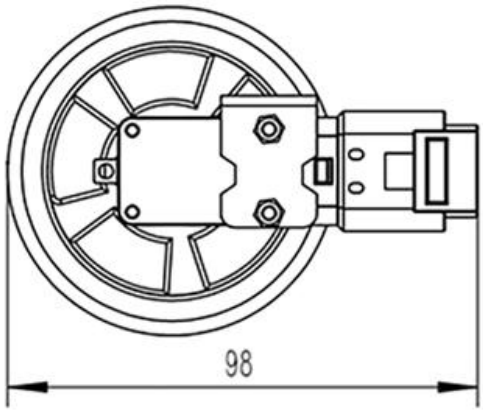
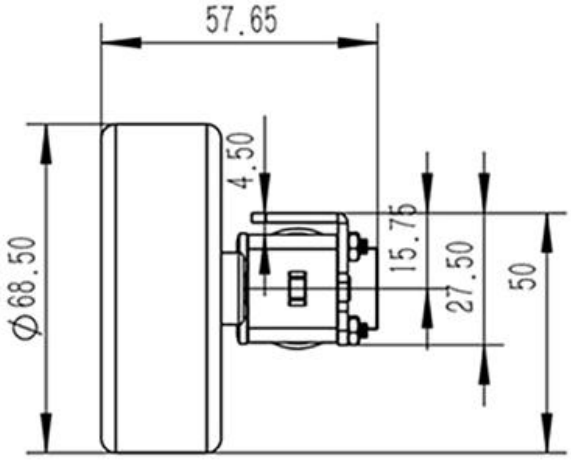
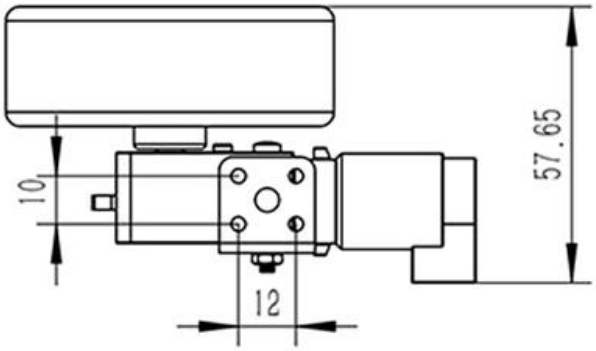


Bracket size

Material: Steel
Weight: 4.2g
Thickness: 2mm
Surface treatment: baking paint







Assembly size of motor wheel