These two 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.

Black 13-line motor

1) Working voltage 6V, rated current 0.3A, torque 1.2N.m, maximum speed can reach 16000+5%rpm.
2) Metal single shaft to support the installation of common rubber tires.
3) Built-in copper brush motor with lower noise. 13-line encoder, accurate speed measurement.
4) Suitable for users who have balance car, navigation and positioning car or have competition requirements.

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	13 line metal single shaft TT motor	3 line plastic double shaft TT motor
Motor model	130 motor	
Motor type / brush material	Brush copper brush	Brush carbon brush
Reduction ratio	1:45	
Rated voltage	6V（Recommended scope of use:5-13V）	
No load current	0.08A	
Rated current	0.3A	0.25A
Locked rotor current	1.1A	0.6A

Torque	1.2N.m	1.2N.m
Speed before deceleration	16000±5%rpm	7000±5%rpm
Speed after deceleration	355±5%rpm	155±5%rpm
Speed fbk sel	Hall AB phase encoder	
Encoder power supply	3.3-5V	
Number of encoder lines	13 lines	3 lines
Maximum count of one wheel turn	2340	540
Characteristic function	With pull-up shaping, the single chip microcomputer can read directly	
Purchase suggestions	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.	3 line plastic double axle, double axle structure, wider applicability, tires can be installed on both inner and outer sides, carbon brush motor has higher durability and lower power consumption, and is suitable for small cars with little demand for precision and durability, such as Mecanum wheel car, ordinary intelligent 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.