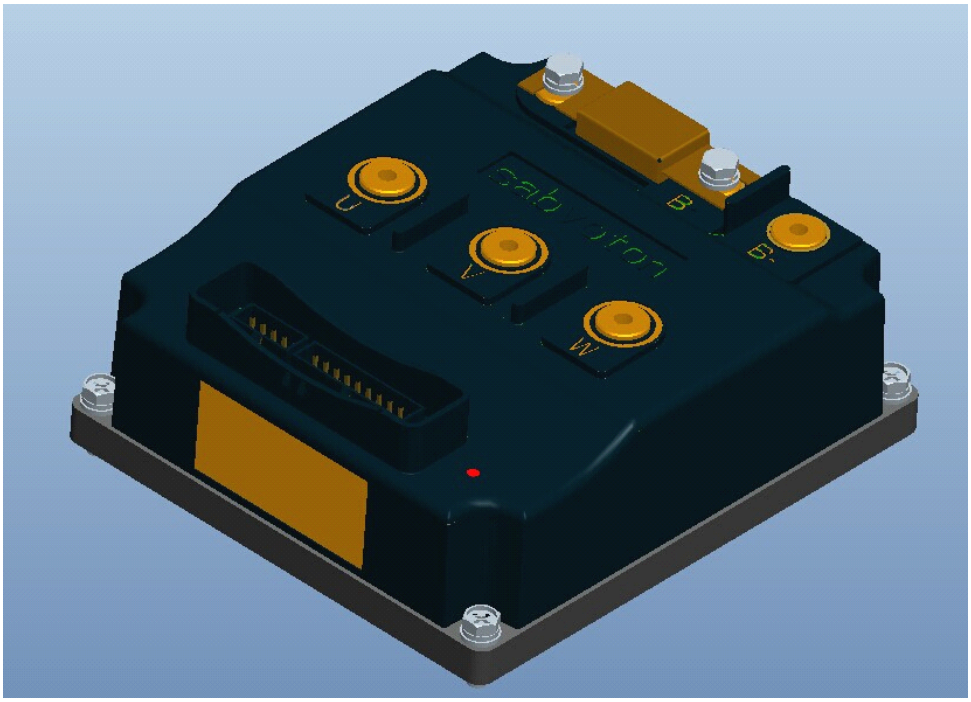
Sabvoton sine wave motor controller specification

(SSC Series)



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Chapter 1 Overview

The manual mainly describes Sabvoton sine wave controller feature, installation, maintenance etc. users should read this manual closely before operation .

Sabvoton sine wave controller is designed to drive DC brushless motors, which is applied on high power electric motorcycle, mini e-car and so on.

Any problems during your operation of our controller, pls contact us with the contact info at the end of this manual.

Chapter 2 Main Features and specification

1.FOC-180 °sinusoidal drive controller applied to BLDCM or PMSM..

2.The motor torque ripple will be reduced to the minimum, so as to ensure electric vehicle to run without any noise and vibration, smoothly, and comfortably.

3.The precise current ring can provide accurate torque input to meet the requirement 0f large torque output during vehicle starting and climbing.

4.The controller enjoys high efficiency due to space vector converter control algorithm which can effectively reduce the temperature rise of controller and extend battery life mileage

5.Built-in various protection: locked-rotor protection, over-current protection, overload protection, over-temperature protection, speed protection, over-voltage protection ,under-voltage protection and so on, effectively ensuring the safety of electronic control system and vehicle.

6.System status and fault intelligent management system can effectively monitor the current system operating mode external input state ,the case of system failure, and the LED flashes at the same time to facilitate the diagnosis and maintenance.

7.The rich peripheral interfaces: reverse, cruise, anti-theft, electronic brake,variable regen brake, etc.

8.Parameter modifications and settings are available through online configuration with online computer

9.CAN BUS is optional to communicate with body instrument and BMS

Model specification ：

The controller is named as per the follower rules:

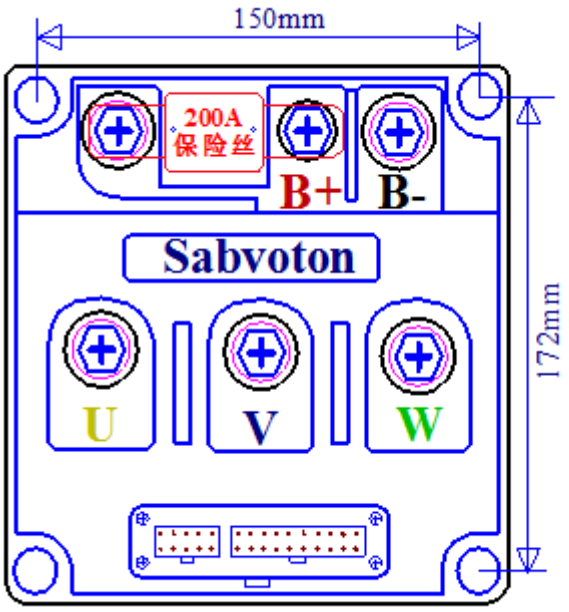
Take SSC096150 as an example,

SSC stands for Sabvoton Sine-wave Motor Controller, 096 indicates the working voltage,150 indicates the maximum dc current.

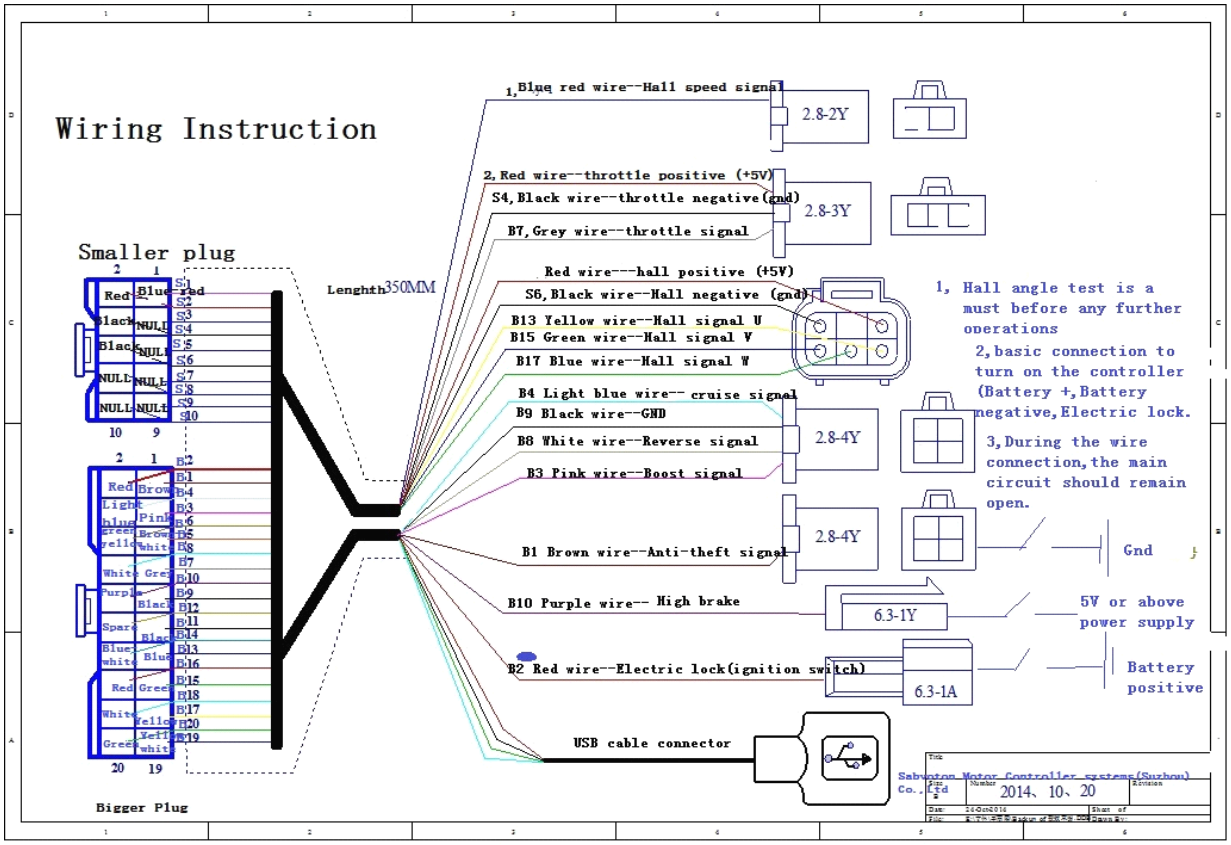
	SSC Series
Voltage range	48~120V
The maximum dc current allowed	150A
Maximum working phase current	350A
Rated power	7KW
The peak power	14.4KW
Temperature protection	80℃--limit the current，100℃ stop working
Hall sensor power supply requirement	5V
Hall sensor installation requirement	120°
High brake voltage input ranges	5V or above
Throttle signal voltage input ranges	0~5V
Cross-sectional area	8 mm²
The housing material	Plastic
Weight	1.8kg
Size	Length*Width*Height=186mm*165* mm*70mm
Hall angle	Auto match with the hall angle test in the PC software

Chapter 3 Installation

Mounting hole position.



The controller installation should take consider of the heat dissipation and ventilation to avoid water spatter. and the wire connection instruction is as below,



1-Pls check closely the diagram when start the wire connection

2- The power switch and the main contactor should be shut off during the connection,

3- When power on the red LED should always be on.

Chapter 4 Maintenance

General speaking ,the inappropriate disassembling may break the controller .But user could cool the controller to serve their own purpose .

When the controller need to be disassembled from the vehicle, before operation, pls make sure the power and the main circuit contactor is shut off, after the disassembling, user should discharge the controller completely with a 3W,10ohm resistance shorting the negative and positive pole of the controller.

If there is something wrong with the controller ,two ways can be used to find the problems:
1: use the usb-485 converter provided by the manufacturer to connect the controller with the computer to diagnosis Way
2: if the usb-485 converter or computer is not available, you can watch the green led and go with the diagnosis

Chapter 5 LED indications.

The twinkling times of the green LED indicates the controller status in the following rules:

Twinkling times	meaning	Remark
2	Over volt	
3	Lack volt	
5	Controller over temperature	
6	Motor over temperature	
8	Controller over current	
9	Overload	
11	Store error	
13	Hall fault	
20	Block protection	
25	Power up no finished	
26	brake	
27	Anti-theft	
28	reverse	
29	Brake protect	
30	Throttle protect	

Chapter 6 Contact

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