

SG12X2 Manual

Voltage: 24-144VDC

Max. Power: 40kVA

IP: IP65



Fig. 1 SG1212 Outline

1—OVERVIEW

SG1202/12/22 AC induction motor controller delivers smooth power to motor, and they provide unprecedented flexibility through programmer SG1810. Both SCI and CAN(optional) are provided, which allows these AC motor controller to be part of an efficient distributed system. Inputs and outputs can be optimally shared throughout the system, minimizing wiring and creating integrated functions that reduce the cost of the system.

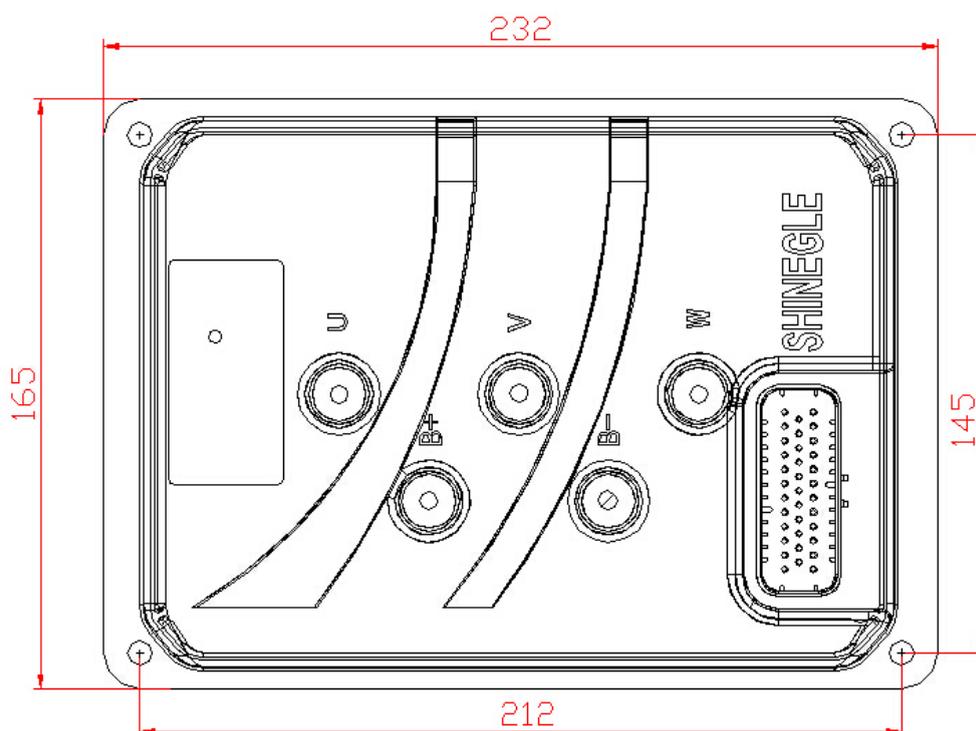
SG1202/12/22 controller are the ideal solution of traction, forklift and other motor drive and vehicle control needs. All controllers provide superior operator control of motor drive performance. Features include:

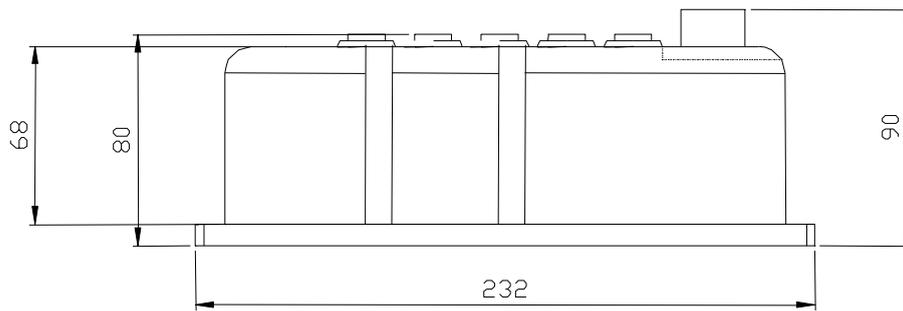
- * The world first class field-oriented motor control algorithms, high efficiency.
- * Advanced Pulse Width Modulation technology for efficient use of battery voltage, low motor harmonics, low torque ripple, and minimized switching losses.
- * Extremely wide torque/speed range including full regeneration capability
- * Smooth and accurate low speed control, including zero speed.
- * Adaptation of aviation level DSP from TI.
- * Real-time battery current, motor torque, and power estimates available.
- * A wide range of I/O can be applied wherever needed.
- * Models available for 24V to 96V battery systems, with 200A RMS to 600A RMS 2-minute current ratings.
- * Easily programmable through SG1810 programmer.
- * CANopen communication(29-bit extended identifier field) is optional, SCI interface communication is available at any time.
- * Field-programmable, with flash downloadable operating code, the firmware can be updated to the latest version.
- * Thermal cutback, LED flash timers warning, and automatic shutdown provide protection to motor and controller.
- * Rugged sealed housing and connectors meet IP65 environmental sealing standard for use in harsh environments.

Familiarity with your SG controller will help install and operate it properly. We suggest you to read this manual carefully. If you have questions, please contact the shinegle office nearest you.

Using the SG1810 hand-held programmer, you can set up the controller perform all the basic operations—such as maximum speed, acceleration control, throttle offset, and HPD. We first show you how to wire your system.

2—INSTALLATION & WIRING





Note:

1. Screw with spring washers and flat washers: M8*12
2. Screw Torques < 3 N.m

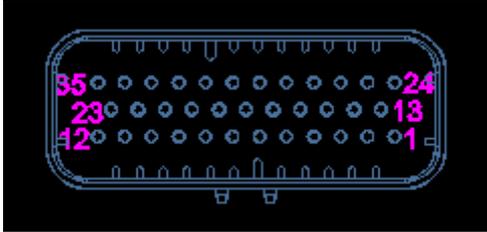
Actual picture for screw



3—Technical parameters

Model	SG1210	SG1212	SG1222
Voltage	24V-60V	72V	96-144V
Input voltage(Battery) (DC/V)	20-60	56-80	76.8-112
Max. output current (AC/A)	400	400	450
Rated output current (AC/A)	120	120	120
Max. output power (kw)	20	30	40
Working ambient temperature range	-30℃~55℃		
Protection class	IP65		
Insulation	DC 1000V Input & Output the outer casing, Leakage current: 0.05mA, insulation resistance: 20MΩ		
Storage ambient temperature range	-40℃~80℃		
Efficiency	0.97		
Cooling	Self-cooling		
Vibration Standard	GB/T2423		
Control mode	Advanced Vector control with speed sensor		
Communication	SCI or CAN(optional) Communication		
Weight	3.5kg		
Cooling requirements	The controller must be install in a ventilated place, otherwise cooling fan is needed.		

J1: 776163-1 (AMP35)



Connector correspond to J1: 776164-1 AMP35 (Actual Picture)



J6: DJ7041-1.5-21 (Actual Picture)

DJ7041-1.5-21

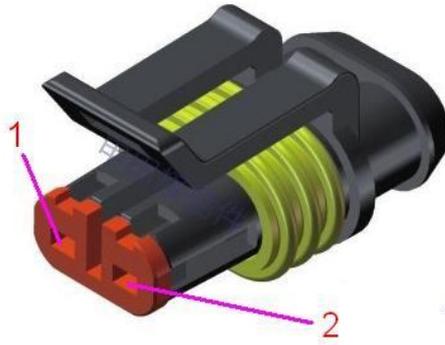


J7: DJ7041-1.5-11 (Actual Picture)



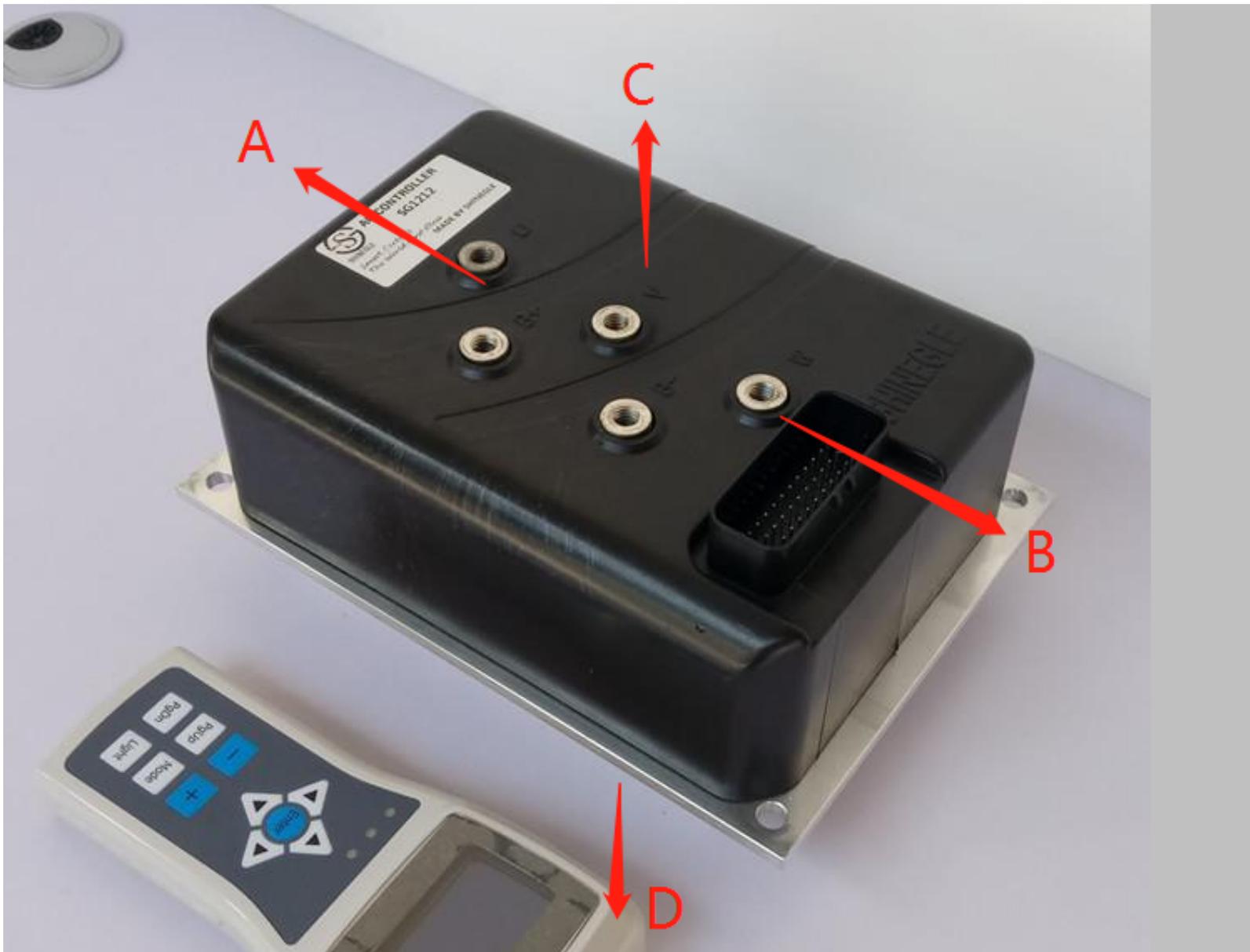
J8: DJ7021-1.5-21 (Actual Picture)

DJ7021-1.5-21



J9: DJ7021-1.5-11 (Actual Picture)





Note well:

1. For better ventilation, A or B direction of controller must be vehicle direction(Forward or Reverse)
2. Controller must face upward like C or D direction
3. 12V Fan need work if the controller carries with Fan

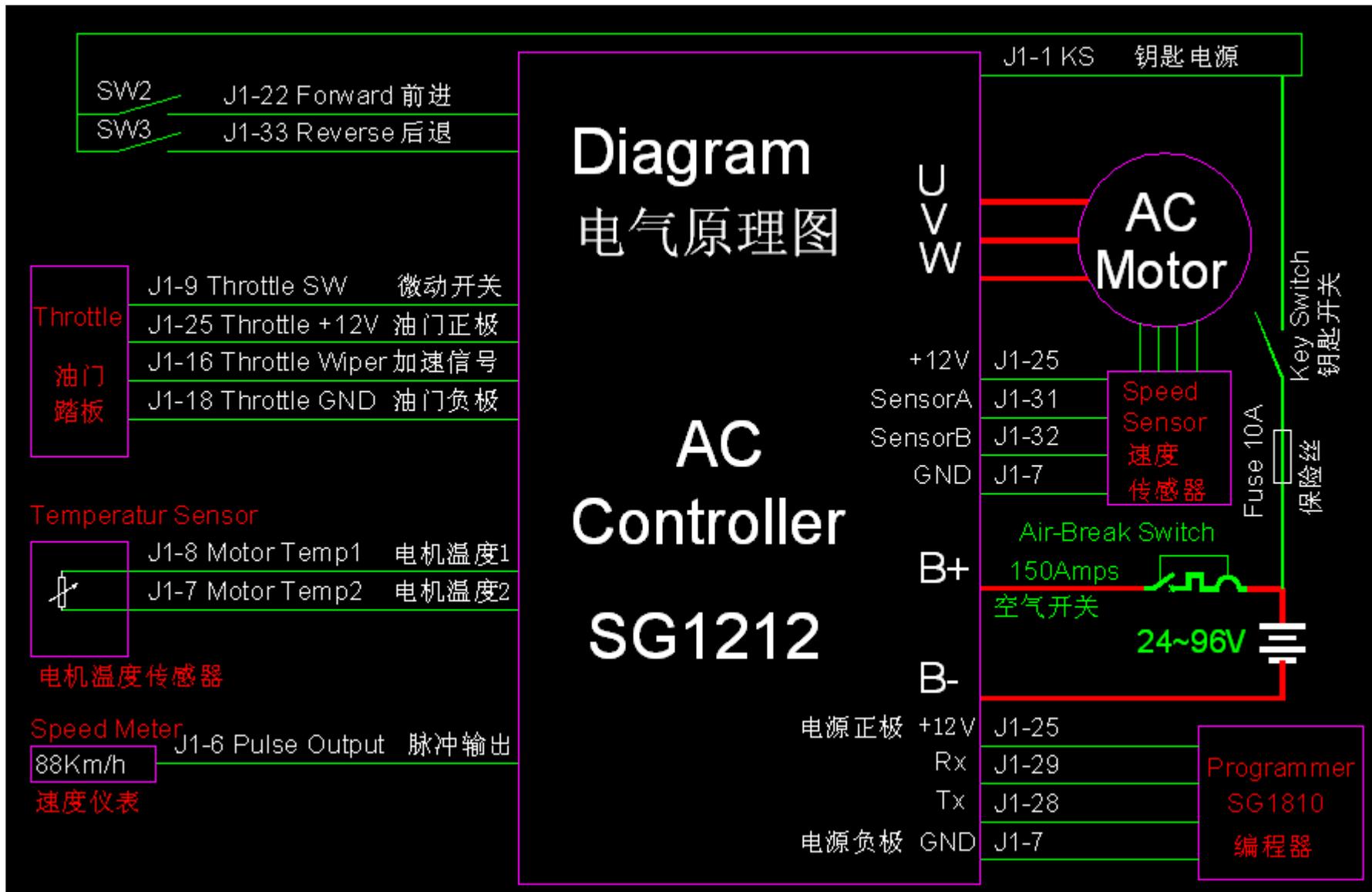


Fig. 3 Diagram of SG1212