



Hybrid servo drive **SS880L**

1. Product introduction

1. Overview

SS880L is a new generation of high-performance digital closed-loop stepper servo driver, which combines servo system and stepper servo driver.

The advantage of the advanced system is that it runs close to a multi-level servo. More advanced current control algorithms enable electrical

The vibration and noise of the machine disappear; a position closed loop is added to prevent the motor from losing steps.

The driver voltage is AC 50-80VAC, suitable for various models of two-phase hybrids with currents below 8.0A.

Closed-loop stepper motor with automatic half-current, self-check, overvoltage, undervoltage and overcurrent protection functions.

2. Features

- Closed-loop control prevents out-of-step;
- Greater operating speed and operating torque;
- Faster response;
- Significantly reduce temperature rise and improve operating efficiency;
- No vibration when stopped;
- High smoothness and ultra-low noise;
- Low cost.

3. Main application areas

SS880L is a low-cost, high-performance servo system suitable for various large-scale automation equipment and instruments.

The effect is particularly good in equipment where users expect low cost, low vibration, low noise, high precision and high speed.

System servo is more suitable for lower rigidity loads such as belt transmission mechanisms.



4. Electrical parameters

	Minimum value	Typical value	Maximum value	Unit
Parameters Input voltage AC (AC) 50		80	80	VAC
Output current Peak	0	-	8.0	A
pulse	0	-	200	hZ
frequency Input signal current	7	10	16	mA

2. Interface and wiring instructions

The SS880L has three control ports and two power ports. The three control ports are CN1 and CN2 and CN3. CN1 includes the control signal port and alarm output port; CN2 is the encoder signal port; CN3 Port for serial port connection. Strong power ports are divided into power ports and motor ports. Please refer to the following instructions for all interfaces

When wiring, make sure the wiring is accurate.

1. Control signal interface **CN1**

The signal interface circuit inside the SS880L stepper motor driver adopts optocoupler signal isolation, as shown in the figure

R is an external current limiting resistor.

Control signal port CN1		
Pin number	name	illustrate
3	PUL+	Pulse positive input
4	PUL-	Pulse negative input
5	DIR+	direction positive input
6	DIR-	direction negative input
11	ENA+ Enable	positive input, usually not connected (enabled state)
12	ENA- Enable	negative input, usually not connected (enabled state)

2. Output alarm port **CN1**

When the driver alarms, it will change the status of the alarm output port. The "Pend" port is normally closed, and after the alarm, it is normally open;

The "ALM" port is normally open and is normally closed after an alarm. Users can adjust the alarm input type according to the controller or control card.

Connect the "Pend" or "ALM" port, and trigger the controller or control card alarm when the driver alarms, so that the processing



pause.

Output alarm port CN1		
Pin number	name	illustrate
9	Pend+	Alarm signal: OC door positive output, normally closed
10	Pend-	Alarm signal: OC door negative output, normally closed
7	ALM+	Alarm signal: OC door positive output, normally open
8	ALM-	Alarm signal: OC door negative output, normally open

3. Encoder interface CN2

The encoder interface can be directly connected to the driver and motor using our company's adapter cable. To ensure signal transmission

To ensure stable transmission, please tighten the screws at both ends of the port.

4. Strong power interface

name	illustrate	color
A+	A phase motor winding +	Blue must ensure
A-	A phase motor winding-	yellow
B+	B phase motor winding +	black
B-	Phase B Motor Winding	red
L	- Input Power	50-80VAC
N	Input Power	
PE	ground	
		Ensure reliable grounding

Wiring color
paired with port
answer

In order to ensure the normal operation of the motor, the terminal blocks must be connected according to the colors of the motor. If the colors do not correspond,

It may cause driver damage or alarm.

5. Control signal interface circuit

Detailed description of signal interface: The interface circuit inside the SS880L stepper motor driver adopts optocoupler

Signal isolation, R in the figure is an external current limiting resistor. The connection method is differential connection method with good anti-interference performance.



CW-motor

Changzhou Chuangwei Electric Motors

SS880L

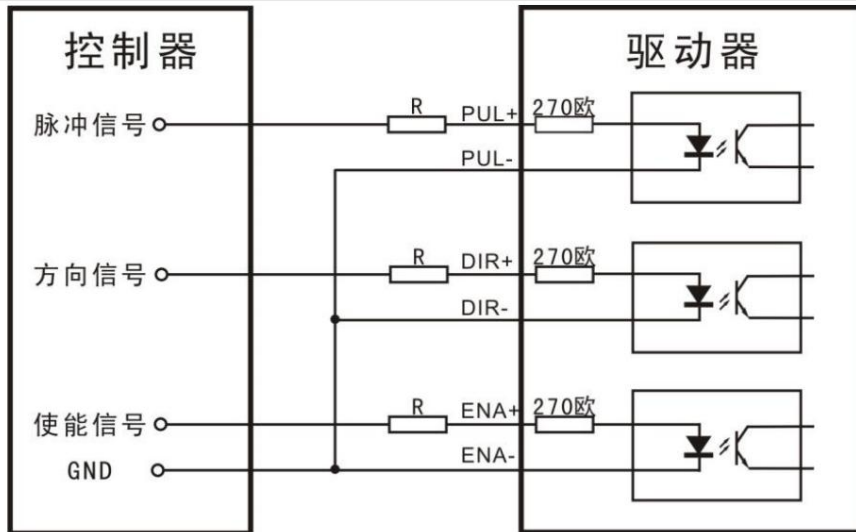


Figure shows common cathode connection method

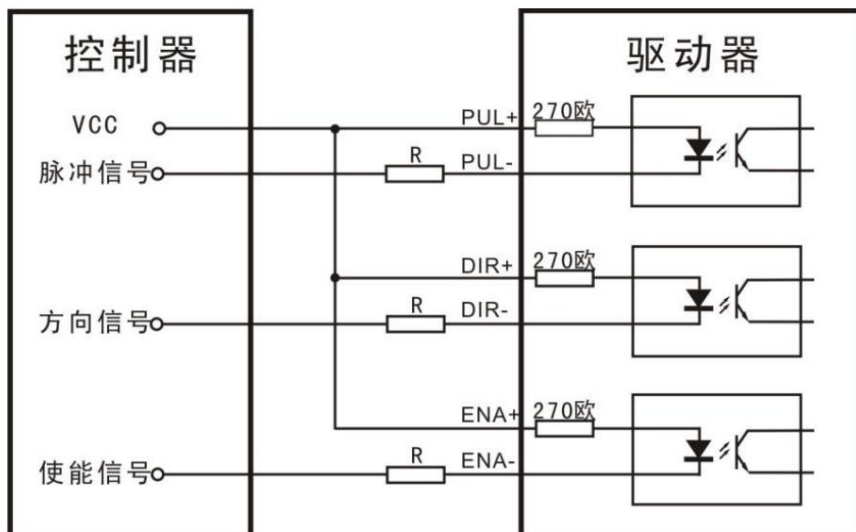


Figure 2 Common anode connection method

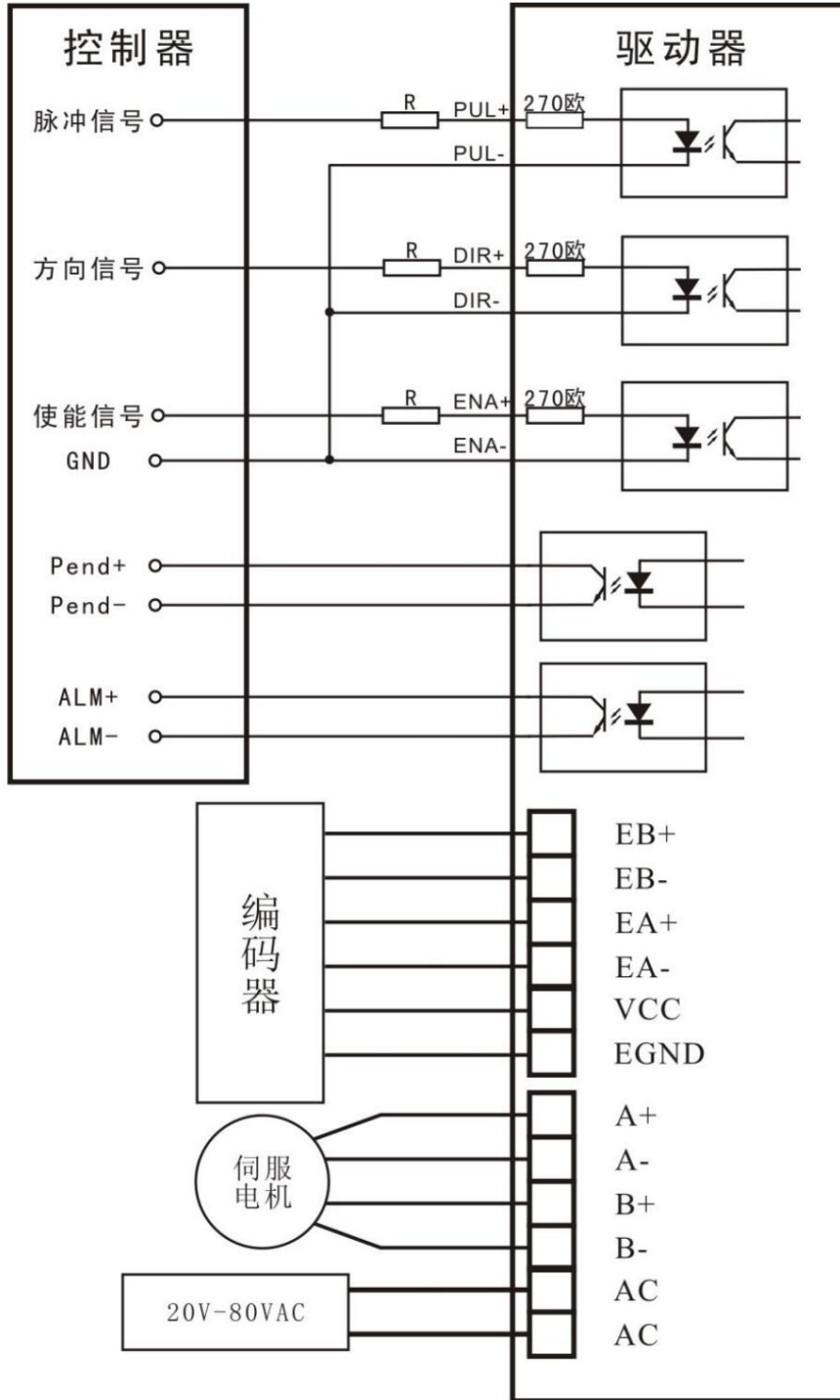


Figure 3 Typical connection

Signal amplitude is connected to an external current limiting resistor R	
5V	do not add
12V	680 Ω
24V	1.8K Ω

Table 1



3. Parameter settings

There are two ways to set the parameters of the SS880L driver: one is to connect the driver and the computer through the serial port.

PC settings; the second is to manually set parameters on the driver panel.

The internal factory parameters of the drive are all optimal parameters. Under normal circumstances, the user only needs to set the drive subdivision

and the motor running direction. Please refer to the following instructions for specific parameter settings and parameter functions.

Enter the parameter setting interface (PR-DP), press the "SET" button to enter parameter number selection, and select the customer

Parameters that need to be displayed on the main interface. The parameter definition corresponding to the parameter number is as follows:

Show settings table					
Parameter number	Parameter definition	Initial value	Parameter range	Parameter	description
dP-00	Total number of pulses	0			Number of pulses received by the driver
dP-01	Position deviation	0			actual position deviation

Enter the parameter setting interface (PR-SE), press the "SET" button to enter parameter number selection, and set the motor

Run related parameters. The parameter definition corresponding to the parameter number is as follows:

Parameter setting table					
Parameter number	Parameter definition	Default value	Parameter range	Parameter	description
PR-000	driver version	30		-	cannot be changed
PR-001	Current loop gain	40		0-100	
PR-002	Position loop gain	15		0-100	
PR-003	Position compensation	5		0-10	
PR-004	Initial current	60		0-100	
PR-005	direction	0		0-1	0: CW 1: CCW
PR-006	Enable	0		0-1	
PR-007	pulse mode	0		0-1	0: rising edge 1: falling edge
PR-008	Segmentation	8		4-256 multiplied by 200 is the number of pulses per revolution	
PR-009	Position deviation 1000			0-65535	Alarm error



PR-010 filter enable		0	0-1	0: Filter enabled 1: Filtering is disabled
PR-011	ALM polarity	0	0-1	0: Normally open 1: Normally closed
PR-012	PEND polarity 1		0-1	0: Normally open 1: Normally closed
PR-013 Start lock current 60			0-100 Start lock current	
PR-014 Encoder enable 0			0-1	0: enable encoder 1: Disable encoder

SS880L button setting steps are as follows:

The parameter display interface appears when the computer is powered on, which displays the information that the user needs to view. Follow the steps below.

You can set various parameters through the operation process.

The setting interface is divided into "Display Settings" interface and "Parameter Settings" interface, and the screen displays "PR-DP"

It is the display interface, and "PR-SE" is displayed as the parameter setting interface.

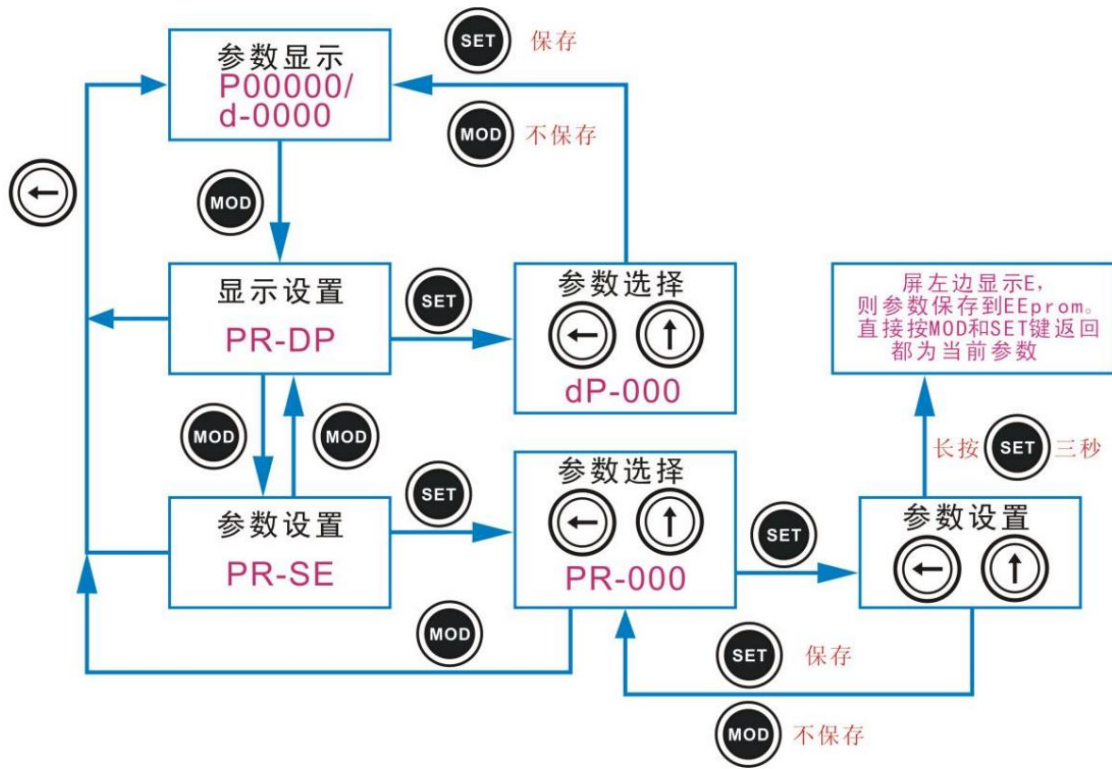
Enter the parameter selection or parameter setting interface. If you need to quickly add or subtract parameters, please press and hold or



, the displayed data will be quickly added and subtracted.

After the parameter setting is completed, if you want the next time you turn on the computer to have the same parameters as this time, please be sure to press and hold

"SET" for three seconds, wait until E is displayed on the left side of the screen, and save the parameters to EEPROM.





4. Common faults

After the drive fails, the drive will be offline and display the corresponding fault code, please check

Troubleshooting table. After a fault occurs, the drive needs to be powered on again so that the drive can operate normally.

If the motor is running abnormally, please refer to the table below. If the problem cannot be solved, please write down the alarm code and contact our company's technical department.

Technical support!

Phenomenon	Possible Causes	solution
Motor does not rotate	The drive is not powered properly	Check whether the power supply is normal
	The driver cannot receive control signals	Check control signal lines
	Drive not enabled	The enable signal is high or not connected
Alarm code Err_00	Power supply voltage too high	Check supply voltage
Alarm code Err_01	Power supply voltage too low	Check supply voltage
Alarm code Err_02	Overcurrent protection	The motor or driver is damaged or The motor wire is short-circuited, check the motor and driver
Alarm code Err_03	Motor out of step	The motor wires are connected incorrectly and the encoder wires are connected incorrectly. Check the line and restart
	The acceleration time is too short and the motor loses synchronization.	Extend acceleration time
	The power supply voltage is too low and the power is insufficient	Increase supply voltage
Motor steering error	Orientation setting error	Change orientation settings
The location is not correct	Segmentation error	Set up the correct segmentation
	Control signal is interfered with	eliminate interference



5. Appearance and installation dimensions (unit: mm)

Be careful to leave more than 10CM of space to facilitate heat dissipation. When installing, it should be tightly attached to the metal cabinet to

Conducive to heat dissipation.

