

SF series three-phase ac permanent magnetism synchronous servo motor

Use and Maintenance Instructions

Xianfeng Motor

Motor pioneer

Wuxi Xianfeng Electric Manufacturing Co., Ltd.

1. General

SF series sine ac permanent magnetism servo motors adopt super high intrinsic coercive force rare-earth permanent magnetic material, and it has high demagnetization resistant ability. The motor has an aluminum casing and a forced ventilation fan, and it has the advantages of compact structure, high power density, small rotor inertia, quick reacting speed and so on. The motor has a high-precision encoder element which was matched with relevant servo driving device to compose the spindle servo driving system. The low speed torque has small pulsation, and the high speed operation is stable.

2. Model Explanations

SF 18 35 - 10

SF: SF series ac permanent magnetism servo motor

18: The flange outer diameter of the motor installation (marked digital $\times 10$, mm)

35: The motor rated torque (N \cdot m)

10: The motor rated speed (marked digital $\times 100$, rpm)

3. Reception check

- . You should check this SF series motor when you receive and open it.
- . Check if there were damages during the transportation, rotate the motor spindle by hand and it should be freely rotated (because a oil seal was assembled on the motor shaft extension end, it is normal that there will be a little retardation when you rotate it).
- . Besides the motor and this operating instructions, check whether other accessories you ordered are complete.
- . Check whether the motor nameplate is in accordance with the products you ordered.

4. Handling and storage

- . This product must be handled with care to prevent collision.
- . Do not hit the motor spindle, avoid to damage the bearing and encoder.
- . Do not forced pulling the motor outgoing lines, so as to avoid the motor operation fault.
- . The motor storage temperature is -15°C to 40°C , the relevant humidity should be no more than 85%.
- . When the motor junction box cover was open, do not drizzle any liquids in it.

5. Operating Environment

- . The motor should be installed indoors with good ventilation and with out direct sun light.
- . No corrosive and combustibile gas.
- . The ambient temperature is 0 °C to 40°C.
- . The relevant humidity is 20% to 80% (no condensation)
- . Altitude above sea level shall not exceed 1000M.

6. Safety and Matters Need Attention

. Check the motor with tramegger before use, the motor three phase Leading wire to motor casing insulation resistance should be no less than 5MΩ.

. The motor spindle center should be in accordance with the mechanical equipment center when being assembled, or else it may cause vibrations and noises, even cause the motor damages when it is serious.

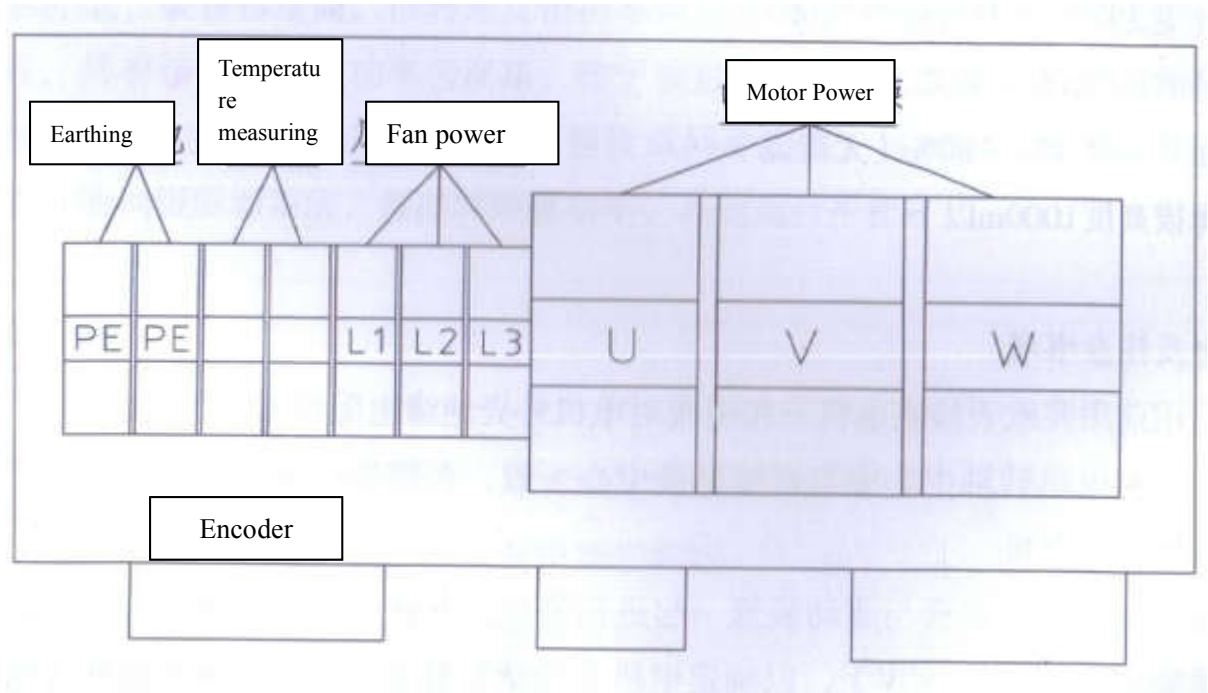
. The motor should be tested with no load together with the driving device before operating, and connect the fan power (the motor and fan power rated voltage is three phase 380V) to confirm whether the motor and driving device is good. The fan rotating direction should be in accordance with the arrow mark on the end.

7. Use and Maintenance

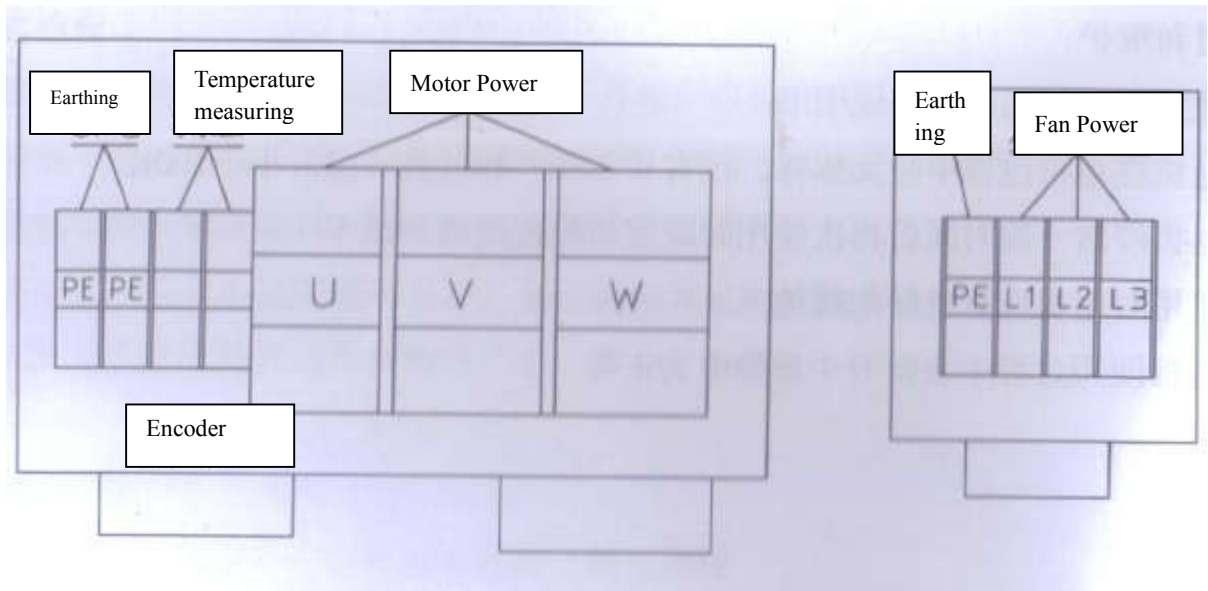
- . Read this instruction carefully before use.
- . There should be no burnt flavor, abnormal noises and overheat (temperature rise less than 100K) during the motor operating.
- . When the motor was put into use after being stalled in a period of time, you should re-check the insulation and test run before you reuse it.
- . The motor should have good earthing during the use.
- . It is normal that there were statics on the motor surface during operating.

8. Connecting Terminal Configuration

The following is the motor wiring diagram of SF180 series



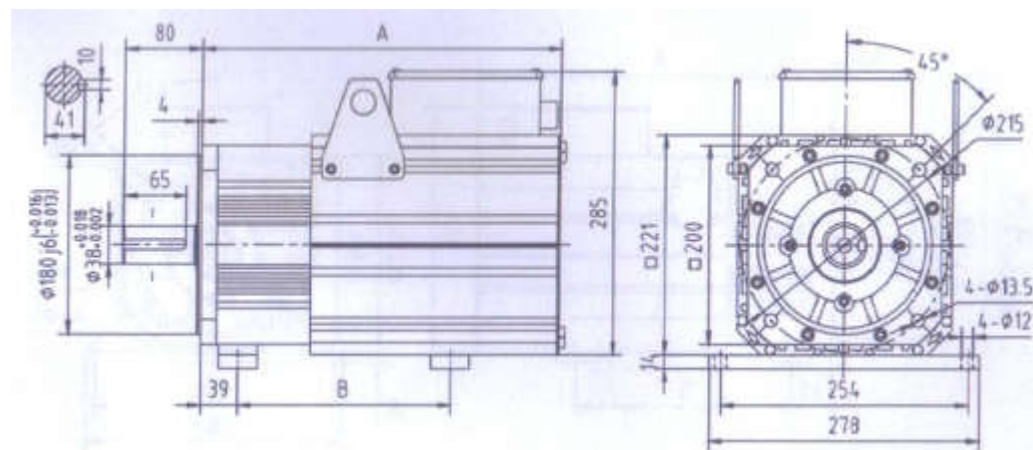
The following is the motor wiring diagram of SF250 series



Parameter list of SF180 series three-phase ac permanent magnetism synchronous servo motor

Motor Model	Rated Torque N·m	Rated Power kW	Rated Current A	Rated Speed r/min	Rated Frequency Hz	rotational inertia $g \cdot m^2$	Motor poles 2p	Ke Vs	Winding resistance Ohm	Weight kg	Dimension	
											A	B
电机型号	额定转矩 N·m	额定功率 kW	额定电流 A	额定转速 r/min	额定频率 Hz	转动惯量 $g \cdot m^2$	电机极数 2p	Ke Vs	绕组电阻 Ohm	重量 kg	外形尺寸	
											A	B
SF1835-10	35	3.7	7.4	1000	66.7	5.2	8	3.23	4.25	34	344	145
SF1835-20		7.3	14.9	2000	133.3		8	1.66	1.11			
SF1835-30		11	22.3	3000	200		8	1.07	0.47			
SF1853-10	53	5.6	11.2	1000	66.7	7.6	8	3.21	2.29	40	380	180
SF1853-20		11.1	22.5	2000	133.3		8	1.60	0.58			
SF1853-30		16.7	33.8	3000	200		8	1.09	0.27			
SF1870-10	70	7.3	14.9	1000	66.7	9.7	8	3.29	1.65	46	416	215
SF1870-20		14.7	29.8	2000	133.3		8	1.64	0.42			
SF1870-30		22	44.7	3000	200		8	1.07	0.18			
SF1888-10	88	9.2	18.7	1000	66.7	11	8	3.39	1.30	53	452	250
SF1888-20		18.4	37.4	2000	133.3		8	1.69	0.33			
SF1888-30		27.6	56.2	3000	200		8	1.09	0.14			
SF18105-10	105	11	22.3	1000	66.7	13	8	3.24	0.92	59	488	290
SF18105-20		22	44.7	2000	133.3		8	1.60	0.23			
SF18105-30		33	67.1	3000	200		8	1.14	0.12			
SF18132-10	123	12.9	26.2	1000	66.7	15	8	3.22	0.78	66	524	325
SF18132-20		25.8	52.4	2000	133.3		8	1.69	0.22			
SF18132-30		38.6	78.6	3000	200		8	1.10	0.10			
SF18140-10	140	14.7	29.8	1000	66.7	17	8	3.10	0.62	72	560	360
SF18140-20		29.3	59.6	2000	133.3		8	1.55	0.16			
SF18140-30		44	89.4	3000	200		8	1.07	0.08			

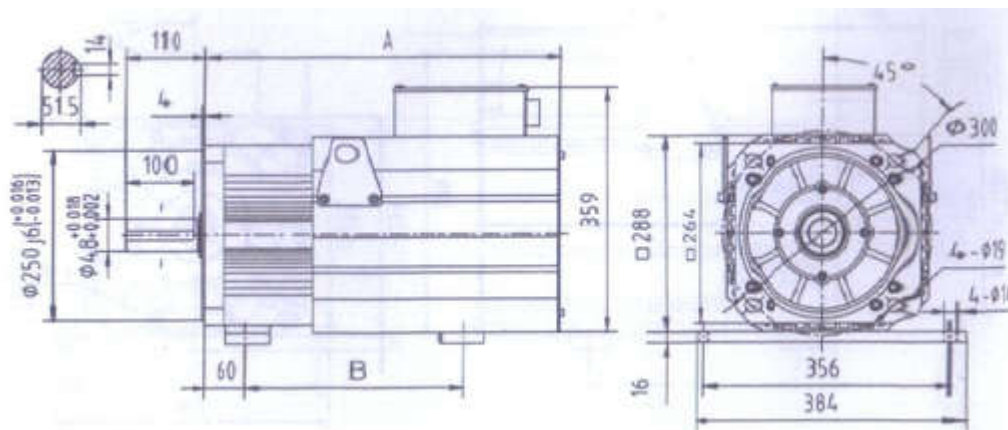
SF180 series motor dimensional drawing (the flange installation is standard configuration, the foot installation should be custom made) unit: mm



Parameter list of SF250 series three-phase ac permanent magnetism synchronous servo motor

Motor Model	Rated Torque N·m	Rated Power kW	Rated Current A	Rated Speed r/min	Rated Frequency Hz	rotational inertia $g \cdot m^2$	Motor poles 2p	Ke Vs	Winding resistance Ohm	Weight kg	Dimension	
											A	B
SF25104-10	104	10.9	22	1000	66.7	20	8	3.18	0.935	80	428	180
SF25104-20		21.8	44	2000	133.3		8	1.57	0.234			
SF25104-30		32.7	66	3000	200		8	1.10	0.114			
SF25156-10	156	16.3	33	1000	66.7	27	8	3.05	0.476	92	468	220
SF25156-20		32.7	66	2000	133.3		8	1.64	0.139			
SF25156-30		49	99	3000	200		8	1.05	0.057			
SF25208-10	208	21.8	44	1000	66.7	35	8	3.12	0.331	104	508	260
SF25208-20		43.6	88	2000	133.3		8	1.64	0.085			
SF25208-30		65.4	133	3000	200		8	1.09	0.040			
SF25260-10	260	27.2	55	1000	66.7	42	8	3.12	0.242	116	548	300
SF25260-20		54.5	111	2000	133.3		8	1.56	0.061			
SF25260-30		81.7	166	3000	200		8	1.07	0.029			
SF25312-10	312	32.7	66	1000	66.7	50	8	3.27	0.210	128	588	340
SF25312-20		65.4	133	2000	133.3		8	1.63	0.052			
SF25312-30		98	199	3000	200		8	1.05	0.021			
SF25364-10	364	38.1	77	1000	66.7	57	8	3.26	0.175	140	628	380
SF25364-20		76.2	155	2000	133.3		8	1.63	0.043			
SF25364-30		114.4	232	3000	200		8	1.09	0.019			
SF25416-10	416	43.4	88	1000	66.7	65	8	3.11	0.135	152	668	420
SF25416-20		87.1	177	2000	133.3		8	1.56	0.033			
SF25416-30		130.7	265	3000	200		8	1.09	0.016			

SF250 series motor dimensional drawing (the flange installation is standard configuration, the foot installation should be custom made) unit: mm



Appendix

Motor rotating is not stable	<ul style="list-style-type: none">• Check whether the three phase power line is well connected• Whether the voltage deviation is within the range of $\pm 10\%$• Check whether the encoder line is well connected and whether there is break line
Abnormal noises in the motor	<ul style="list-style-type: none">• Check whether the motor axis center is in accordance with the mechanical equipment center• Check whether all the mechanical parts are tightly connected• Check whether there are foreign matters which may interfere with the mechanical rotating parts• Check whether the bearing has abnormal noises or if it is overheat (temperature less than 95°C).
Motor overheat	<ul style="list-style-type: none">• Check whether the ambient temperature is too high and whether it is well-ventilated.• Check whether the fan rotation is good and whether you can feel obvious air flowing when you put your hand on the motor front shoulder (do not touch the motor to avoid scald).• Check whether the loads are higher than the rated value.• Check whether there were too much dusts and foulings

Wuxi Xianfeng Electric Manufacturing Co., Ltd.

Address: Luoshe Town, Huishan District, Wuxi, Jiangsu.

Tel: 0510-83311008 83311074

Fax: 0510-83311007 83310535

Post code: 214187

Email: web@shengling88.com

Http: www.shengling88.com

Internet Keyword: Xianfeng Motor