

新平台 SV-X2/X6 系列 130&180 法兰 伺服电机安装使用说明书

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感谢您选用本产品，本说明书适用于新平台 SV-X2/X6 系列 130&180 法兰伺服电机，主要内容包括安全注意事项、产品型号说明、安装说明及规格参数。
为确保设备安全、可靠运行，请在使用前仔细阅读本说明书，并妥善保管以备查阅。

开箱时请确认

确认包装物件及数量是否正确，包装清单如下：

序号	名称	数量
1	伺服电机	1
2	配件	1

* 请确认物件在运输途中是否有损伤，如果发现问题，请联系经销商。

安全注意事项

在接收检验、安装、配线、操作、维护及检查时，应随时注意以下安全注意事项。

■ 对错误的使用本产品而可能带来的危害和损害的程度 按下列表示加以区分和说明。

	危险	该标志表示「可能会发生导致死亡或重伤事故的危險」的内容
	注意	该标志表示「可能会导致伤害或财产损失事故发生」的内容

■ 对应当遵守的事项用以下的图形标志进行说明。

	该图形表示禁止实施的「禁止」事项内容
	该图形表示必须实施的「强制」内容

危险 关于安装和配线		
	切勿将电机直接连接到商用电源。	否则，会引发火灾、故障。
	请勿在电机、驱动器的周围放置可燃物。	否则，会引发火灾事故。
	驱动器必须要用外箱保护。设置保护外箱时，外箱壁、其他机器和驱动器之间要保持使用说明书规定的距离。	否则，会引发触电、火灾、故障。
	应安装在尘埃较少、不会接触到水、油等的地方。	否则，会引发触电、火灾、故障、破损。
	电机、驱动器安装在金属等非可燃物上。	否则，会引发火灾事故。
	务必由专业电工进行接线作业。	否则，会引发触电。
	电机、驱动器的 FG 端子必须接地。	否则，会引发触电。
	必须先切断上位断路器，进行正确的接线。	否则，可能会引发触电、受伤、故障、破损。
	电缆确保连接好，通电部位须用绝缘物切实地做到绝缘。	否则，会引发触电、火灾、故障。
关于操作和运行		
	请勿触摸驱动器内部。	否则，会引发烧伤、触电事故。
	请勿让电缆线受到损伤、承受过大的外力、重压、受夹。	否则，会引发触电、故障、破损。
	切勿接触运转中的电机旋转部。	否则，会引发触电、故障、破损。
	请勿在有水的地方、存在腐蚀性、易燃性气体的环境和靠近可燃物的场所使用。	否则，会引发火灾。
	请勿在有激烈振动、冲击的地方使用。	否则，会引发触电、受伤、火灾事故。
	请勿将电缆线浸在油和水中使用。	否则，会引发触电、受伤、火灾事故。
	请勿用湿手进行接线和操作。	否则，会引发触电、受伤、火灾事故。
	使用轴端带键槽的电机时，请勿裸手接触键槽。	否则，会引发受伤事故。
	电机、驱动器、散热器的温度会升高，请勿触摸。	否则，会引发烧伤或部件损伤事故。
	请勿用外部动力驱动电机。	否则，会引发火灾事故。
关于其它使用上的注意事项		
	在地震发生后务必进行相关安全确认。	否则，会引发触电、受伤、火灾事故。
	为防止发生地震时造成火灾及人身事故，应切实地进行设置、安装。	否则，会引发受伤、触电、火灾、故障、破损。
	务必在外部设置紧急停止电路，以确保紧急时可以及时地停止运转、切断电源。	否则，引发受伤、触电、火灾、故障、破损。
关于维护和点检		
	驱动器有危险高压部分，进行配线和点检工作时，必须切断电源放置使其放电后(5 分钟以上)进行。并且，绝对不允许对其进行分解。	会引发触电事故。

注意 关于安装和接线		
	电机和驱动器要按指定的匹配组合。	否则，会引发火灾、故障。
	不可直接触碰连接器端子。	否则，会引发触电、故障。
	注意通风口不可堵塞，或异物进入。	否则，会引发触电、火灾。
	试运转须在电机固定，并与其它机械系统分离状态下实施。动作确认后，再安装到机械系统上。	否则，会引发受伤事故。
	遵守指定的安装方法、安装方向。	否则，会引发受伤、故障。
	请根据设备本身的重量和产品的额定输出进行妥当安装。	否则，会引发受伤、故障。
关于操作和运转		
	请勿站在产品上、或在产品上放置重物。	否则，会引发触电、受伤、故障、破损。
	禁止极端的增益调整及变更，会导致运作不稳定。	否则，会引发故障、破损。
	停电后恢复供电时，有可能出现突然启动的情况，故请勿靠近机器，务必做好机器设定，以确保即使重启也可确保人身安全。	否则，会引发受伤事故。
	请勿在受日光直接照射的地方使用。	否则，会引发故障。
	请勿使电机及电机轴部受到较强的冲击。	否则，会引发故障。
	电机内置制动器是保持用制动，禁止用在通常的制动。	否则，会引发受伤、故障。
	不要使用有故障、破损的电机和驱动器。	否则，会引发触电、火灾、受伤。
	请确认电源规格是否正常。	引发故障发生原因。
	保持制动器不是确保机械安全的停止装置。请在机械侧设置确保安全用的停止装置。	否则，会引发受伤事故。
	报警时，排除故障原因，确保安全后，解除报警，重启。	否则，会引发受伤事故。
	制动器用继电器与紧急停止用断路器继电器需串联。	否则，会引发受伤、故障。
关于搬运和保管		
	不能保存在雨水及水滴溅到的场所、有毒性气体及液体的地方。	否则，会引发故障的。
	搬运时，切勿抓持电缆或电机轴部。	否则，会引发受伤、故障。
	进行搬运时或安装作业时要以防落下或翻倒。	否则，会引发受伤、故障。

	需长期保存时，请按本说明书记载的联系方法进行咨询。	引发故障的原因。
	请保管在符合本说明书中规定保管环境的保管场所。	否则，会引发故障。
关于其他使用上的注意事项		
	废弃电池时，请将电池用胶带等进行绝缘处理，并根据有关部门的规定废弃处理。	
	废弃时请作为工业废弃物处理。	
关于维护和点检		
	除本公司外请勿进行拆卸修理工作。	否则，会引发故障。
	主回路电源开关不要频繁的打开和关闭。	否则，会引发故障。
	通电中或切断电源后的一定时间内，电机、驱动器的散热器及再生电阻器等可能会处于高温状态，切勿触摸。	否则，会烧伤或触电。
	驱动器发生故障时，请切断控制电源和主回路电源。	否则，会引发火灾事故。
	长时间不使用时务必切断主电源。	因误动作等引发受伤事故。
关于维护和点检		
< 保证期间 >		
• 产品的保证期间为本公司制造月起 18 个月。但是，对应带制动器的电机，轴的加速、减速次数不超出寿命。		
< 保证内容 >		
• 按照本说明书的正常使用状态下，在保证期间内，发生故障时为无偿修理。但是，即使在保证期间内有如下的故障发生时为有偿修理。		
① 错误的使用方法，以及不适当的修理以及改造时。		
② 购买之后的掉落，以及在运输过程中受到损伤的原因时。		
③ 超出产品规格使用该产品的原因时。		
④ 火灾、地震、雷害、风灾与火灾、盐害、电压异常等其他天灾的原因时。		
⑤ 火灾、地震、雷害、风灾与火灾、盐害、电压异常等其他天灾的原因时。		
⑥ 水、油、金属屑、其他异物侵入的原因时。		
• 保证范围为交付品本体，如由交付品的故障诱发的损害，判定为补偿范围外。		

第一章 产品型号及安装说明

铭牌说明

机型名称	MODEL: SV-X6MG550A-N4CF-A10			
序列号、版本号	S/N: 5152600181 P/N: 100M2651920000000000			
电机规格	P: 5.5KW	n MAX: 4500rpm		
	Mn: 35.02Nm	In: 19.9A	n N: 1500rpm	
	V: AC380-400V	IP67	Ambient: 40	Ins. class: F
	  			
	MADE IN CHINA			

机型识别

SV - X2 MG 085 A - N 2 C A - A00
1 2 3 4 5 6 7 8 9 10

1	2	3	4	5	6	7	8	9	10
SV	禾川伺服电机								
2	X2	X2系列							
X6	X6系列								
3	MA	中/小容量高速度-低惯量							
MH	小容量高速度-高惯量								
MG	中容量大扭矩-高惯量								
4	电机功率	3位数字*							
085	130								
180	290								
300	400								
440	500								
550	750								

* 注：3 位数字 × 10 代表电机实际功率
以 085 为例：085 × 10 = 850W

安装说明

动力线缆		
引脚	说明	备注
U、V、W	三相动力线	-
FG	接地线	-
BRK1、BRK2	制动控制线	无制动器可不接

编码器线缆		
引脚	说明	备注
VCC、GND	电源线	GND已与BAT-短接
FG	接地线	-
+DO、-DO	通信线	-
BATT、BAT-	电池线	绝对值编码器需接电池，BAT-已与GND短接

130法兰电机固定螺丝（推荐）		
电机型号	固定孔径	推荐螺丝
X2MG085A	4-Φ9	4-M8
X2MG130A		
X2MG180A		
X6MG085A		
X6MG130A		
X6MG180A		
X6MA300A		
X6MA400A		
X6MA500A		

动力线缆		
引脚	说明	备注
U、V、W	三相动力线	-
FG	接地线	-
BRK1、BRK2	制动控制线	无制动器可不接

编码器线缆		
引脚	说明	备注
VCC、GND	电源线	GND已与BAT-短接
FG	接地线	-
+DO、-DO	通信线	-
BATT、BAT-	电池线	绝对值编码器需接电池，BAT-已与GND短接

130法兰电机固定螺丝（推荐）		
电机型号	固定孔径	推荐螺丝
X2MG290A	4-Φ13.5	4-M12
X2MG440A		
X2MG550A		
X2MG750A		
X6MG290A		
X6MG440A		
X6MA550A		
X6MA750A		

第二章 产品规格												
X2系列电机												
项目		单位	规格									
电压		V	220V				380V					
电机型号			X2MG085A	X2MG130A	X2MG180A	X2MG085A	X2MG130A	X2MG180A	X2MG290A	X2MG440A	X2MG550A	X2MG750A
安装法兰盘尺寸		mm	□130			□130			□180			
重量	无制动器	kg	6.04	7.42	8.84	6.06	7.49	8.77	15.04	19.55	23.43	32.26
	有制动器		7.64	9.02	10.43	7.16	9.08	10.4	18.35	22.86	26.74	35.61
基本规格	额定输出功率	W	850	1300	1800	850	1300	1800	2900	4400	5500	7500
	额定转矩	N·m	5.41	8.28	11.46	5.41	8.28	11.46	18.46	28.01	35.02	47.75
	瞬时最大转矩	N·m	16.23	24.84	34.38	16.23	24.84	34.38	46.15	70.03	87.55	119.38
	额定电流	Arms	6.1	9	11.9	3.4	4.7	6.5	11.4	15.4	18	23.5
	最大瞬时电流	Arms	20.4	30.1	39	11.3	15.6	21.7	30.8	42.6	50.3	64.5
	额定转速	r/min	1500									
	最高转速	r/min	4500									
	转矩常数	N·m/A	0.89	0.92	0.96	1.59	1.76	1.62	1.82	1.95	2.03	
	每相感应电压常数	mV/(r/min)	35.2	37	38.2	62.6	69.8	61.2	67.55	71.01	72.75	
	额定功率	kW/s	21.38	35.13	51.71	21.38	35.13	51.71	72.93	114.39	133.12	167.1
	变化率		有制动器	18.65	31.57	47.58	18.65	31.57	47.58	64.03	104.49	124.37
	机械时间常数	ms	3.14	2.55	2.47	3.16	2.54	2.41	1.17	0.98	0.9	0.8
	数		有制动器	3.6	2.83	2.68	3.62	2.82	2.62	1.33	1.08	0.96
	电气时间常数	ms	10.32	11.95	12.1	10.3	11.88	12.09	22.44	24.43	25.32	30.33
转子惯量	无制动器	x10 ⁻⁴ kg·m ²	13.5	19.5	25.4	13.5	19.5	25.4	46.74	68.6	92.11	136.45
	有制动器		15.7	21.7	27.6	15.7	21.7	27.6	53.24	75.1	98.59	142.94
容许负载	径向负载	N	≤686						≤1470		≤1764	
	轴向负载		≤196						≤490		≤588	
编码器			20bit						20bit/23bit			
适配驱动			100A-S	150A-S	200A-S	100T	150T	200T	300T-S	500T-S	600T-S	750T-S
制动器规格	用途	-	保持制动									
	电源	-	SELV（安全特低电压）供电，与危险电压间采用强化绝缘									
	额定电压	V	DC24±10%									
	额定电流	A	0.89						1.45			
	静摩擦转矩	N·m	>14						≥55		≥65	
	吸合时间	ms	<100						<160			
	释放时间	ms										
	释放电压	ms	0.5~10									

X6系列电机																	
项目		单位	规格														
电压		V	220V				380V										
电机型号			X6MG085A	X6MG130A	X6MG180A	X6MG085A	X6MG130A	X6MG180A	X6MA300A	X6MA400A	X6MA500A	X6MG290A	X6MG440A	X6MG550A	X6MG750A		
安装法兰盘尺寸		mm	□130				□130				□180						
重量	无制动器	kg	6.07	7.45	9.04	6.09	7.5	8.8	10	17	13.53	14.84	19.35	23.23	32.06		
	有制动器		7.66	9.05	10.64	7.69	9.1	10.4	12.53	11	18	18.15	22.66	26.54	35.41		
额定输出功率		W	850	1300	1800	850	1300	1800	3000	4000	5000	2900	4400	5500	7500		
额定转矩		N·m	5.41	8.28	11.46	5.41	8.28	11.46	9.55	12.73	15.92	18.46	28.01	35.02	47.75		
瞬时最大转矩		N·m	16.23	24.84	34.38	16.23	24.84	34.38	28.65	38.19	47.76	46.15	70.02	87.55	119.37		
额定电流		Arms	6.1	9	12	3.4	4.7	6.6	9.2	12.4	13.8	11.8	16.2	19.9	24.5		
最大瞬时电流		Arms	19.1	28.4	37.9	10.6	14.8	20.8	31	42	45	31.5	43.2	53.2	64.8		
额定转速		r/min	1500				3000				1500						
最高转速		r/min	4500				6000				4500						
转矩常数		N·m/A	0.89	0.92	0.96	1.59	1.76	1.74	1.04	1.03	1.15	1.56	1.73	1.76	1.95		
每相感应电压常数		mV/(r/min)	34.5	36.3	37.6	61.5	68.6	67.8	42.73	39.26	47.52	57.74	64.09	65.24	68.13		
额定功率变化率	无制动器	kW/s	21.38	36.05	53.6	21.38	36.05	53.6	157.25	207.87	234.57	77.13	120.8	140.34	167.2		
	有制动器		18.42	32.31	49.19	18.42	32.31	49.19	114	162.14	194.88	67.24	109.82	130.65	159.61		
机械时间常数	无制动器	ms	3.2	2.53	2.44	3.21	2.52	2.41	0.32	0.29	0.3	1.21	1.03	1.02	0.89		
	有制动器		3.72	2.82	2.66	3.73	2.81	2.63	0.45	0.37	0.36	1.39	1.14	1.1	0.93		
电气时间常数		ms	7.58	8.57	9.03	7.44	8.59	8.86	22.33	23.85	23.08	17.67	19.02	19.31	22		
转子惯量	无制动器	x10 ⁻⁴ kg·m ²	13.7	19	24.5	13.7	19	24.5	5.8	7.8	10.8	44.2	64.96	87.37	136.37		
	有制动器		15.9	21.2	26.7	15.9	21.2	26.7	8	10	13	50.7	71.46	93.85	142.85		
容许负载	径向负载	N	≤686						≤1176			≤1470			≤1764		
	轴向负载		≤196						≤392			≤490			≤588		
编码器			25bit						25bit			20bit/25bit					
适配驱动			100A-S	150A-S	200A-S	100T	150T	200T	3kW-Y7S	5kW-Y7S		300T-S	500T-S	600T-S	750T-S		
制动器规格	用途	-	保持制动														
	电源	-	SELV（安全特低电压）供电，与危险电压间采用强化绝缘														
	额定电压	V	DC24±10%														
	额定电流	A	0.89								1.1		1.45				
	静摩擦转矩	N·m	>14								≥20		≥55			≥65	
	吸合时间	ms	<100								<160						
	释放时间	ms	<60														
释放电压	ms	0.5~10															

环境规格及注意事项

环境规格		
环境规格	项目	规格
	额定时间	连续
	使用环境温度	0~40° C
	使用环境湿度	20 ~ 85%RH（无结露）
	保存环境温度	-20 ~ 65°C
	保存环境湿度	20 ~ 85%RH（无结露）
	使用保存环境	室内（不接触直射阳光）、无腐蚀性气体・无易燃性气体・无油性物・无灰尘
	耐热等级	Class B
	绝缘电阻	DC1000V / ≥ 5MΩ
	绝缘耐压	AC1500V / 1min
	使用海拔	≤ 1000m
	振动等级	V15 (JEC2121)
	耐振动	49m/s² (5G)
	耐冲击	98m/s² (10G)
	保护构造	IP67
注意事项		・ 按照规定接地。适用 Class I ・ 适用过电压范围II「Overvoltage category II」 ・ 适用污染度 2「Pollution degree 2」 ・ 额定扭矩是指安装在按电机法兰盘尺寸的约 2 倍大小的 L 型钢上的条件下所显示的值得 ・ 制动器连接线分极性。红导线：与 +24V 连接；黑导线：与 GND 连接。



Installation and Wiring Instructions for New Platform SV-X2/X6 Series Servo Motor (130&180 flange)

Number : -
Version : V 1.0
Date : 2026.07.30

http://www.hcfa.cn



Thank you for choosing this product. This manual is applicable to the new platform SV-X2/X6 series 130&180 flange servo motors. The main contents include safety precautions, product model description, installation instructions, and specifications.

To ensure safe and reliable operation of the equipment, please read this manual carefully before use and keep it properly for future reference.

Item List

Please confirm the following items and their quantities when unpacking:		
No.	Item	Quantity
1	Servo motor	1
2	Accessories	1

*Please confirm that there is no damage to those items during transportation. For any damages, please contact HCFA.

Safety Precautions

Please always pay attention to the following safety precautions during acceptance, inspection, installation, wiring, operation, and maintenance.

The safety instruction levels, which may be caused by the incorrect use of this product, are classified and described in the following table.

	Indicates that incorrect handling may result in death or severe injury.
	Indicates that incorrect handling may result in injury or property damage.

What must not be done and what must be done are indicated by the following diagrammatic symbols.

	Indicates what must not be done.
	Indicates what must be done.

DANGER		
Installation and Wiring		
	Do not connect the motor directly to a commercial power. Do not place any combustibles near the servo motor and drive.	Otherwise, it may cause fire or malfunction. Otherwise, it may cause a fire.
	Please place the drive within a protective case, and leave specified clearances between the drive and control enclosure walls or other equipments. Please install the drive in a place that frees from excessive dust, water, and oil.	Otherwise, it may cause an electric shock, fire, malfunction, or damage.
	Please install a motor or a drive to incombustible, such as metal. The wiring must be done by a professional electrician. The FG terminal of the motor or the drive must be grounded.	Otherwise, it may cause a fire. Otherwise, it may cause an electric shock.
	Please cut off the upper circuit breaker before wiring.	Otherwise, it may cause an electric shock, injury, malfunction, or damage.
	Please ensure a good connection of the cable with its electrified part being well insulated.	Otherwise, it may cause an electric shock, fire, or malfunction.

Operation and Running		
	Do not touch the internal parts of the drive. The cables must not be excessively damaged, stressed, loaded, or pinched. Do not touch the rotating parts of the servo motor during operation. Do not use the drive in any place near water, corrosive or flammable gases, and flammables.	Otherwise, it may cause burns or an electric shock. Otherwise, it may cause an electric shock, malfunction, or damage. Otherwise, it may cause injury.
	Do not subject the drive to any extreme vibration and impact. Do not immerse the cables in oil or water during operation.	Otherwise, it may cause a fire. Otherwise, it may cause an electric shock, injury, or fire.
	Do not conduct wiring or perform operations with wet hands. Do not touch the keyway with bare hands when using a motor with a keyway at the shaft end. Do not touch the motor, driver, or heat sink as their temperatures may rise. Do not use external force to drive the motor.	Otherwise, it may cause an electric shock, injury, or fire. Otherwise, it may cause injury. Otherwise, it may cause fire or damage.

Other Safety Precautions		
	Please ensure equipment safety after earthquakes. Ensure a correct installation and setting to prevent fire or personal injury during earthquakes. Please provide an external emergency stop circuit to ensure that operation can be stopped and power switched off immediately.	Otherwise, it may cause an electric shock, injury, or fire. Otherwise, it may cause injury, electric shock, fire, malfunction, or damage. Otherwise, it may cause injury, electric shock, fire, malfunction, or damage.

Maintenance and Inspection		
	As there's dangerous and high-voltage inside the drive, before wiring or inspection, turn off the power and wait for 5 minutes or more until the charge lamp turns off. Do not disassemble the drive.	Otherwise, it may cause an electric shock.

CAUTION		
Installation and Wiring		
	Please install the servo motor and drive following the combinations specified in the instructions. Do not touch the connector terminals directly.	Otherwise, it may cause fire or malfunction. Otherwise, it may cause an electric shock or malfunction.
	Do not block the air intake or let any foreign materials enter into the equipment. The test operation must be done with the motor being fixed but separated from the mechanical system. Only after confirming the operation can the motor be installed to the mechanical system.	Otherwise, it may cause an electric shock or fire. Otherwise, it may cause injury.
	The servo motor must be installed following the specified directions and methods. Ensure a proper installation in accordance with the weight and rated output of the equipment.	Otherwise, it may cause injury and malfunction. Otherwise, it may cause injury and malfunction.

Operation and Running		
	Do not stand or put any heavy objects on the equipment. Do not make extreme gain adjustments or changes, which will result in unstable running. When power is restored after an instantaneous power outage, keep away from the machine because it may be restarted suddenly. Set the machine so that it is secured against personal injury if restarted. Keep it away from the direct sunlight. Do not subject the motor and its axis to heavy impact.	Otherwise, it may cause an electric shock, injury, malfunction, or damage. Otherwise, it may cause malfunction. Otherwise, it may cause malfunction.
	The electromagnetic brake on the motor is designed to hold its shaft and should not be used for ordinary braking. Do not use any malfunctioning or damaged motor or drive. Please confirm that the power supply specification is normal. Holding brake is not a safety stopper used for ensuring machine safety. To ensure safety, install a stopper on the machine side. When any alarm has occurred, eliminate its cause, ensure safety, and deactivate the alarm before restarting operation. The brake relay and the emergency stop relay must be connected in series.	Otherwise, it may cause injury and malfunction. Otherwise, it may cause an electronic shock, fire, or injury. Otherwise, it may cause malfunction. Otherwise, it may cause injury. Otherwise, it may cause injury.
Transportation and Storage		
	Do not subject the equipment to rain, droplets, toxic gas, or fluid. Do not carry the motor by the cables or shaft during transportation.	Otherwise, it may cause malfunction. Otherwise, it may cause injury and malfunction.
	Do not drop or overturn the product during transportation and installation. For long-term storage, please contact HCFA via the contact information listed in the instructions. Please store the product in the places following the environmental conditions specified in these instructions.	Otherwise, it may cause injury and malfunction. Otherwise, it may cause malfunction. Otherwise, it may cause malfunction.
Other Safety Precautions		
	Please insulate the battery with adhesive tape and dispose of it following the law of each country (area). When disposing of the equipment, treat it as an industrial waste.	
Maintenance and Inspection		
	Please contact HCFA for further instructions on removal, installation, and repair. Do not turn on and off the main circuit power switch too frequently. Do not touch the heat sink and regenerative resistor of the motor and drive because their temperatures may be high while power is on or for some time after power-off.	Otherwise, it may cause malfunction. Otherwise, it may cause malfunction. Otherwise, it may cause burns or electric shock.
	When the drive becomes faulty, switch off the control circuit and main power. If the equipment is to be stored for a long time, please switch off the main circuit power.	Otherwise, it may cause a fire. Otherwise, it may lead to injury caused by the malfunction of the equipment.
Maintenance and Inspection		
< Warranty Period > The term of warranty for the product is eighteen (18) months from the date of manufacture. However, for the motor with a brake, the warranty period does not exceed the maximum period that the shaft can accelerate or decelerate.		
< Warranty Coverage > - This warranty applies only when the condition, method, environment, etc. of use are in compliance with the terms and conditions and instructions that are stated in the instructions. However, even during the warranty period, the repair cost will be charged to customers in the following cases: ① A failure caused by improper storing or handling, repair, and modification. ② A failure caused by drops or damages during transportation. ③ A failure caused by using without following the product specifications. ④ A failure caused by external factors such as inevitable accidents, including without limitation fire, earthquake, thunder and lightning, flooding and wind hazard, salty damage, and abnormal fluctuation of voltage. ⑤ A failure caused by the intrusion of water, oil, metals, and other foreign objects. - The warranty coverage is only for the product itself. HCFA bears no joint responsibility and makes no compensation for any further damages caused by product malfunction.		

Chapter 1 Product Model and Installation Instructions

Nameplate Description

Model name	MODEL: SV-X6MG550A-N4CF-A10
Serial Number & version number	S/N: 51526001181 P/N: 100M2651920000000000 P: 5.5KW n MAX: 4500rpm Mn: 35.02Nm In: 19.9A n N: 1500rpm V: AC380-480V IP67 Ambient:40 Ins.class:F
Power specifications	

Serial number&Version number

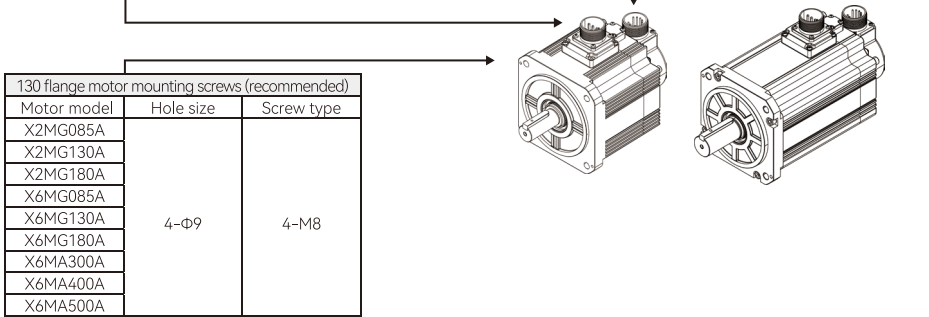
SV - X2 MG 085 A - N 2 C A - A00
1 2 3 4 5 6 7 8 9 10

1		5			8		
SV	HCFA servo motor	Design number	Standard	Other	Cable harness/ Oil seal	With oil seal	Without oil seal
2		6			9		
X2	X2 series	Without brake	With keyway	Without keyway	Without cable harness	C	D
X6	X6 series	Without brake	N		With cable harness	L	K
3		7			10		
MA	Medium/small capacity, high speed, low inertia	Without brake	B		Encoder	With battery	
MH	Small capacity, high speed, high inertia	Voltage class	AC	DC	20-bit multiturn	A	
MG	Medium capacity, high torque, high inertia	220V	2		23-bit multiturn	D	
		380V	4		25-bit multiturn	F	
		48V		6			
4		10			Motor version		
Motor power	3-digit number *				A00		
085	130				A10		
180	290						
300	400						
440	500						
550	750						

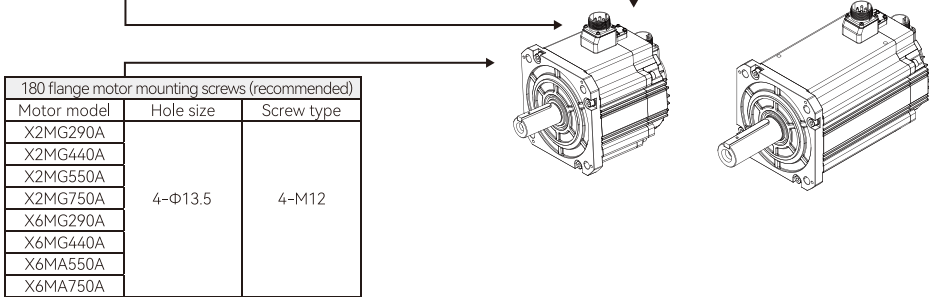
*Note: The 3-digit number multiplied by 10 represents the actual motor power
Take 085 as an example: 085 × 10 = 850W

Installation Instructions

Power cable			Encoder cable		
Pin	Description	Remarks	Pin	Description	Remarks
U, V, W	Three-phase power lines	-	VCC, GND	Power lines	GND is shorted to BAT-
FG	Ground wire	-	FG	Ground wire	-
BRK1, BRK2	Brake control lines	Not required if no brake	+DO, -DO	Communication lines	-
			BATT, BAT-	Battery lines	Battery required for absolute encoder, BAT- is shorted to GND



Power cable			Encoder cable		
Pin	Description	Remarks	Pin	Description	Remarks
U, V, W	Three-phase power lines	-	VCC, GND	Power lines	GND is shorted to BAT-
FG	Ground wire	-	FG	Ground wire	-
BRK1, BRK2	Brake control lines	Not required if no brake	+DO, -DO	Communication lines	-
			BATT, BAT-	Battery lines	Battery required for absolute encoder, BAT- is shorted to GND



Chapter Two Product Specifications

X2 series motor											
Item		Unit	Specifications								
Voltage		V	220V			380V					
Motor Model			X2MG085A	X2MG130A	X2MG180A	X2MG085A	X2MG130A	X2MG180A	X2MG290A	X2MG440A	X2MG550A
Mounting Flange Dimension		mm	□130			□130			□180		
Weight	Without Brake	kg	6.04	7.42	8.84	6.06	7.49	8.77	15.04	19.55	23.43
	With Brake	kg	7.64	9.02	10.43	7.16	9.08	10.4	18.35	22.86	26.74
Basic Specifications	Rated Output Power	W	850	1300	1800	850	1300	1800	2900	4400	5500
	Rated Torque	N·m	5.41	8.28	11.46	5.41	8.28	11.46	18.46	28.01	35.02
	Max. Instantaneous Torque	N·m	16.23	24.84	34.38	16.23	24.84	34.38	46.15	70.03	87.55
	Rated Current	Arms	6.1	9	11.9	3.4	4.7	6.5	11.4	15.4	18
	Max. Instantaneous Current	Arms	20.4	30.1	39	11.3	15.6	21.7	30.8	42.6	50.3
	Rated Rotation Velocity	r/min	1500								
	Max. Rotation Velocity	r/min	4500								
	Torque Constant	N·m/A	0.89	0.92	0.96	1.59	1.76	1.76	1.62	1.82	1.95
	Phase Inductive Voltage Constant	mV/(r/min)	35.2	37	38.2	62.6	69.8	69.3	61.2	67.55	71.01
	Rated Power Change Rate	kW/s	21.38	35.13	51.71	21.38	35.13	51.71	72.93	114.39	133.12
	Mechanical Time Constant	ms	3.14	2.55	2.47	3.16	2.54	2.41	1.17	0.98	0.9
Brake Specifications	Without Brake		3.6	2.83	2.68	3.62	2.82	2.62	1.33	1.08	0.96
	With Brake										0.84
	Electrical Time Constant	ms	10.32	11.95	12.1	10.3	11.88	12.09	22.44	24.43	25.32
	Motor Rotor Inertia	x10 ⁻⁴ kg.m ²	13.5	19.5	25.4	13.5	19.5	25.4	46.74	68.6	92.11
	Permissible Load										
	Radial Load					≤686			≤1470		≤1764
	Axial Load					≤196			≤490		≤588
	Encoder		20bit								
	Adaptive Drive		100A-S	150A-S	200A-S	100T	150T	200T	300T-S	500T-S	600T-S
	Usage	-	Holding brake								
	Power	-	SELV(Safety Extra-Low Voltage) power supply, with reinforced insulation between SELV and hazardous voltage								
	Rated Voltage	V	DC24±10%								
	Rated Current	A	0.89			1.45					
	Static Friction Torque	N·m	>14			≥55			≥65		
	Absorption Time	ms	<100			<160					
	Release Time	ms	<60			<60					
	Release Voltage	ms	0.5~10								

X6 series motor																	
Item		Unit	Specifications														
Voltage		V	220V				380V										
Motor Model			X6MG085A	X6MG130A	X6MG180A	X6MG085A	X6MG130A	X6MG180A	X6MA300A	X6MA400A	X6MA500A	X6MG290A	X6MG440A	X6MG550A	X6MG750A		
Mounting Flange Dimension		mm	□130			□130					□180						
Weight	Without Brake	kg	6.07	7.45	9.04	6.09	7.5	8.8	10	17	13.53	14.84	19.35	23.23	32.06		
	With Brake		7.66	9.05	10.64	7.69	9.1	10.4	12.53	11	18	18.15	22.66	26.54	35.41		
Rated Output Power		W	850	1300	1800	850	1300	1800	3000	4000	5000	2900	4400	5500	7500		
Rated Torque		N·m	5.41	8.28	11.46	5.41	8.28	11.46	9.55	12.73	15.92	18.46	28.01	35.02	47.75		
Max. Instantaneous Torque		N·m	16.23	24.84	34.38	16.23	24.84	34.38	28.65	38.19	47.76	46.15	70.02	87.55	119.37		
Rated Current		Arms	6.1	9	12	3.4	4.7	6.6	9.2	12.4	13.8	11.8	16.2	19.9	24.5		
Max. Instantaneous Current		Arms	19.1	28.4	37.9	10.6	14.8	20.8	31	42	45	31.5	43.2	53.2	64.8		
Rated Rotation Velocity		r/min	1500						3000			1500					
Max. Rotation Velocity		r/min	4500						6000			4500					
Torque Constant		N·m/A	0.89	0.92	0.96	1.59	1.76	1.74	1.04	1.03	1.15	1.56	1.73	1.76	1.95		
Phase Inductive Voltage Constant		mV/(r/min)	34.5	36.3	37.6	61.5	68.6	67.8	42.73	39.26	47.52	57.74	64.09	65.24	68.13		
Rated Power Change Rate	Without Brake	kW/s	21.38	36.05	53.6	21.38	36.05	53.6	157.25	207.87	234.57	77.13	120.8	140.34	167.2		
	With Brake		18.42	32.31	49.19	18.42	32.31	49.19	114	162.14	194.88	67.24	109.82	130.65	159.61		
Mechanical Time Constant	Without Brake	ms	3.2	2.53	2.44	3.21	2.52	2.41	0.32	0.29	0.3	1.21	1.03	1.02	0.89		
	With Brake		3.72	2.82	2.66	3.73	2.81	2.63	0.45	0.37	0.36	1.39	1.14	1.1	0.93		
Electrical Time Constant		ms	7.58	8.57	9.03	7.44	8.59	8.86	22.33	23.85	23.08	17.67	19.02	19.31	22		
Motor Rotor Inertia	Without Brake	x10 ⁻⁴ kg·m ²	13.7	19	24.5	13.7	19	24.5	5.8	7.8	10.8	44.2	64.96	87.37	136.37		
	With Brake		15.9	21.2	26.7	15.9	21.2	26.7	8	10	13	50.7	71.46	93.85	142.85		
Permissible Load	Radial Load	N	≤686						≤1176			≤1470		≤1764			
	Axial Load		≤196						≤392			≤490		≤588			
Encoder			25bit									20bit/25bit					
Adaptive Drive			100A-S	150A-S	200A-S	100T	150T	200T	3kW-Y7S	5kW-Y7S		300T-S	500T-S	600T-S	750T-S		
Brake Specifications	Usage	-	Holding brake														
	Power	-	SELV(Safety Extra-Low Voltage) power supply, with reinforced insulation between SELV and hazardous voltage														
	Rated Voltage	V	DC24±10%														
	Rated Current	A	0.89								1.1	1.45					
	Static Friction Torque	N·m	≥14							≥20		≥55			≥65		
	Absorption Time	ms	<100											< 160			
	Release Time	ms	< 60														
Release Voltage		ms	0.5~10														

Environmental Specifications and Precautions

Environmental Specifications	Rated Time	Continuous
	Ambient Operating Temperature	0~40℃
	Ambient Operating Humidity	20~85%RH (with no condensation)
	Ambient Storage Temperature	-20~65℃
	Ambient Storage Humidity	20 ~ 85%RH (with no condensation)
	Operating & Storage Atmosphere	Indoors (no direct sunlight) , free from corrosive gas, flammable gas, oil mist, dust and dirt
	Heat Resistance	Class B
	Insulation Resistance	DC1000V / ≥ 5MΩ
	Insulation Withstand Voltage	AC1500V / 1min
	Altitude	≤ 1000m
	Vibration Class	V15 (JEC2121)
	Vibration Resistance	49m/s² (5G)
	Impact Resistance	98m/s² (10G)
	Protection	IP67
Precautions		• Grounding should follow the instructions. Class I is available. • Overvoltage category II is available/allowable. • Pollution degree 2 is available. • Torque ratings are shown when mounted on an L-beam approximately two times the size of the motor flange. • The brake connection wire has different polarities. Red wire: Connects to +24V Black wire: Connects to GND