

ERCHUAN SERVO



智慧尔川 创造未来
 Wisdom erchuan creates the future

ERCHUAN SERVO

性能最优的工业自动化系统服务商
 Industrial automation system service provider with the best performance



公司公众号
 Company official account

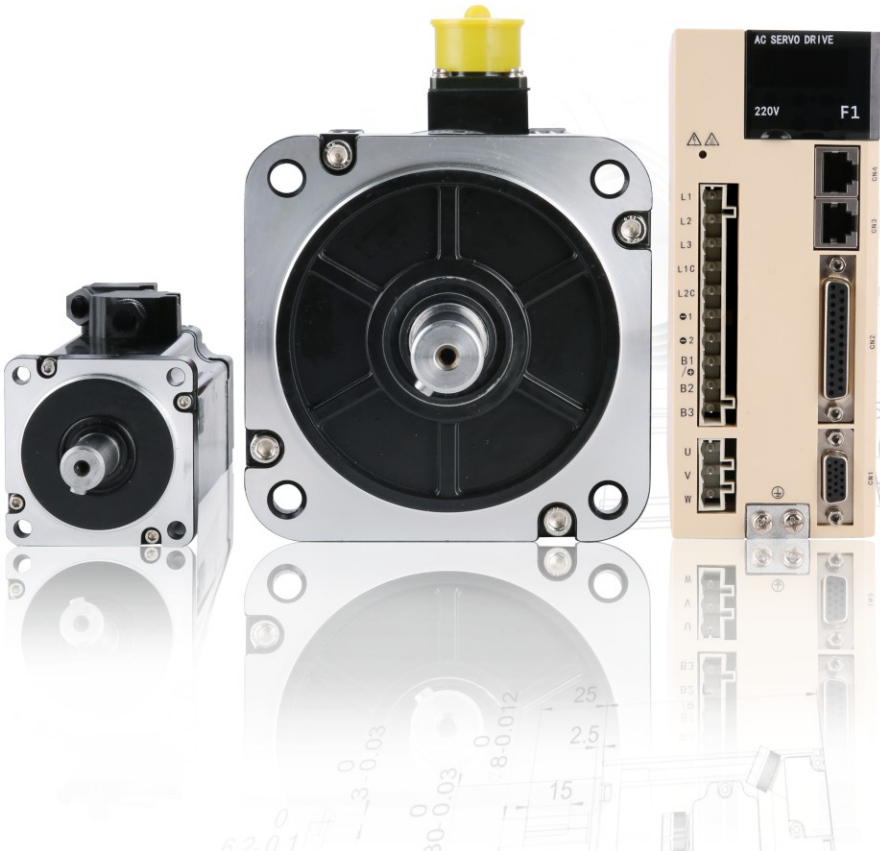


公司网址
 Company web site

伺服系列
 SERVO SERIES

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www.factkawa.com



智慧尔川 创造未来

Wisdom erchuan creates the future

上海尔川数控技术（集团）有限公司是一家专业生产高性能数控系统，伺服驱动的高科技企业，公司拥有自主知识产权的伺服控制算法以及精准控制电机的伺服控制软件。

公司本着信誉为本质量为先的理念服务于众多中高端伺服应用客户。尔川集团在机床、纺织、印刷、机器人，雕刻等众多行业有完整的项目应用案例。

上海尔川数控技术（集团）有限公司在上海总部设有研发基地，嘉定南翔设有系统和驱动器的生产基地，在浙江设有电机生产基地，拥有自主设计和自主生产的综合竞争力，通过持续不断的技术进步与创新，为提升用户产品价值和效益不断奋斗。

Shanghai Erchuan CNC Technology (Group) Co., Ltd. is a high-tech enterprise specializing in the production of high-performance CNC systems and servo drives.

The company has its own intellectual property rights servo control algorithm and servo control software for precise control of motors. The company serves many mid- to high-end servo application customers with the concept of "credit-based quality first". The Erchuan Group has complete project application cases in many industries such as machine tools, textiles, printing, robotics, and engraving.

Shanghai Erchuan CNC Technology (Group) Co., Ltd. has a research and development base in Shanghai headquarters. Jiading Nanxiang has a production base for systems and drives. It has a motor production base in Zhejiang, and has comprehensive competitiveness of independent design and independent production. Continued technological progress and innovation, and constantly strive to enhance the value and efficiency of user's products.

控制

control

PLC&机械控制器
PLC& mechanical controller
运动控制卡
Motion control card
通用控制器及CNC控制器
General controller and CNC controller
模拟&通讯控制模块
Simulation & communication control module

驱动

drive

伺服驱动器
Servo drive
伺服马达
The servo motor
通用矢量变频器
Universal vector converter
主轴伺服驱动器
Spindle servo drive
主轴伺服马达
Spindle servomotor

可视化

visualization

显示和控制终端
Display and control terminal
人机界面&触摸屏
Man-machine interface & touch screen

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伺服马达

Servo motor

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Automation

自动化

【 搭载磁性/光电编码器 】
【 Equipped with Magnetic / Photoelectric Encoder 】

实现磁性编码器最高分辨率17bit
Achieve the highest resolution of magnetic encoder 17bit
实现光电编码器最高分辨率23bit
Realize the highest resolution of photoelectric encoder 23bit
• 优良的耐环境性能 (尘埃、油雾、振动)
Excellent environmental resistance (dust, oil mist, vibration).
• 大批量的生产成本优势显著
Significant advantages of mass production cost.
• 编码器特殊保护罩, 抗干扰能力强
Encoder special protective cover, strong anti-interference ability.

High Speed

高速化

【 完整功率范围：50W-7.5KW 】
【 Full Power Range：50W-7.5KW 】

小型马达、50W、100W、3KW以上的大型马达
Mini Motor、Up 50W、100W、3KW Big Motor
产品规格齐全
Complete Specifications

High Precision

高精度化

【 精密控制 】
【 Precision Control 】

通过模型匹配观测和前馈
Observation and feedforward through model matching.
实现了独立的指令响应和干扰补偿2自由度控制
Independent command response and interference compensation 2-DOF control are realized.
通过中断定位, 查出符号之后可进行一定量的移动, 从而确保进行高精度符号运行
Through interrupt positioning, a certain amount of movement can be carried out after finding out the symbols, so as to ensure high-precision symbol operation

Facilitation

便利化

【 简易调整 】
【 Simple Adjustment 】

通过尔川F1X系列独有的算法, 可以轻松进行调整。
Through the unique algorithm of the ERChUAN F1 series, it can be easily adjusted.
通过专用的调整软件, 可以1个画面中进行波形比较。
Through special adjustment software, waveform comparison can be carried out in one screen.

【 支持IP65/IP67的马达 】
【 Support IP65/IP67 Motor 】
【 实现行业内带操作面板伺服驱动器最小体积 】
【 Realize the mini model of Servo Drive with operation panel in the industry 】

开发设计行业内最小体积的伺服驱动器
Develop mini Servo Drive in the design industry
尺寸为高 (160mm)、宽 (43mm)、长 (148mm), 灵巧且节省空间。
Size H (160mm)、W (43mm)、L (148mm), Smart and space efficient

EC-F1X驱动系列 EC-F1X DRIVE SERIES

通过高性能CPU内高效的算法, 实现1KHz以上的极速正确动作, 高速响应、高精度定位。
Through the efficient algorithm in the high-performance CPU, it can realize the fast correct action.
High-speed response and high-precision positioning above 1KHz.

增强型振动抑制功能
Enhanced vibration suppression function.

小巧轻薄的外观设计
Small(Mini) and light design.

1KW-7.5KW全系列三相380V电源输入
1KW-7.5KW All Series 3Phases 380V Power Input



【 产品型号识别方式 】
【 Product Model Identification Method 】

EC-F1X 15 S A 7 * L XXXX
① ② ③ ④ ⑤ ⑥ ⑦

①:产品系列
Product series

②:输出电流等级
Output current level

220V		380V	
代码 code	电流 current	代码 code	电流 current
10	1.5A	15	4.5A
15	2.8A	25	7.5A
20	5.2A	35	9.5A
30	9.5A	45	11.5A
35	12A	55	16A
40	17A	75	20A

③:输出通道
Output channel

代码 code	含义 implication
S	单通道 Single channel
D	双通道 Dual channel

④:伺服类型
Servo type

代码 code	含义 implication
A	485通讯脉冲型 485 communication pulse type
N	485通讯全能型 485 Communication full function
C	CANopen总线 CANopen bus
E	Ether CAT总线 Ether CAT bus
M	M3总线 M3 bus
X	定制专用型 Customized type

⑤:编码器类型
Encoder type

代码 code	含义 implication
7	2500线 2500 line
8	17bit/23bit

⑥:输入电压
Input voltage

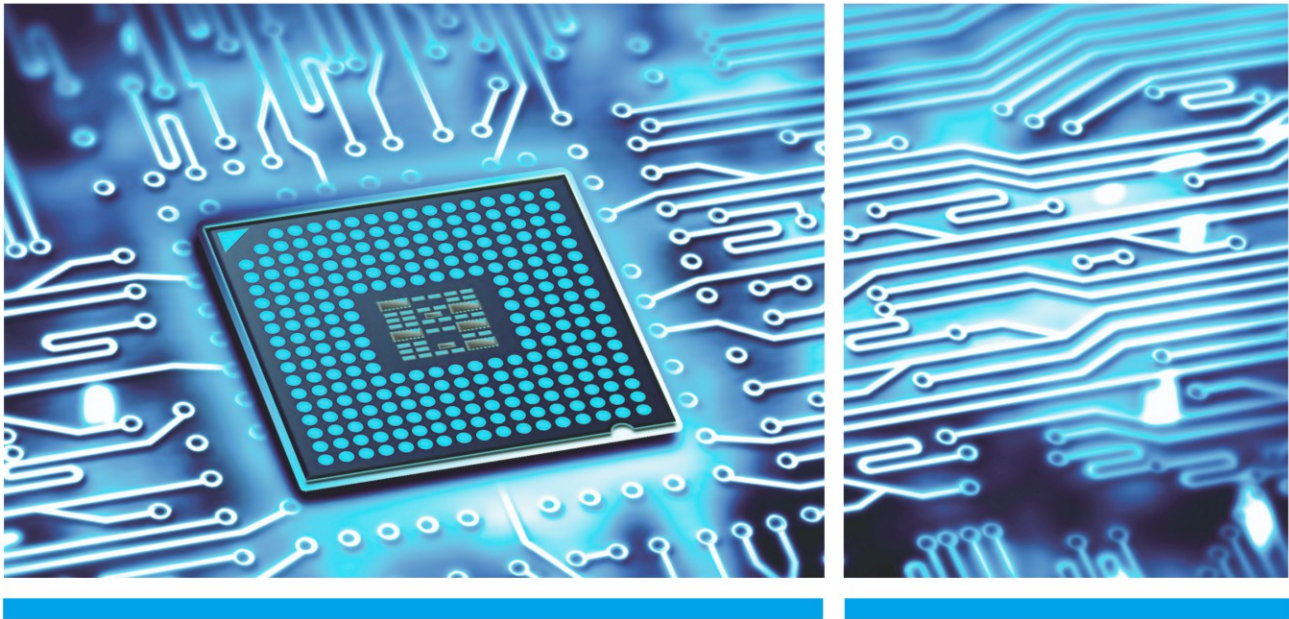
代码 code	含义 implication
D	DC48V
R	AC110V
L	AC220V
H	AC380V

⑦:管理编号
Management number

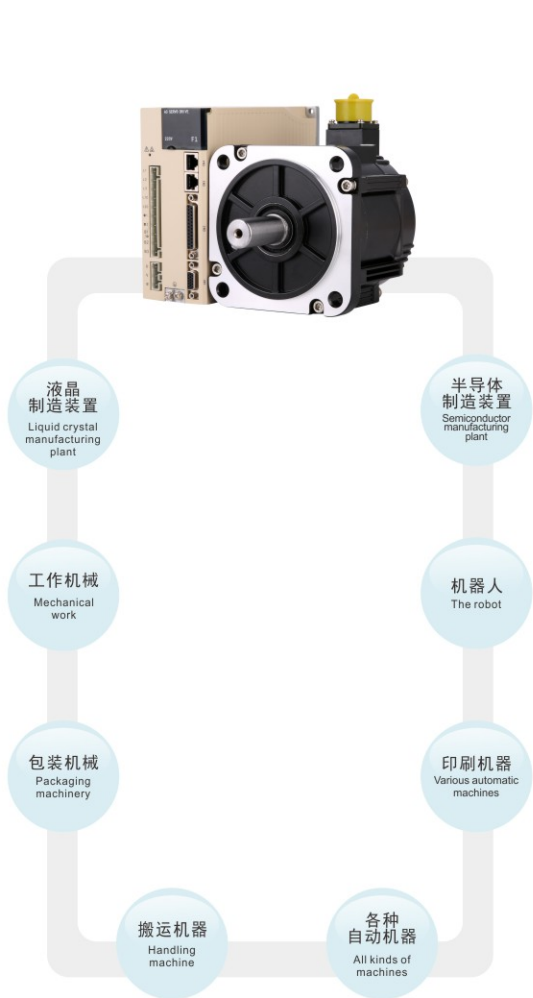
代码 code	含义 implication
XXXX	1234

示例:
Example:

EC-F1X15SA7*L	220V 脉冲专用 2500 线 400W 驱动器 Dedicated 2500 wire 400W driver for 220V pulse
EC-F1X15SA8*H	380V 脉冲专用 17bit 750W 驱动器 Dedicated 17BIT 750W driver for 380V pulse



采用进口芯片和模块 Adopt imported chip and module
升级的AC伺服电机逐渐改变工业设备。
Using imported chips and modules to upgrade AC servo motors gradually change industrial equipment.



机器人 The robot

对于机械手臂的姿势、位置、工件的负载等各种各样的因素随时都会变化的机器人来说，满足在任何状况下，都可稳定动作的诉求。

尔川F1X系列产品通过对应负载变动控制，可将负载的影响抑制到最小程度，实现稳定的动作。

For a robot whose posture, position, load of workpiece and other various factors can change at any time, it can meet the demand of stable action in any situation.

Erchuan F1X series products can minimize the impact of load by corresponding load change control, to achieve stable action.



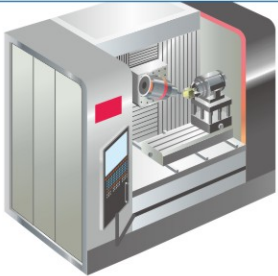
加工机械 Processing machinery

对于金属加工机来说，特别是对于高难度的多边形镜面加工做出贡献。

F1X系列通过实现响应频率1KHz，提高反馈的响应性，不产生横竖条纹，加工出光洁的镜面效果。

For the metal processing machine, especially for the high difficulty of polygon mirror processing to make a contribution.

F1X series can improve the feedback responsiveness by realizing the response frequency of 1KHz, without producing horizontal and vertical stripes, and produce smooth mirror effect.



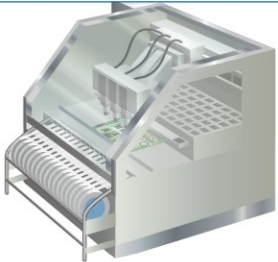
贴片机 SMT machine

F1X系列产品也常被用于追求速度和正确性的贴片机中。

具有高速的响应频率，并且搭载了能够快速处理偶发的外部干扰等的负载变动对应控制功能，从而实现生产性的提升。

F1X series products are often used in the pursuit of speed and accuracy of the placement machine.

It has high response frequency, and is equipped with the corresponding control function of load change, which can quickly deal with accidental external interference, so as to improve productivity.



产品阵容 Product line up

伺服放大器/马达 Servo amplifier/motor

		惯性 inertia	中 centre	高 high	中 centre	高 high	低 low	高 high
伺服放大器 Servo amplifier	适用电机 Apply to the motor							
	适用电机 功率 Applicable motor power	      						
		F1CC	F2CH	F3CC	F3CH	F5CA	F5CH	F6CH
		3000 [r/min] 制动器：无（带） Brake: no (belt)	3000 [r/min] 制动器：无（带） Brake: no (belt)	3000 [r/min] 制动器：无（带） Brake: no (belt)	3000 [r/min] 制动器：无（带） Brake: no (belt)	1500/2000/3000 [r/min] 制动器：无（带） Brake: no (belt)	1500 [r/min] 制动器：无（带） Brake: no (belt)	1500 [r/min] 制动器：无（带） Brake: no (belt)
EC- F1X10S□□*L	0.05KW	F1CC005V-M2XN*□						
	0.10KW	F1CC010V-M2XN*□						
EC- F1X15S□□*L	0.20KW	F2CH020V-M2XN*□						
	0.40KW	F2CH040V-M2XN*□						
EC- F1X20S□□*L	0.75KW	F3CC075V-M2XN*□ F3CH075V-M2XN*□						
	0.98KW	F3CC098V-M2XN*□ F3CH098V-M2XN*□						
	1.0KW	F3CC100U-M2XN*□ F3CH100U-M2XN*□						
	0.85KW	F5CH085S-M2XN*□						
EC- F1X30S□□*L	1.0KW	F5CA100T-M2XN*□						
	1.3KW	F5CA130V-M2XN*□						
	1.5KW	F5CA150T-M2XN*□						
	1.5KW	F5CA150S-M2XN*□						
	1.7KW	F5CA170V-M2XN*□						
	2.0KW	F5CA200V-M2XN*□						
	2.0KW	F5CA200S-M2XN*□						
	2.0KW	F5CA200T-M2XN*□						
	2.3KW	F5CA230S-M2XN*□						
	2.4KW	F5CA240V-M2XN*□						
	1.3KW	F5CH130S-M2XN*□						
	3.0KW	F5CA300T-M2XN*□						
EC- F1X35S□□*L	1.8KW	F5CH180S-M2XN*□						
EC- F1X35S□□*H	2.9KW	F6CH290S-M3XN*□						
	3.0KW	F6CH300T-M3XN*□						
EC- F1X45S□□*H	4.4KW	F6CH440S-M3XN*□						
EC- F1X55S□□*H	5.0KW	F6CH500T-M3XN*□						
	5.5KW	F6CH550S-M3XN*□						
EC- F1X75S□□*H	7.5KW	F6CH750S-M3XN*□						



尺寸重量	005	010	020	040	075	098
	50W	100W	200W	400W	750W	980W
W	43	43	43	43	57	57
H	160	160	160	160	160	160
D	148	148	148	148	148	148
KG	0.9	0.9	0.9	0.9	0.96	0.96

输入电源		
Frame A	单相200–240V±10%50/60Hz	
Frame B	三相200–240V±10%50/60Hz	
控制回路电源	单相200–240V±10%50/60Hz	
控制方式		
主电路电源		
控制电源		
额定电流		
编码器反馈	1转绝对式17bit (追加电池后, 用作多圈绝对式编码器的功能)	

温度		
使用环境温度	0–55℃	
保存环境温度	–20–65℃	

湿度		
使用环境温度	20–85%RH以下 (无结霜)	
保存环境温度	20–85%RH以下 (无结霜)	
使用保存环境空气	室内 (无直射阳光照射)、无腐蚀性气体、易燃易爆气体、油雾、粉尘	
海拔	海拔1000以下	
振动	5.8m/s² (0.6G) 以下10–60Hz (共振频率时不可连续使用)	
绝缘耐压	初级–FG之间AC1500V 1分钟	

控制信号		
输入	4输入 (DC24V光耦隔离) 根据控制模式功能切换	
输出	3输出 (DC24V光耦隔离、集电极开路输出) 根据控制模式功能切换	

脉冲信号		
输入	2输入 (光耦隔离)	
输出	4输出 (A/B/Z相RS–422差分; Z相集电极开路输出)	
模拟量信号输入	2输入 (±10V) 根据控制模式功能切换	
通信功能	PC通信 (MTspy连接用) 上位远程控制通信 (1: n)	
再生功能	可外接再生电阻	
动态制动器	无	
控制模式	6种控制模式: 位置控制、速度控制、转矩控制、位置/速度控制、位置/转矩控制、速度/转矩控制	

位置控制模式		
控制输入	伺服ON、报警复位、偏差计数器清除、正向超程、负向超程、指令输入取反、内部指令选择输入1、内部指令选择输入2、原点位置输入	
控制输出	报警状态、伺服准备、制动器解除、转矩限制中输出、位置接近、位置到达、原点复位结束、电机旋转输出、零速信号输出	
运转模式	点表、通信动作、手动脉冲输入	
脉冲输出		
输出脉冲形态	A相, B相: 差分输出 Z相: 差分输出或集电极开路输出	
分频化	任意分频	
输出脉冲功能	编码器位置脉冲与位置脉冲指令 (可设定)	
输出脉冲信号频率		



	240	250	085	130	180
	2.4KW	2.5KW	850W	1.3KW	1.8KW
	65	65	65	65	100
	190	190	190	190	188
	160	160	160	160	182
	1.5	1.5	1.5	1.6	2.65

输入电源		
单相200–240V±10%50/60Hz		
三相200–240V±10%50/60Hz		
单相200–240V±10%50/60Hz		
1转绝对式17bit (追加电池后, 用作多圈绝对式编码器的功能)		

0–55℃		
–20–65℃		

20–85%RH以下 (无结霜)		
20–85%RH以下 (无结霜)		
室内 (无直射阳光照射)、无腐蚀性气体、易燃易爆气体、油雾、粉尘		
海拔1000以下		
5.8m/s² (0.6G) 以下10–60Hz (共振频率时不可连续使用)		
初级–FG之间AC1500V 1分钟		

4输入 (DC24V光耦隔离) 根据控制模式功能切换		
3输出 (DC24V光耦隔离、集电极开路输出) 根据控制模式功能切换		

2输入 (光耦隔离)		
4输出 (A/B/Z相RS–422差分; Z相集电极开路输出)		
2输入 (±10V) 根据控制模式功能切换		
PC通信 (MTspy连接用) 上位远程控制通信 (1: n)		
可外接再生电阻		
无		
6种控制模式: 位置控制、速度控制、转矩控制、位置/速度控制、位置/转矩控制、速度/转矩控制		

伺服ON、报警复位、偏差计数器清除、正向超程、负向超程、指令输入取反、内部指令选择输入1、内部指令选择输入2、原点位置输入		
报警状态、伺服准备、制动器解除、转矩限制中输出、位置接近、位置到达、原点复位结束、电机旋转输出、零速信号输出		
点表、通信动作、手动脉冲输入		
A相, B相: 差分输出 Z相: 差分输出或集电极开路输出		
任意分频		
编码器位置脉冲与位置脉冲指令 (可设定)		

	290	300	440	500	550	750
	2.9KW	3.0KW	4.4KW	5.0KW	5.5KW	7.5KW
	100	100	100	100	100	100
	188	188	188	188	188	188
	182	182	182	182	182	182
	2.65	2.65	2.7	2.75	2.75	2.8

输入电源		
三相380V ±10%50/60Hz		
1转绝对式17bit (追加电池后, 用作多圈绝对式编码器的功能)		

0–55℃		
–20–65℃		

20–85%RH以下 (无结霜)		
20–85%RH以下 (无结霜)		
室内 (无直射阳光照射)、无腐蚀性气体、易燃易爆气体、油雾、粉尘		
海拔1000以下		
5.8m/s² (0.6G) 以下10–60Hz (共振频率时不可连续使用)		
初级–FG之间AC1500V 1分钟		

4输入 (DC24V光耦隔离) 根据控制模式功能切换		
3输出 (DC24V光耦隔离、集电极开路输出) 根据控制模式功能切换		

2输入 (光耦隔离)		
4输出 (A/B/Z相RS–422差分; Z相集电极开路输出)		
2输入 (±10V) 根据控制模式功能切换		
PC通信 (MTspy连接用) 上位远程控制通信 (1: n)		
可外接再生电阻		
无		
6种控制模式: 位置控制、速度控制、转矩控制、位置/速度控制、位置/转矩控制、速度/转矩控制		

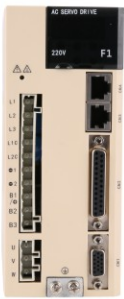
伺服ON、报警复位、偏差计数器清除、正向超程、负向超程、指令输入取反、内部指令选择输入1、内部指令选择输入2、原点位置输入		
报警状态、伺服准备、制动器解除、转矩限制中输出、位置接近、位置到达、原点复位结束、电机旋转输出、零速信号输出		
点表、通信动作、手动脉冲输入		
A相, B相: 差分输出 Z相: 差分输出或集电极开路输出		
任意分频		
编码器位置脉冲与位置脉冲指令 (可设定)		



Size/Weight										
	005	010	020	040	075	098	100	130	170	200
	50W	100W	200W	400W	750W	980W	1.0KW	1.3KW	1.7KW	2.0KW
W	43	43	43	43	57	57	57	65	65	65
H	160	160	160	160	160	160	160	190	190	190
D	148	148	148	148	148	148	148	160	160	160
KG	0.9	0.9	0.9	0.9	0.96	0.96	0.96	1.5	1.5	1.5
Output Power										
Frame A	1Phase 200–240V ±10% 50/60Hz						1Phase 200–240V ±10% 50/60Hz			
Frame B	3Phase 200–240V ±10% 50/60Hz						3Phase 200–240V ±10% 50/60Hz			
Control Loop Power Supply	1Phase 200–240V ±10% 50/60Hz						1Phase 200–240V ±10% 50/60Hz			
Control Mode										
Main Circuit Power Supply										
Control Power										
Rate Current										
Encoder Feedback	1Absolute form17bit (After adding the battery, it is used as the function of multi turn absolute encoder)						1Absolute form17bit (After adding the battery, it is used as the function of multi turn absolute encoder)			
Temperature										
Operating Ambient Temperature	0–55℃						0–55℃			
Storage Ambient Temperature	–20–65℃						–20–65℃			
Temperature										
Operating Ambient Temperature	20–85% RH Down (Nodew)						20–85% RH Down (Nodew)			
Storage Ambient Temperature	20–85% RH Down (Nodew)						20–85% RH Down (Nodew)			
Use & save Ambient Air	Indoor (no direct sunlight), no corrosive gas, flammable and explosive gas, oil mist, dust						Indoor (no direct sunlight), no corrosive gas, flammable and explosive gas, oil mist, dust			
Altitude	Atitude under 1000						Atitude under 1000			
Vibration	5.8m/s ² (0.6G) under 10–60Hz (Do not use continuously at resonance frequency)						5.8m/s ² (0.6G) under 10–60Hz (Do not use continuously at resonance frequency)			
Dielectric Strength	Primary–FG between AC1500V 1min						Primary–FG between AC1500V 1min			
Control Signal										
Input	4 Input (DC24V Optocoupler Isolation) Switch according to control mode function						4 Input (DC24V Optocoupler Isolation) Switch according to control mode function			
Output	3 Output (DC24V Optocoupler isolation, open collector output) Switch according to control mode function						3 Output (DC24V Optocoupler isolation, open collector output) Switch according to control mode function			
Pulse Signal										
Input	2 Input (Optocoupler Isolation)						2 Input (Optocoupler Isolation)			
Output	4Output (A/B/Z Phase RS–422 differential; Z Phase collector open circuit output)						4Output (A/B/Z Phase RS–422 differential; Z Phase collector open circuit output)			
Analog Signal Input	2 Input (± 1 0V) Switch according to control mode function						2 Input (± 1 0V) Switch according to control mode function			
Communication Function	PC for communication (MTspy for connection) for upper remote control communication (1 : n)						PC for communication (MTspy for connection) for upper remote control communication (1 : n)			
Regeneration Function	External regenerative resistance						External regenerative resistance			
Dynamic Brake	No						No			
Control mode	6 control modes: position control, speed control, torque control, position / speed control, position / torque control,						6 control modes: position control, speed control, torque control, position / speed control, position / torque control,			
Position Control Mode										
Control Input	SERVO ON, alarm reset, deviation counter clearing, forward overtravel, negative overtravel, instruction input negation, internal instruction selection input 1. Internal instruction selection input 2. Origin position input						SERVO ON, alarm reset, deviation counter clearing, forward overtravel, negative overtravel, instruction input negation, internal instruction selection input 1. Internal instruction selection input 2. Origin position input			
Control Output	Alarm status, servo preparation, brake release, output in torque limit, position approach, position arrival, end of zero point reset, motor rotation output, zero speed signal output						Alarm status, servo preparation, brake release, output in torque limit, position approach, position arrival, end of zero point reset, motor rotation output, zero speed signal output			
Operation Mode	Point table, communication action, manual pulse input						Point table, communication action, manual pulse input			
Pulse Output										
Output Pulse Shape	A Phase , B Phase : differential output Z Phase: differential output or open collector output						A Phase , B Phase : differential output Z Phase: differential output or open collector output			
Frequency Division	Arbitrary frequency division						Arbitrary frequency division			
Output Pulse Function	Encoder position pulse and position pulse command (settable)						Encoder position pulse and position pulse command (settable)			
Output Pulse Signal Frequency										



240	250	085	130	180	290	300	440	500	550	750
2.4KW	2.5KW	850W	1.3KW	1.8KW	2.9KW	3.0KW	4.4KW	5.0KW	5.5KW	7.5KW
65	65	65	65	100	100	100	100	100	100	100
190	190	190	190	188	188	188	188	188	188	188
160	160	160	160	182	182	182	182	182	182	182
1.5	1.5	1.5	1.6	2.65	2.65	2.65	2.7	2.75	2.75	2.8
1Phase 200–240V±10%50/60Hz					1Phase 200–240V±10%50/60Hz					
3Phase 200–240V±10%50/60Hz					3Phase 200–240V±10%50/60Hz					
1Phase 200–240V±10%50/60Hz					3Phase 380V±10%50/60Hz					
1Absolute form17bit (After adding the battery, it is used as the function of multi turn absolute encoder)					1Absolute form17bit (After adding the battery, it is used as the function of multi turn absolute encoder)					
0–55℃					0–55℃					
–20–65℃					–20–65℃					
20–85%RH Down (Nodew)					20–85%RH Down (Nodew)					
20–85%RH Down (Nodew)					20–85%RH Down (Nodew)					
Indoor (no direct sunlight), no corrosive gas, flammable and explosive gas, oil mist, dust					Indoor (no direct sunlight), no corrosive gas, flammable and explosive gas, oil mist, dust					
Atitude under 1000					Atitude under 1000					
5.8m/s ² (0.6G) under 10–60Hz (Do not use continuously at resonance frequency)					5.8m/s ² (0.6G) under 10–60Hz (Do not use continuously at resonance frequency)					
Primary–FGbetweenAC1500V1min					Primary–FGbetweenAC1500V1min					
4 Input (DC24VOptocoupler Isolation)Switch according to control mode function					4 Input (DC24VOptocoupler Isolation)Switch according to control mode function					
3 Output (DC24V Optocoupler isolation, open collector output)Switch according to control mode function					3 Output (DC24V Optocoupler isolation, open collector output)Switch according to control mode function					
2 Input (Optocoupler Isolation)					2 Input (Optocoupler Isolation)					
4Output (A/B/Z Phase RS–422differential; Z Phase collector open circuit output)					4Output (A/B/Z Phase RS–422differential; Z Phase collector open circuit output)					
2 Input (±1 0V) Switch according to control mode function					2 Input (±1 0V) Switch according to control mode function					
PC for communication (MTspy for connection) for upper remote control communication (1: n)					PC for communication (MTspy for connection) for upper remote control communication (1: n)					
External regenerative resistance					External regenerative resistance					
No					No					
6 control modes: position control, speed control, torque control, position / speed control, position / torque control,					6 control modes: position control, speed control, torque control, position / speed control, position / torque control,					
SERVO ON, alarm reset, deviation counter clearing, forward overtravel, negative overtravel, instruction input negation, internal instruction selection input 1. Internal instruction selection input 2.Origin position input					SERVO ON, alarm reset, deviation counter clearing, forward overtravel, negative overtravel, instruction input negation, internal instruction selection input 1. Internal instruction selection input 2.Origin position input					
Alarm status, servo preparation, brake release, output in torque limit, position approach, position arrival, end of zero point reset, motor rotation output, zero speed signal output					Alarm status, servo preparation, brake release, output in torque limit, position approach, position arrival, end of zero point reset, motor rotation output, zero speed signal output					
Point table, communication action, manual pulse input					Point table, communication action, manual pulse input					
A Phase , B Phase : differential output Z Phase: differential output or open collector output					A Phase , B Phase : differential output Z Phase: differential output or open collector output					
Arbitrary frequency division					Arbitrary frequency division					
Encoder position pulse and position pulse command (settable)					Encoder position pulse and position pulse command (settable)					



脉冲输入	
最大指令脉冲频率	差分输入：高速最大2Mpps，脉宽不能低于0.25us； 集电极开路：最大200Kpps，脉宽不能低于2.5us。
输入脉冲信号形态	差分输入：集电极开路
输入脉冲信号方式	脉冲+方向、直角相位差（A相+B相）、CW+CCW脉冲
指令脉冲分周倍频	A/B A:1-1073741824 B:1-1073741824 编码器分辨率/10000000 < A/B < 编码器分辨率/2.5
平滑化方式	平滑滤波器、FIR滤波器
瞬间速度观测	

速度控制	
控制输入	伺服ON、报警复位、速度指令反向、零速钳位、内部指令选择输入1、 内部指令选择输入2、正转外部转矩限制输入、反转外部转矩限制输入
控制输出	报警状态、伺服准备、制动器解除、转矩限制中输出、速度限制中输出、 速度达到、速度一致、电机旋转输出、零速信号输出
输出脉冲信号形态	编码器位置脉冲按以下形态输出 •以RS-422差分输出形态进行AB相直角相位差脉冲和Z相标志脉冲输出 •以集电极开路形态进行Z相标志脉冲输出
模拟输入	
速度指令输入	输入电压-10V-+10V (±10V时为最大速度)
平滑化方式	平滑滤波器、FIR滤波器
转矩限制指令输入	有如下四种选择： 1.正反内部转矩限制。 2.正反外部转矩限制。 3.2-TLMTP作为正反转矩限制，即以AI1或AI2输入同时作为正反向限制值。 4.3-TLMTP、TLMTN正反限制，即分别以AI1、AI2输入作为正反向限制值。
转矩前馈指令输入	有如下两种选择： 1.内部转矩前馈 2.将TFFD用作转矩前馈输入，即使用AI1或AI2输入值作为转矩前馈。
内部速度指令	使用DI端子信号组合实现0-4段速度选择

转矩控制	
控制输入	伺服ON、报警复位、转矩指令反向、零速钳位
控制输出	报警状态、伺服准备、制动器解除、转矩限制中、转速限制输出、紧急停机
转矩指令输入	DC±10V/额定转矩（出厂默认设定，可通过功能码设定范围）
输出脉冲信号方式	
速度限制功能	1.正反内部速度限制 2.SPL，即使用AI输入值作为速度限制值

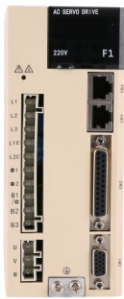
共通	
速度观察器功能	
减振控制功能	
自动调整功能	
编码器输出分倍频	
调整/功能设定	使用上位机设定软件（MTspy）进行调整
保护功能	过电压、电源异常、过电流、超温异常、过负载、编码器异常、 过速度、位置偏差过大、参数异常
自适应陷波滤波器	
内部位置规划功能	

差分输入：高速最大2Mpps，脉宽不能低于0.25us； 集电极开路：最大200Kpps，脉宽不能低于2.5us。
差分输入：集电极开路
脉冲+方向、直角相位差（A相+B相）、CW+CCW脉冲
A/B A:1-1073741824 B:1-1073741824 编码器分辨率/10000000 < A/B < 编码器分辨率/2.5
平滑滤波器、FIR滤波器

伺服ON、报警复位、速度指令反向、零速钳位、内部指令选择输入1、 内部指令选择输入2、正转外部转矩限制输入、反转外部转矩限制输入
报警状态、伺服准备、制动器解除、转矩限制中输出、速度限制中输出、 速度达到、速度一致、电机旋转输出、零速信号输出
编码器位置脉冲按以下形态输出 •以RS-422差分输出形态进行AB相直角相位差脉冲和Z相标志脉冲输出 •以集电极开路形态进行Z相标志脉冲输出
输入电压-10V-+10V (±10V时为最大速度)
平滑滤波器、FIR滤波器
有如下四种选择： 1.正反内部转矩限制。 2.正反外部转矩限制。 3.2-TLMTP作为正反转矩限制，即以AI1或AI2输入同时作为正反向限制值。 4.3-TLMTP、TLMTN正反限制，即分别以AI1、AI2输入作为正反向限制值。
有如下两种选择： 1.内部转矩前馈 2.将TFFD用作转矩前馈输入，即使用AI1或AI2输入值作为转矩前馈。
使用DI端子信号组合实现0-4段速度选择

伺服ON、报警复位、转矩指令反向、零速钳位
报警状态、伺服准备、制动器解除、转矩限制中、转速限制输出、紧急停机
DC±10V/额定转矩（出厂默认设定，可通过功能码设定范围）
1.正反内部速度限制 2.SPL，即使用AI输入值作为速度限制值

使用上位机设定软件（MTspy）进行调整
过电压、电源异常、过电流、超温异常、过负载、编码器异常、 过速度、位置偏差过大、参数异常



差分输入：高速最大2Mpps，脉宽不能低于0.25us； 集电极开路：最大200Kpps，脉宽不能低于2.5us。
差分输入：集电极开路
脉冲+方向、直角相位差（A相+B相）、CW+CCW脉冲
A/B A:1-1073741824 B:1-1073741824 编码器分辨率/10000000 < A/B < 编码器分辨率/2.5
平滑滤波器、FIR滤波器

伺服ON、报警复位、速度指令反向、零速钳位、内部指令选择输入1、 内部指令选择输入2、正转外部转矩限制输入、反转外部转矩限制输入
报警状态、伺服准备、制动器解除、转矩限制中输出、速度限制中输出、 速度达到、速度一致、电机旋转输出、零速信号输出
编码器位置脉冲按以下形态输出 •以RS-422差分输出形态进行AB相直角相位差脉冲和Z相标志脉冲输出 •以集电极开路形态进行Z相标志脉冲输出
输入电压-10V-+10V (±10V时为最大速度)
平滑滤波器、FIR滤波器
有如下四种选择： 1.正反内部转矩限制。 2.正反外部转矩限制。 3.2-TLMTP作为正反转矩限制，即以AI1或AI2输入同时作为正反向限制值。 4.3-TLMTP、TLMTN正反限制，即分别以AI1、AI2输入作为正反向限制值。
有如下两种选择： 1.内部转矩前馈 2.将TFFD用作转矩前馈输入，即使用AI1或AI2输入值作为转矩前馈。
使用DI端子信号组合实现0-4段速度选择

伺服ON、报警复位、转矩指令反向、零速钳位
报警状态、伺服准备、制动器解除、转矩限制中、转速限制输出、紧急停机
DC±10V/额定转矩（出厂默认设定，可通过功能码设定范围）
1.正反内部速度限制 2.SPL，即使用AI输入值作为速度限制值

使用上位机设定软件（MTspy）进行调整
过电压、电源异常、过电流、超温异常、过负载、编码器异常、 过速度、位置偏差过大、参数异常

差分输入：高速最大2Mpps，脉宽不能低于0.25us； 集电极开路：最大200Kpps，脉宽不能低于2.5us。
差分输入：集电极开路
脉冲+方向、直角相位差（A相+B相）、CW+CCW脉冲
A/B A:1-1073741824 B:1-1073741824 编码器分辨率/10000000 < A/B < 编码器分辨率/2.5
平滑滤波器、FIR滤波器

伺服ON、报警复位、速度指令反向、零速钳位、内部指令选择输入1、 内部指令选择输入2、正转外部转矩限制输入、反转外部转矩限制输入
报警状态、伺服准备、制动器解除、转矩限制中输出、速度限制中输出、 速度达到、速度一致、电机旋转输出、零速信号输出
编码器位置脉冲按以下形态输出 •以RS-422差分输出形态进行AB相直角相位差脉冲和Z相标志脉冲输出 •以集电极开路形态进行Z相标志脉冲输出
输入电压-10V-+10V (±10V时为最大速度)
平滑滤波器、FIR滤波器
有如下四种选择： 1.正反内部转矩限制。 2.正反外部转矩限制。 3.2-TLMTP作为正反转矩限制，即以AI1或AI2输入同时作为正反向限制值。 4.3-TLMTP、TLMTN正反限制，即分别以AI1、AI2输入作为正反向限制值。
有如下两种选择： 1.内部转矩前馈 2.将TFFD用作转矩前馈输入，即使用AI1或AI2输入值作为转矩前馈。
使用DI端子信号组合实现0-4段速度选择

伺服ON、报警复位、转矩指令反向、零速钳位
报警状态、伺服准备、制动器解除、转矩限制中、转速限制输出、紧急停机
DC±10V/额定转矩（出厂默认设定，可通过功能码设定范围）
1.正反内部速度限制 2.SPL，即使用AI输入值作为速度限制值

使用上位机设定软件（MTspy）进行调整
过电压、电源异常、过电流、超温异常、过负载、编码器异常、 过速度、位置偏差过大、参数异常



Pulse Input	
Max Command Pulse Frequency	Differential input: high speed, maximum 2Mpps, pulse width not less than 0.25us; Collector open circuit: maximum 200Kpps, pulse width not less than 2.5us.
Input Pulse Signal Form	Differential input; open collector
Input Pulse Signal Mode	Pulse + direction, right angle phase difference (A Phase + B phase), CW + CCW pulse
Command Pulse Cycle Doubling	A/B A:1~1073741824 B:1~1073741824 Encoder resolution/10000000 < A/B < Encoder resolution/2.5
Smoothing Method	Smoothing filter, FIR filter
Instantaneous Velocity Observation	

Speed Control	
Control Input	SERVO ON, alarm reset, speed command reverse, zero speed clamp, internal command selection input 1. internal command selection input 2.forward external torque limit input, reverse external torque limit input
Control Output	Alarm status, servo preparation, brake release, output in torque limit, output in speed limit, speed reaching, speed consistent, motor rotation output, zero speed signal output
Output Pulse Signal Form	The encoder position pulse is output as follows - Using RS-422 differential output mode to output AB phase right angle phase difference pulse and Z phase mark pulse - Z-phase mark pulse output with open collector
Analog Input	
Speed Command Input	Input voltage – 10V – + 10V (maximum speed at 1±10V)
Smoothing Method	Smoothing filter, FIR filter

Torque Limit Command Input	As following 2 options; 1.Positive and negative internal torque limit 2.Positive and negative external torque limit 3.2-TLMTP is used as forward and reverse torque limit, i.e. Ai1 or Ai2 input is used as forward and reverse limit at the same time. 4.3-TLM TP,TLMTN and tlmtn are positive and negative limits, i.e. Ai1 and Ai2 inputs are taken as positive and negative limits respectively.
	As following 2 options: 1.Internal torque feedforward 2.TTFFDis used as torque feedforward input, that is, Ai1 or Ai2 input value is used as torque feedforward.

Torque Feedforward Command Input	Using DI terminal signal combination to realize 0-4 segment speed selectio
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Torque Control	
Control Input	SERVO ON, alarm reset, torque command reverse, zero speed clamping
Control Output	Alarm status, servo preparation, brake release, torque limiting, speed limiting output, emergency stop
Torque Command Input	DC±10V/Rated torque (Factory default setting, range can be set by function code)
Output Pulse Signal Mode	
Speed Limit Function	1.Positive and negative internal speed limit. 2.SPL, i.e. Ai input value is used as speed limit value

Common	
Speed Viewer Function	
Damping Control Function	
Automatic Adjustment Function	
Encoder Output Frequency Division	
Adjustment/Function Setting	Use the upper computer setting software (MTspy) to adjust
Protection Function	Over voltage, power supply abnormality, over current, over temperature abnormality, over load, encoder abnormality, over speed, position deviation, parameter abnormality
Adaptive Notch Filter	
Internal Location Planning Function	

Differential input: high speed, maximum 2Mpps, pulse width not less than 0.25us; Collector open circuit: maximum 200Kpps, pulse width not less than 2.5us.	
Differential input; open collector	
Pulse + direction, right angle phase difference (A Phase + B phase), CW + CCW pulse	
A/B A:1~1073741824 B:1~1073741824 Encoder resolution/10000000 < A/B < Encoder resolution/2.5	
Smoothing filter, FIR filter	

SERVO ON, alarm reset, speed command reverse, zero speed clamp, internal command selection input 1. internal command selection input 2.forward external torque limit input, reverse external torque limit input	
Alarm status, servo preparation, brake release, output in torque limit, output in speed limit, speed reaching, speed consistent, motor rotation output, zero speed signal output	
The encoder position pulse is output as follows - Using RS-422 differential output mode to output AB phase right angle phase difference pulse and Z phase mark pulse - Z-phase mark pulse output with open collector	

Input voltage – 10V – + 10V (maximum speed at 1±10V)	
Smoothing filter, FIR filter	

	As following 2 options; 1.Positive and negative internal torque limit 2.Positive and negative external torque limit 3.2-TLMTP is used as forward and reverse torque limit, i.e. Ai1 or Ai2 input is used as forward and reverse limit at the same time. 4.3-TLM TP,TLMTN and tlmtn are positive and negative limits, i.e. Ai1 and Ai2 inputs are taken as positive and negative limits respectively.
	As following 2 options: 1.Internal torque feedforward 2.TTFFDis used as torque feedforward input, that is, Ai1 or Ai2 input value is used as torque feedforward.

	Using DI terminal signal combination to realize 0-4 segment speed selectio
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SERVO ON, alarm reset, torque command reverse, zero speed clamping	
Alarm status, servo preparation, brake release, torque limiting, speed limiting output, emergency stop	
DC±10V/Rated torque (Factory default setting, range can be set by function code)	
1.Positive and negative internal speed limit. 2.SPL, i.e. Ai input value is used as speed limit value	

Use the upper computer setting software (MTspy) to adjust	
Over voltage, power supply abnormality, over current, over temperature abnormality, over load, encoder abnormality, over speed, position deviation, parameter abnormality	



Differential input: high speed, maximum 2Mpps, pulse width not less than 0.25us; Collector open circuit: maximum 200Kpps, pulse width not less than 2.5us.	
Differential input; open collector	
Pulse + direction, right angle phase difference (A Phase + B phase), CW + CCW pulse	
A/B A:1~1073741824 B:1~1073741824 Encoder resolution/10000000 < A/B < Encoder resolution/2.5	
Smoothing filter, FIR filter	

SERVO ON, alarm reset, speed command reverse, zero speed clamp, internal command selection input 1. internal command selection input 2.forward external torque limit input, reverse external torque limit input	
Alarm status, servo preparation, brake release, output in torque limit, output in speed limit, speed reaching, speed consistent, motor rotation output, zero speed signal output	
The encoder position pulse is output as follows - Using RS-422 differential output mode to output AB phase right angle phase difference pulse and Z phase mark pulse - Z-phase mark pulse output with open collector	

Input voltage – 10V – + 10V (maximum speed at 1±10V)	
Smoothing filter, FIR filter	

	As following 2 options; 1.Positive and negative internal torque limit 2.Positive and negative external torque limit 3.2-TLMTP is used as forward and reverse torque limit, i.e. Ai1 or Ai2 input is used as forward and reverse limit at the same time. 4.3-TLM TP,TLMTN and tlmtn are positive and negative limits, i.e. Ai1 and Ai2 inputs are taken as positive and negative limits respectively.
	As following 2 options: 1.Internal torque feedforward 2.TTFFDis used as torque feedforward input, that is, Ai1 or Ai2 input value is used as torque feedforward.

	Using DI terminal signal combination to realize 0-4 segment speed selectio
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SERVO ON, alarm reset, torque command reverse, zero speed clamping	
Alarm status, servo preparation, brake release, torque limiting, speed limiting output, emergency stop	
DC±10V/Rated torque (Factory default setting, range can be set by function code)	
1.Positive and negative internal speed limit. 2.SPL, i.e. Ai input value is used as speed limit value	

Use the upper computer setting software (MTspy) to adjust	
Over voltage, power supply abnormality, over current, over temperature abnormality, over load, encoder abnormality, over speed, position deviation, parameter abnormality	

Differential input: high speed, maximum 2Mpps, pulse width not less than 0.25us; Collector open circuit: maximum 200Kpps, pulse width not less than 2.5us.	
Differential input; open collector	
Pulse + direction, right angle phase difference (A Phase + B phase), CW + CCW pulse	
A/B A:1~1073741824 B:1~1073741824 Encoder resolution/10000000 < A/B < Encoder resolution/2.5	
Smoothing filter, FIR filter	

SERVO ON, alarm reset, speed command reverse, zero speed clamp, internal command selection input 1. internal command selection input 2.forward external torque limit input, reverse external torque limit input	
Alarm status, servo preparation, brake release, output in torque limit, output in speed limit, speed reaching, speed consistent, motor rotation output, zero speed signal output	
The encoder position pulse is output as follows - Using RS-422 differential output mode to output AB phase right angle phase difference pulse and Z phase mark pulse - Z-phase mark pulse output with open collector	

Input voltage – 10V – + 10V (maximum speed at 1±10V)	
Smoothing filter, FIR filter	

	As following 2 options; 1.Positive and negative internal torque limit 2.Positive and negative external torque limit 3.2-TLMTP is used as forward and reverse torque limit, i.e. Ai1 or Ai2 input is used as forward and reverse limit at the same time. 4.3-TLM TP,TLMTN and tlmtn are positive and negative limits, i.e. Ai1 and Ai2 inputs are taken as positive and negative limits respectively.
	As following 2 options: 1.Internal torque feedforward 2.TTFFDis used as torque feedforward input, that is, Ai1 or Ai2 input value is used as torque feedforward.

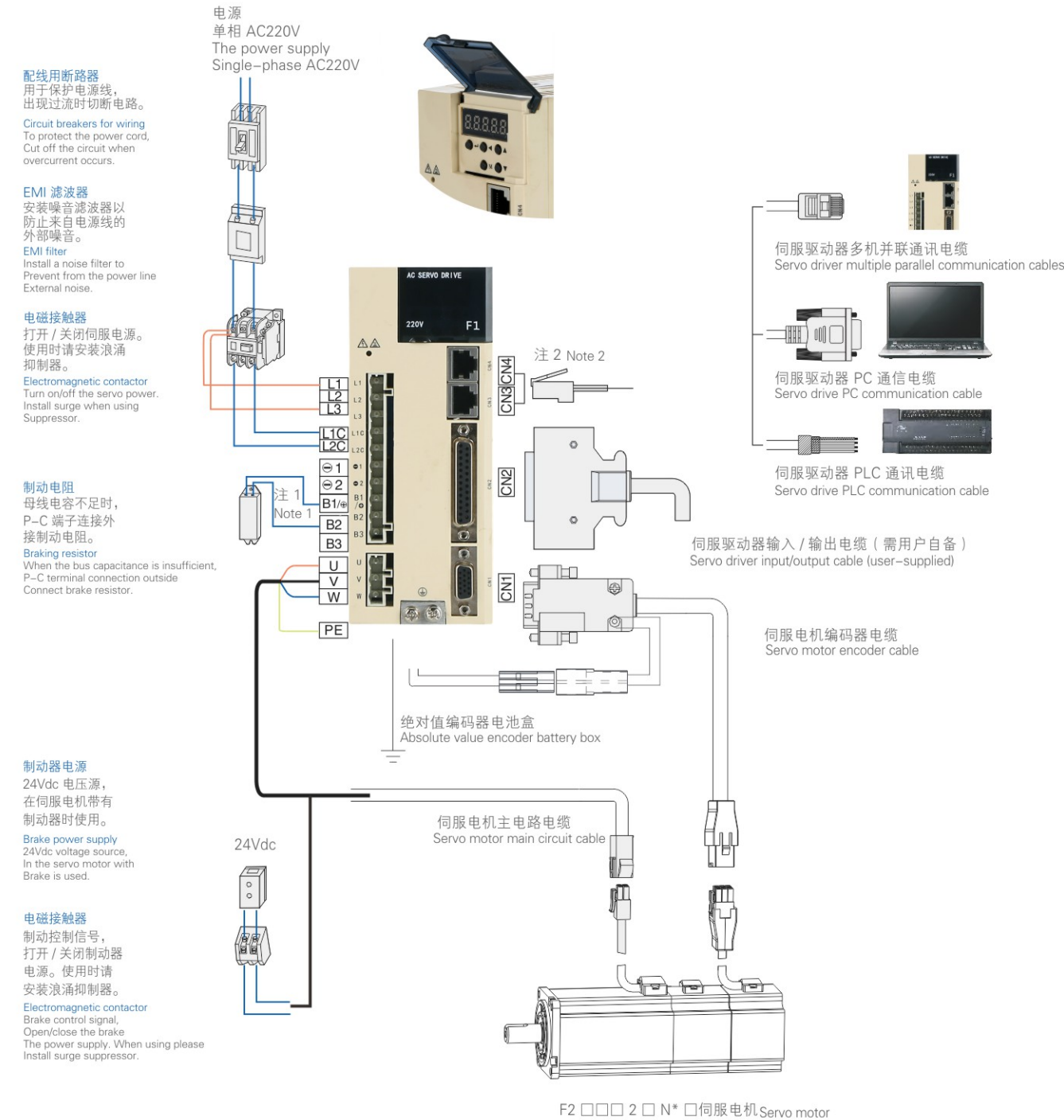
	Using DI terminal signal combination to realize 0-4 segment speed selectio
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SERVO ON, alarm reset, torque command reverse, zero speed clamping	
Alarm status, servo preparation, brake release, torque limiting, speed limiting output, emergency stop	
DC±10V/Rated torque (Factory default setting, range can be set by function code)	
1.Positive and negative internal speed limit. 2.SPL, i.e. Ai input value is used as speed limit value	

Use the upper computer setting software (MTspy) to adjust	
Over voltage, power supply abnormality, over current, over temperature abnormality, over load, encoder abnormality, over speed, position deviation, parameter abnormality	

伺服驱动器配线
Servo drive wiring

EC-F1X 伺服驱动器与外围设备连接
EC-F1X servo drivers are connected to peripherals



注 1：外接制动电阻时，请拆下伺服驱动器 B2,B3 端子间短接线后再进行连接。
Note 1: for external brake resistance, remove the short connection between servo drivers B2 and B3 before connecting.

注 2：CN3 以及 CN4 为两针脚定义完全一致的通讯接口，可以在两者间任意挑选使用。
Note 2: CN3 and CN4 define completely consistent communication interfaces for two pins and can be used at will.

注 3：本图例为 220V 驱动器图例。
Note 3: this legend is the 220V drive legend.

EC-F1X 伺服驱动器配线
EC-F1X servo drive wiring

CN2 控制端子定义
CN2 control terminal definition

信号名称 signal name	定义 define	端子号 Terminals no.	功能说明 Functional specifications
输入输出 IO 指令控制序列 Input/output IO command control sequence	DICOM	6	输入端子的电源正极 The positive terminal of the input terminal
	IN1	19	/SON
	IN2	7	/INH
	IN3	20	/CL
	IN4	8	/A-CLR
	OUT1+	16	BRK+
	OUT1-	3	BRK-
	OUT2+	17	RDY+
	OUT2-	4	RDY-
	OUT3+	18	ALM+
脉冲串输入序列 Impulse train input sequence	PULS+	1	差分脉冲输入的正端 The positive end of the differential pulse input
	PULS-	14	差分脉冲输入的负端 The negative end of the differential pulse input
	SIGN+	2	差分方向输入的正端 The positive end of the differential direction input
	SIGN-	15	差分方向输入的负端 The negative end of the differential direction input
模拟量控制序列 Analog control sequence	VREF	9	模拟量速度指令输入 Analog speed command input
	TREF	10	模拟量转矩指令输入 Analog torque command input
	GND	21	模拟量输入地 Analog input site
	PAO+	11	为编码器反馈分频输出， 提供给上位机 For the encoder feedback frequency division output.
编码器反馈系列 Encoder feedback series	PAO-	23	
	PBO+	12	
	PBO-	24	
	PCO+	13	
	PCO-	25	



主回路接线端子
Main loop terminal

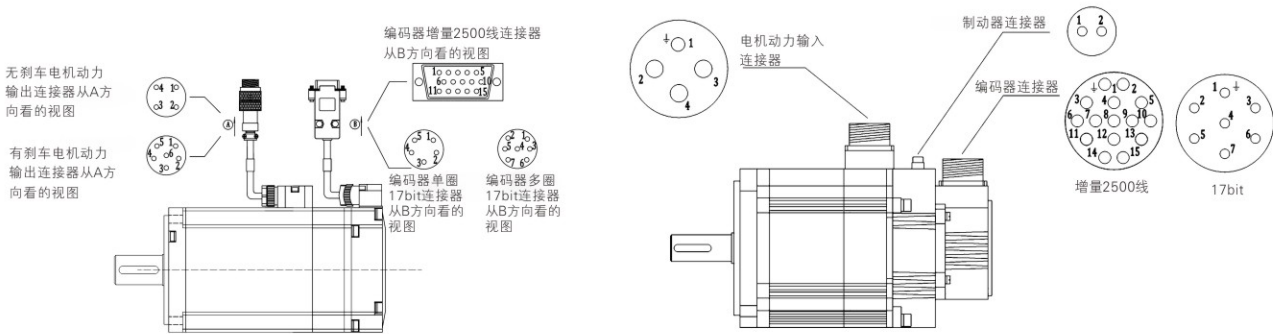
端子名称 The name of the terminal	端子功能 Terminal function
L1、L2、L3	主回路电源输入端子 Main loop power input terminal
L1C、L2C	控制回路电源输入端子 Control loop power input terminal
⊖1、⊖2	DC 电抗器端子 DC reactor terminal
B/+、-	共直流母线端子 Common dc bus terminal
U、V、W	伺服电机连接端子 Servo motor connecting terminals

CN1 编码器端子定义
CN1 encoder terminal definition

端子号 Terminals no.	信号引线名称 Name of signal lead	
	2500 线 2500 line	17bit
1	PG0V	PG0V
2	B+	-
3	B-	-
4	A+	-
5	A-	-
6	PG5V	PG5V
7	W-	SD-
8	V-	-
9	U-	-
10	Z+	-
11	空 empty	空 empty
12	W+	SD+
13	V+	-
14	U+	-
15	Z-	-

CN3、CN4 通讯端子
CN3, CN4 communication terminal

CN3		CN4	
端子号 Terminals no.	功能名称 The name of the function	端子号 Terminals no.	功能名称 The name of the function
1	CANH	1	CANH
2	CANL	2	CANL
3	GND	3	GND
4	GND	4	GND
5	RS485+	5	RS485+
6	RS485-	6	RS485-
7	保留 keep	7	保留 keep
8	保留 keep	8	保留 keep



80法兰及以下

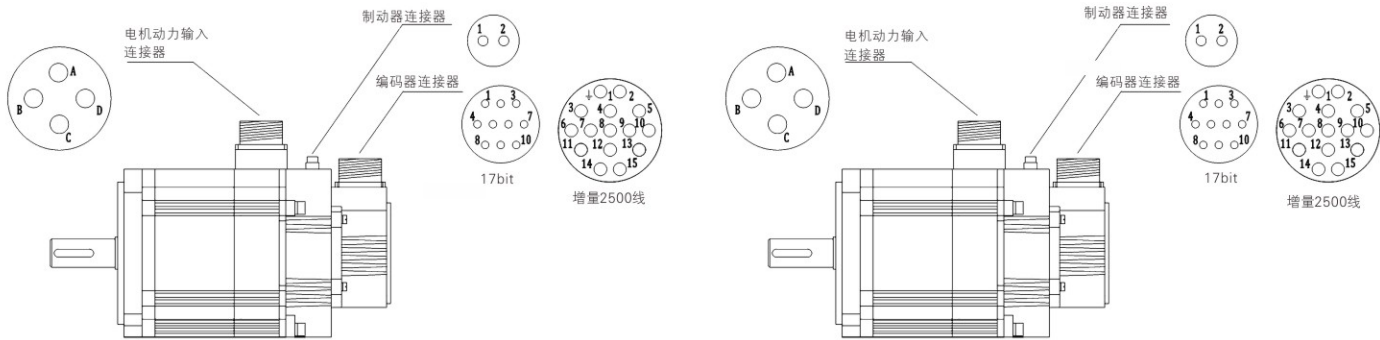
端子号码	信号名	内容	配线颜色
电机动力输入			
增量	绝对值		
1	2	U	红
2	3	V	白
3	4	W	黑
4	1	PE	黄绿
制动器 (※1)			
5	BRK+	制动器电源DC24V	红
6	BRK-	制动器电源GND	黑
2500线编码器 (增量式)			
1	PE	电机框体接地	黄绿
2	5V	编码器电源5V输出	红
3	0V	信号接地	黑
4	B+	编码器信号B+	绿
5	Z-	编码器信号Z-	黄白
6	U+	编码器信号U+	棕
7	Z+	编码器信号Z+	黄
8	U-	编码器信号U-	棕白
9	A+	编码器信号A+	灰
10	V+	编码器信号V+	蓝
11	W+	编码器信号W+	橙
12	V-	编码器信号V-	蓝白
13	A-	编码器信号A-	灰白
14	B-	编码器信号B-	绿白
15	W-	编码器信号W-	橙白
单圈17bit 磁编码器			
1	PE	电机框体接地	黄绿
2	5V	编码器电源5V输出	红
3	GND	信号接地	红白
4	SD+	串行通讯数据+数据	黑
5	SD-	串行通讯数据-数据	黑白
17bit编码器 (绝对值)			
1	PE	电机框体接地	黄绿
2	E-	外部电池负	蓝黑
3	E+	外部电池正	蓝
4	SD-	串行通讯数据-数据	绿黑
5	GND	信号接地	黑
6	SD+	串行通讯数据+数据	绿
7	5V	编码器电源5V输出	红

※1 带制动器电机的场合

110法兰

端子号码	信号名	内容	配线颜色
电机动力输入			
1	PE	电机框体接地	黄绿
2	U	电机动力U相输出	红
3	V	电机动力V相输出	白
4	W	电机动力W相输出	黑
制动器 (※1)			
1	BRK+	制动器电源DC24V	红
2	BRK-	制动器电源GND	黑
2500线编码器 (增量式)			
1	PE	电机框体接地	黄绿
2	5V	编码器电源5V输出	红
3	0V	信号接地	黑
4	A+	编码器信号A+	灰
5	B+	编码器信号B+	绿
6	Z+	编码器信号Z+	黄
7	A-	编码器信号A-	灰白
8	B-	编码器信号B-	绿白
9	Z-	编码器信号Z-	黄白
10	U+	编码器信号U+	棕
11	V+	编码器信号V+	蓝
12	W+	编码器信号W+	橙
13	U-	编码器信号U-	棕白
14	V-	编码器信号V-	蓝白
15	W-	编码器信号W-	橙白
单圈17bit 磁编码器			
1	PE	电机框体接地	黄绿
2	5V	编码器电源5V输出	红
3	GND	信号接地	红白
4	SD+	串行通讯数据+数据	黑
5	SD-	串行通讯数据-数据	黑白
17bit编码器 (绝对值)			
1	PE	电机框体接地	黄绿
2	E-	外部电池负	蓝黑
3	E+	外部电池正	蓝
4	SD-	串行通讯数据-数据	绿黑
5	GND	信号接地	黑
6	SD+	串行通讯数据+数据	绿
7	5V	编码器电源5V输出	红

※1 带制动器电机的场合



130法兰

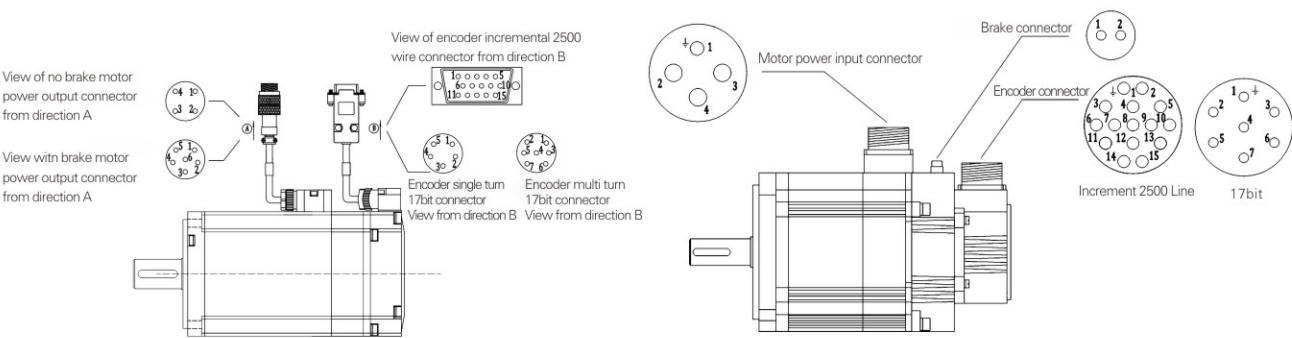
端子号码	信号名	内容	配线颜色
电机动力输入			
A (2)	U	电机动力U相输出	红
B (3)	V	电机动力V相输出	白
C (4)	W	电机动力W相输出	黑
D (1)	PE	电机框体接地	黄绿
制动器 (※1)			
1	BRK+	制动器电源DC24V	红
2	BRK-	制动器电源GND	黑
2500线编码器 (增量式)			
1	PE	电机框体接地	黄绿
2	5V	编码器电源5V输出	红
3	0V	信号接地	黑
4	A+	编码器信号A+	灰
5	B+	编码器信号B+	绿
6	Z+	编码器信号Z+	黄
7	A-	编码器信号A-	灰白
8	B-	编码器信号B-	绿白
9	Z-	编码器信号Z-	黄白
10	U+	编码器信号U+	棕
11	V+	编码器信号V+	蓝
12	W+	编码器信号W+	橙
13	U-	编码器信号U-	棕白
14	V-	编码器信号V-	蓝白
15	W-	编码器信号W-	橙白
单圈17bit 磁编码器			
1	SD+	串行通讯数据+数据	绿
2	SD-	串行通讯数据-数据	绿黑
4	5V	编码器电源5V输出	红
5			
6			
9	GND	信号接地	黑
10	PE	电机框体接地	黄绿
17bit编码器 (绝对值)			
1	SD+	串行通讯数据+数据	绿
2	SD-	串行通讯数据-数据	绿黑
4	5V	编码器电源5V输出	红
5	E-	外部电池负	蓝黑
6	E+	外部电池正	蓝
9	GND	信号接地	黑
10	PE	电机框体接地	黄绿

※1 带制动器电机的场合

180法兰

端子号码	信号名	内容	配线颜色
电机动力输入			
A (2)	U	电机动力U相输出	红
B (3)	V	电机动力V相输出	白
C (4)	W	电机动力W相输出	黑
D (1)	PE	电机框体接地	黄绿
制动器 (※1)			
1	BRK+	制动器电源DC24V	红
2	BRK-	制动器电源GND	黑
2500线编码器 (增量式)			
1	PE	电机框体接地	黄绿
2	5V	编码器电源5V输出	红
3	0V	信号接地	黑
4	A+	编码器信号A+	灰
5	B+	编码器信号B+	绿
6	Z+	编码器信号Z+	黄
7	A-	编码器信号A-	灰白
8	B-	编码器信号B-	绿白
9	Z-	编码器信号Z-	黄白
10	U+	编码器信号U+	棕
11	V+	编码器信号V+	蓝
12	W+	编码器信号W+	橙
13	U-	编码器信号U-	棕白
14	V-	编码器信号V-	蓝白
15	W-	编码器信号W-	橙白
单圈17bit 磁编码器			
1	SD+	串行通讯数据+数据	绿
2	SD-	串行通讯数据-数据	绿黑
4	5V	编码器电源5V输出	红
5	E-	外部电池负	蓝黑
6	E+	外部电池正	蓝
9	GND	信号接地	黑
10	PE	电机框体接地	黄绿

※1 带制动器电机的场合



80 Flange & Below

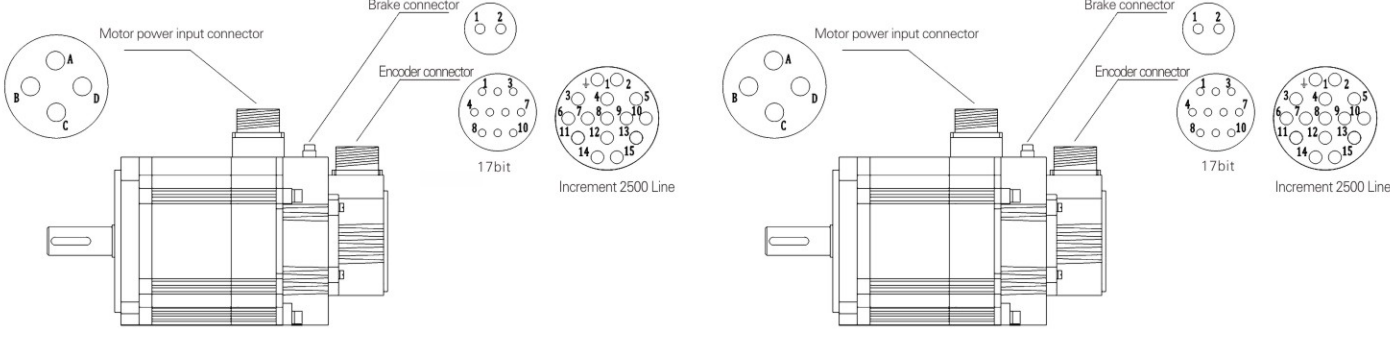
Terminal No.	Signal Name	Content	Wiring Color
Motor Power Input			
Increment	Absolute Value		
1	2	U	Motor power U-phase output
2	3	V	Motor power V-phase output
3	4	W	Motor power W-phase output
4	1	PE	Motor frame grounding
Brake (※1)			
5	BRK+	Brake power DC24V	Red
6	BRK-	Brake power GND	Black
2500Line Encoder (Incremental)			
1	PE	Motor frame grounding	Yellow green
2	5V	Encoder power 5V output	Red
3	0V	Signal ground	Black
4	B+	Encoder signal B+	Green
5	Z-	Encoder signal Z-	Yellow white
6	U+	Encoder signal U+	Brown
7	Z+	Encoder signal Z+	Yellow
8	U-	Encoder signal U-	Brown white
9	A+	Encoder signal A+	Gray
10	V+	Encoder signal V+	Blue
11	W+	Encoder signal W+	Orange
12	V-	Encoder signal V-	Blue white
13	A-	Encoder signal A-	Gray white
14	B-	Encoder signal B-	Green white
15	W-	Encoder signal W-	Orange white
Single turn 17bit magnetic encoder			
1	PE	Motor frame grounding	Yellow green
2	5V	Encoder power 5V output	Red
3	GND	Signal ground	Red white
4	SD+	Serial communication data + data	Black
5	SD-	Serial communication data - data	Black white
17bit Encoder (Absolute Value)			
1	PE	Motor frame grounding	Yellow green
2	E-	External battery -	Blue black
3	E+	External battery +	Blue
4	SD-	Serial communication data - data	Green Black
5	GND	Signal ground	Black
6	SD+	Serial communication data + data	Green
7	5V	Encoder power 5V output	Red

※1 Occasions with brake motor

110Flange

Terminal No.	Signal Name	Content	Wiring Color
Motor Power Input			
1	PE	Motor frame grounding	Yellow green
2	U	Motor power U-phase output	Red
3	V	Motor power V-phase output	White
4	W	Motor power W-phase output	Black
Brake (※1)			
1	BRK+	Brake power DC24V	Red
2	BRK-	Brake power GND	Black
2500Line Encoder (Incremental)			
1	PE	Motor frame grounding	Yellow green
2	5V	Encoder power 5V output	Red
3	0V	Signal ground	Black
4	A+	Encoder signal A+	Gray
5	B+	Encoder signal B+	Green
6	Z+	Encoder signal Z+	Yellow
7	A-	Encoder signal A-	Gray white
8	B-	Encoder signal B-	Green white
9	Z-	Encoder signal Z-	Yellow white
10	U+	Encoder signal U+	Brown
11	V+	Encoder signal V+	Blue
12	W+	Encoder signal W+	Orange
13	U-	Encoder signal U-	Brown white
14	V-	Encoder signal V-	Blue white
15	W-	Encoder signal W-	Orange white
Single turn 17bit magnetic encoder			
1	PE	Motor frame grounding	Yellow green
2	5V	Encoder power 5V output	Red
3	GND	Signal ground	Red white
4	SD+	Serial communication data + data	Black
5	SD-	Serial communication data - data	Black white
17bit Encoder (Absolute Value)			
1	PE	Motor frame grounding	Yellow green
2	E-	External battery -	Blue black
3	E+	External battery +	Blue
4	SD-	Serial communication data - data	Green Black
5	GND	Signal ground	Black
6	SD+	Serial communication data + data	Green
7	5V	Encoder power 5V output	Red

※1 Occasions with brake motor



130Flange

Terminal No.	Signal Name	Content	Wiring Color
Motor Power Input			
A (2)	U	Motor power U-phase output	Red
B (3)	V	Motor power V-phase output	White
C (4)	W	Motor power W-phase output	Black
D (1)	PE	Motor frame grounding	Yellow green
Brake (※1)			
1	BRK+	Brake power DC24V	Red
2	BRK-	Brake power GND	Black
2500Line Encoder (Incremental)			
1	PE	Motor frame grounding	Yellow green
2	5V	Encoder power 5V output	Red
3	0V	Signal ground	Black
4	A+	Encoder signal A+	Gray
5	B+	Encoder signal B+	Green
6	Z+	Encoder signal Z+	Yellow
7	A-	Encoder signal A-	Gray white
8	B-	Encoder signal B-	Green white
9	Z-	Encoder signal Z-	Yellow white
10	U+	Encoder signal U+	Brown
11	V+	Encoder signal V+	Blue
12	W+	Encoder signal W+	Orange
13	U-	Encoder signal U-	Brown white
14	V-	Encoder signal V-	Blue white
15	W-	Encoder signal W-	Orange white
Single turn 17bit magnetic encoder			
1	SD+	Serial communication data + data	Green
2	SD-	Serial communication data - data	Green Black
4	5V	Encoder power 5V output	Red
5			
6			
9	GND	Signal ground	Black
10	PE	Motor frame grounding	Yellow green
17bit Encoder (Absolute Value)			
1	SD+	Serial communication data + data	Green
2	SD-	Serial communication data - data	Green Black
4	5V	Encoder power 5V output	Red
5	E-	External battery -	Blue black
6	E+	External battery +	Blue
9	GND	Signal ground	Black
10	PE	Motor frame grounding	Yellow green

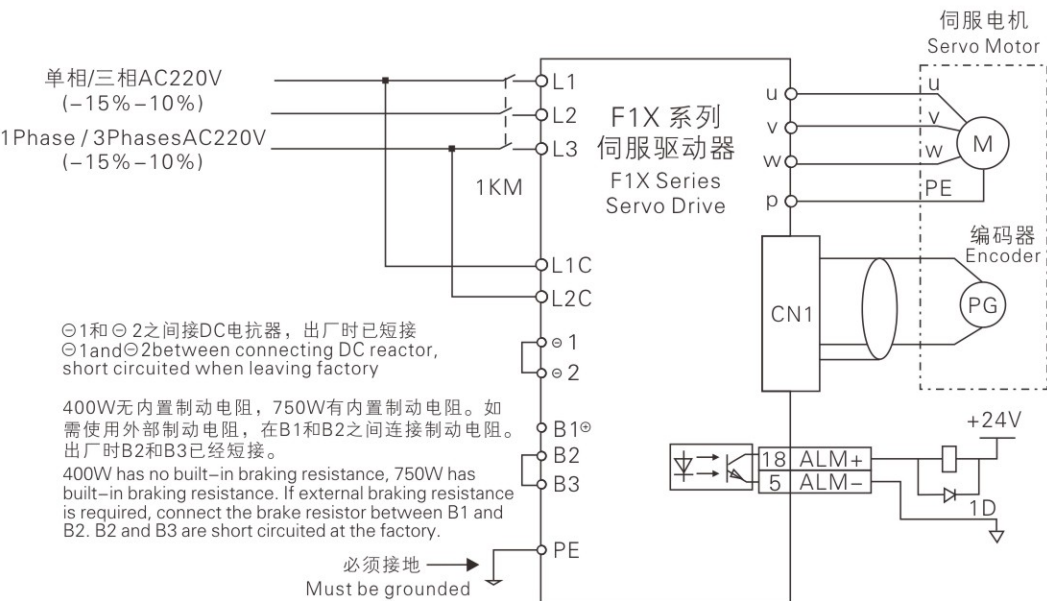
※1 Occasions with brake motor

180Flange

Terminal No.	Signal Name	Content	Wiring Color
Motor Power Input			
A (2)	U	Motor power U-phase output	Red
B (3)	V	Motor power V-phase output	White
C (4)	W	Motor power W-phase output	Black
D (1)	PE	Motor frame grounding	Yellow green
Brake (※1)			
1	BRK+	Brake power DC24V	Red
2	BRK-	Brake power GND	Black
2500Line Encoder (Incremental)			
1	PE	Motor frame grounding	Yellow green
2	5V	Encoder power 5V output	Red
3	0V	Signal ground	Black
4	A+	Encoder signal A+	Gray
5	B+	Encoder signal B+	Green
6	Z+	Encoder signal Z+	Yellow
7	A-	Encoder signal A-	Gray white
8	B-	Encoder signal B-	Green white
9	Z-	Encoder signal Z-	Yellow white
10	U+	Encoder signal U+	Brown
11	V+	Encoder signal V+	Blue
12	W+	Encoder signal W+	Orange
13	U-	Encoder signal U-	Brown white
14	V-	Encoder signal V-	Blue white
15	W-	Encoder signal W-	Orange white
Single turn 17bit magnetic encoder			
1	SD+	Serial communication data + data	Green
2	SD-	Serial communication data - data	Green Black
4	5V	Encoder power 5V output	Red
5	E-	External battery -	Blue black
6	E+	External battery +	Blue
9	GND	Signal ground	Black
10	PE	Motor frame grounding	Yellow green

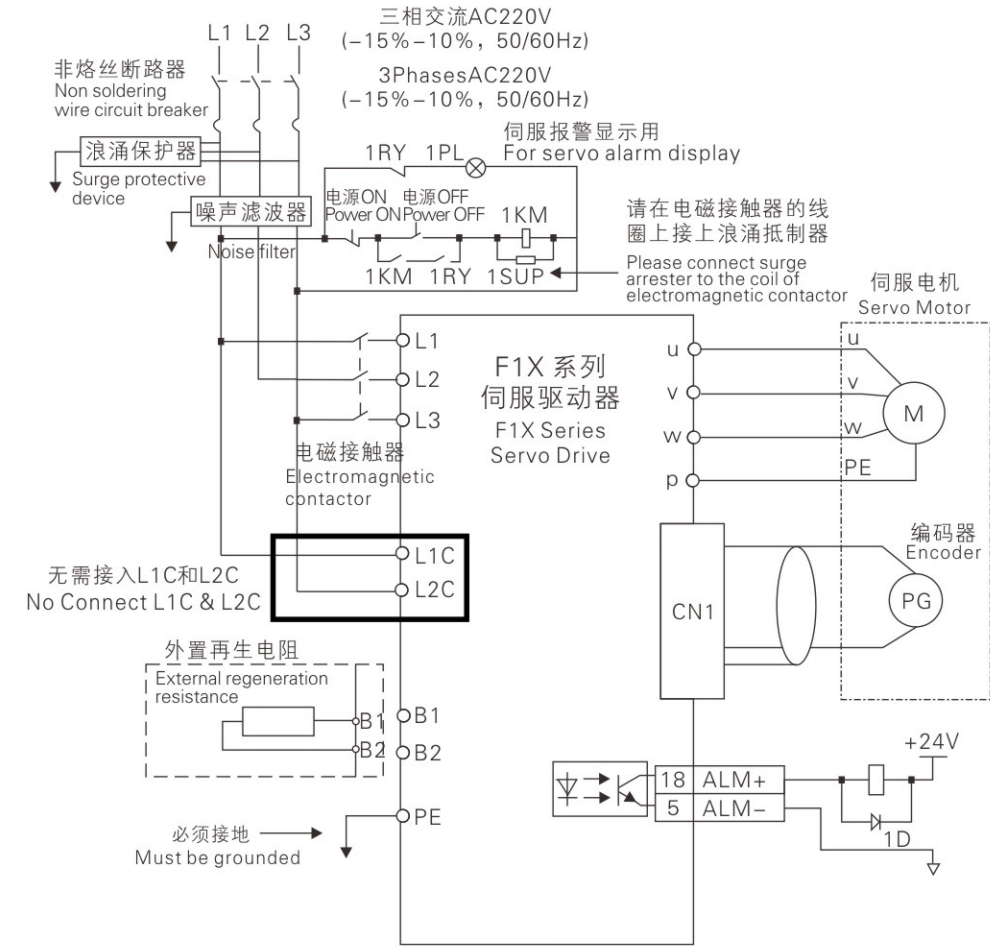
※1 Occasions with brake motor

F1X系列220V接线
F1X Series 220V Connection

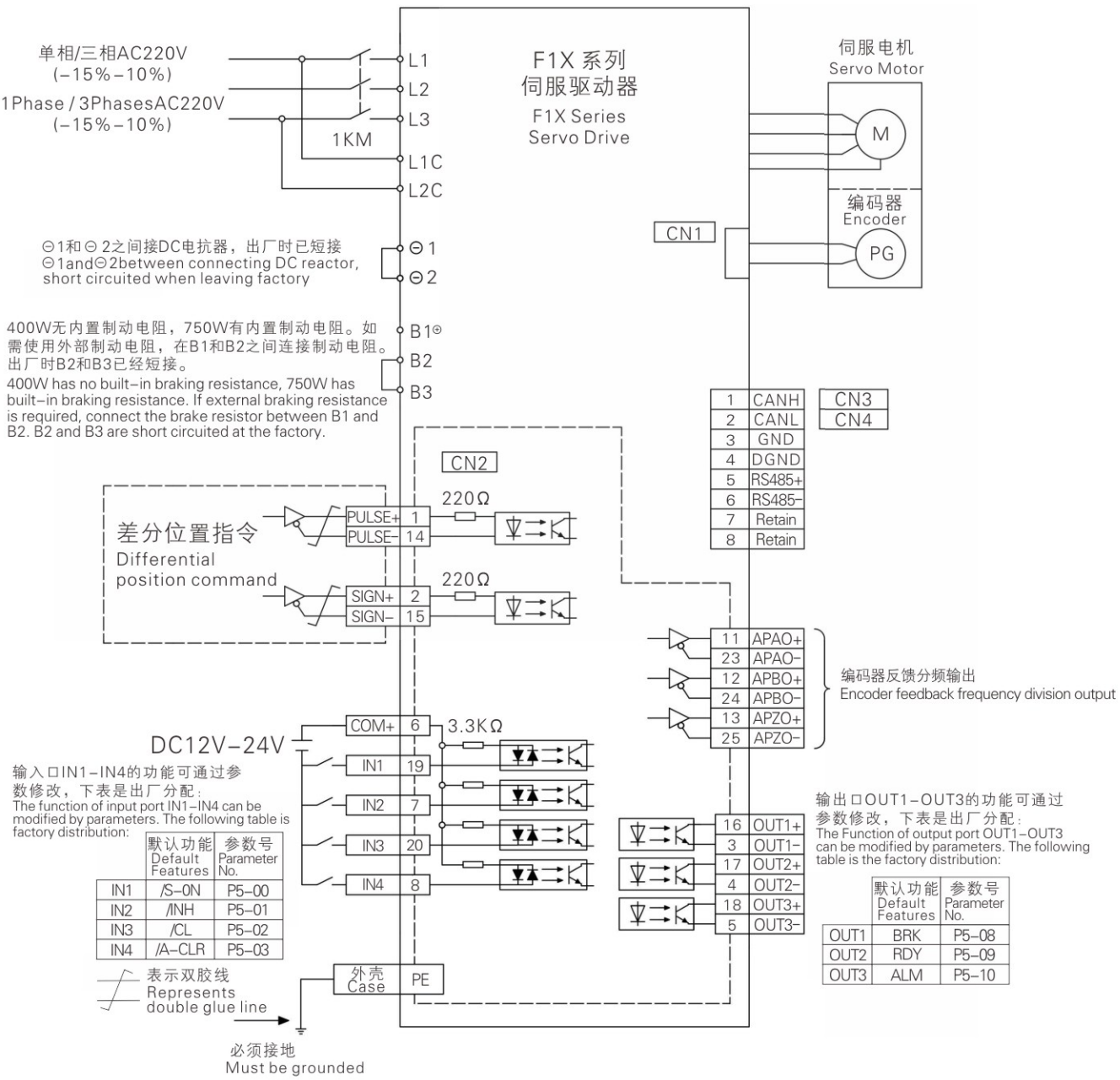


220V系列伺服均可接入单项220V，1KW以上伺服不建议
220V series servo can be connected to single 220V, not recommended for servo above 1KW

F1X系列380V接线
F1X Series 380V Connection



位置模式接线图（差分信号输入脉冲接线）
Location mode wiring diagram (Differential signal input pulse wiring)



输入口IN1-IN4的功能可通过参
数修改，下表是出厂分配：
The function of input port IN1-IN4 can be
modified by parameters. The following table is
factory distribution:

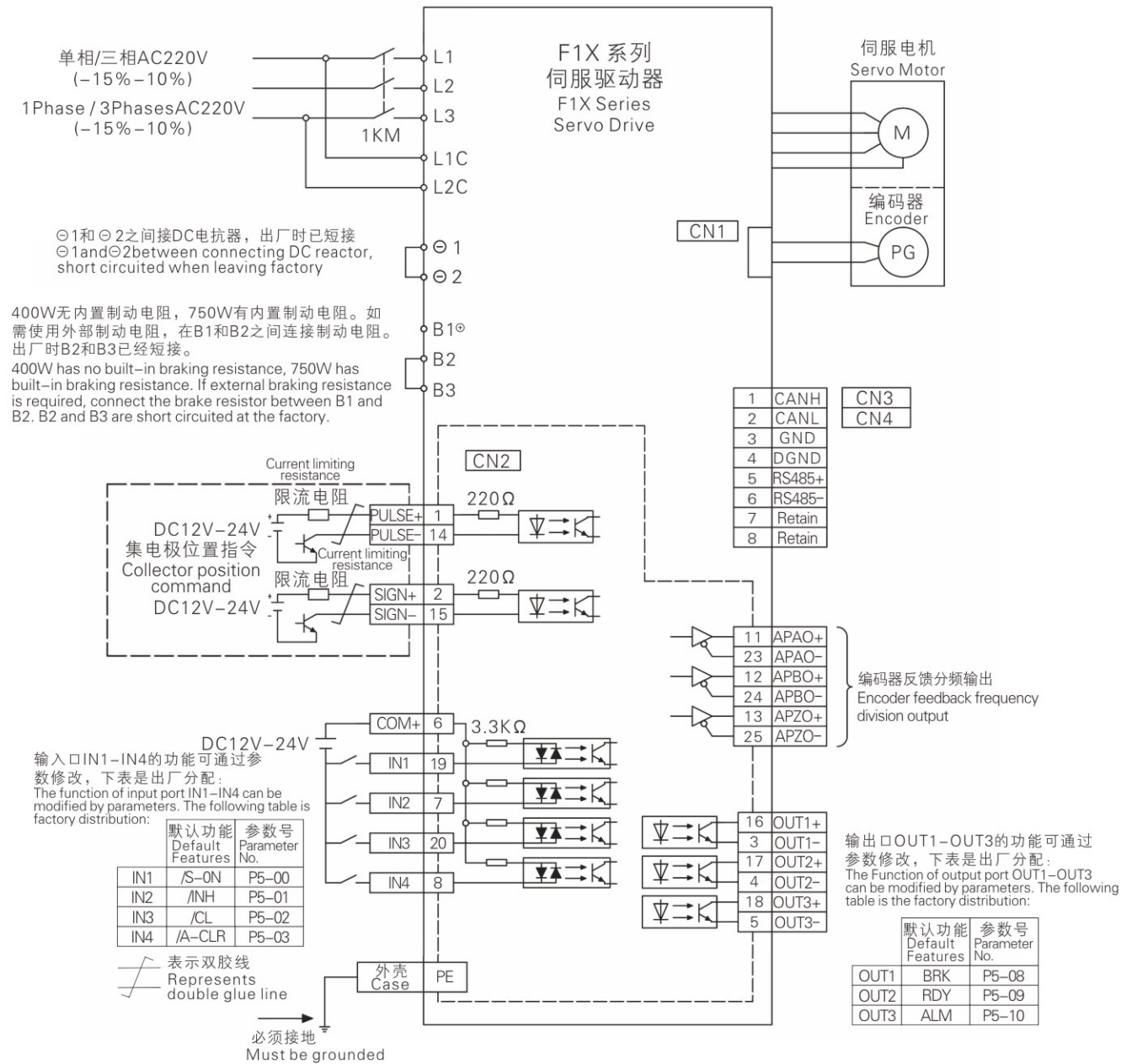
默认功能 Default Features	参数号 Parameter No.
IN1 /S-ON	P5-00
IN2 /INH	P5-01
IN3 /CL	P5-02
IN4 /A-CLR	P5-03

输出口OUT1-OUT3的功能可通过
参数修改，下表是出厂分配：
The Function of output port OUT1-OUT3
can be modified by parameters. The following
table is the factory distribution:

默认功能 Default Features	参数号 Parameter No.
OUT1 BRK	P5-08
OUT2 RDY	P5-09
OUT3 ALM	P5-10

位置模式接线图（集电极信号输入脉冲接线）

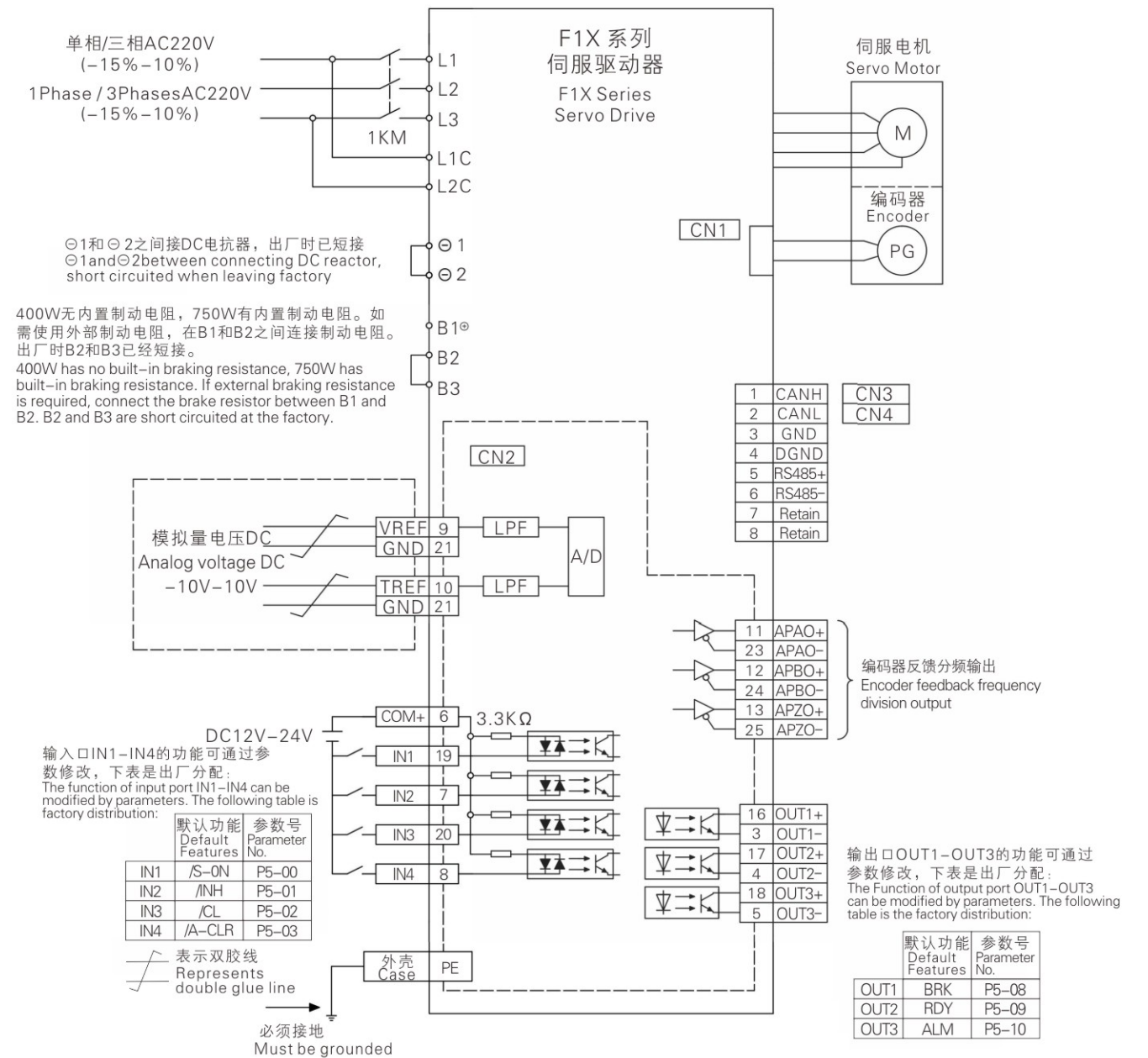
Location mode wiring diagram (Collector signal input pulse wiring)



注意：脉冲输入为集电极开路（如PLC24V脉冲输出）时必须串联限流电阻。12V电源串联1K电阻，24V电源串联2K电阻。

速度/扭矩模式接线图

Speed / Torque Mode Wiring Diagram



输出OUT1-OUT3的功能可通过
 参数修改，下表是出厂分配：
 The Function of output port OUT1-OUT3
 can be modified by parameters. The following
 table is the factory distribution:

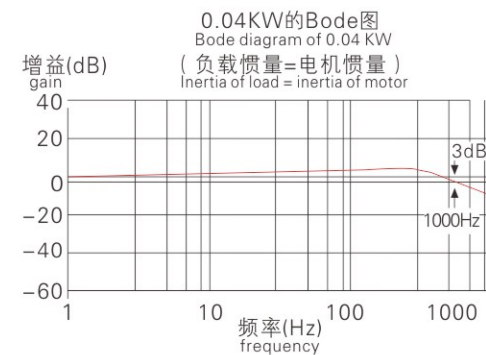
	默认功能 Default Features	参数号 Parameter No.
OUT1	BRK	P5-08
OUT2	RDY	P5-09
OUT3	ALM	P5-10

良好的动态响应

Good dynamic response

◇采用 32 位专用 DSP 处理器和先进控制算法，大幅提高动态响应速度，速度响应频率达到 1000Hz；

Adopt 32-bit DSP processor and advanced control algorithm, greatly improve the dynamic response speed, The speed response frequency reaches 1000Hz;

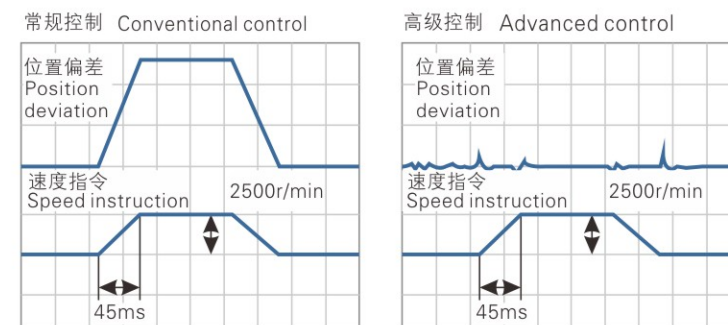


大幅提升动态跟随特性

Greatly improve the dynamic following feature

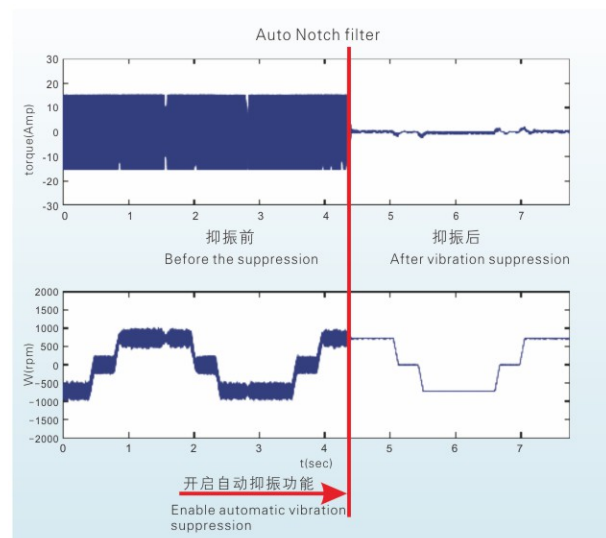
◇通过算法优化，采用最小位置偏差控制，可大幅降低位置偏差，提升动态跟随特性。

Algorithm optimization, using the minimum position deviation control, can be greatly reduced Set the deviation to improve the dynamic following characteristics.



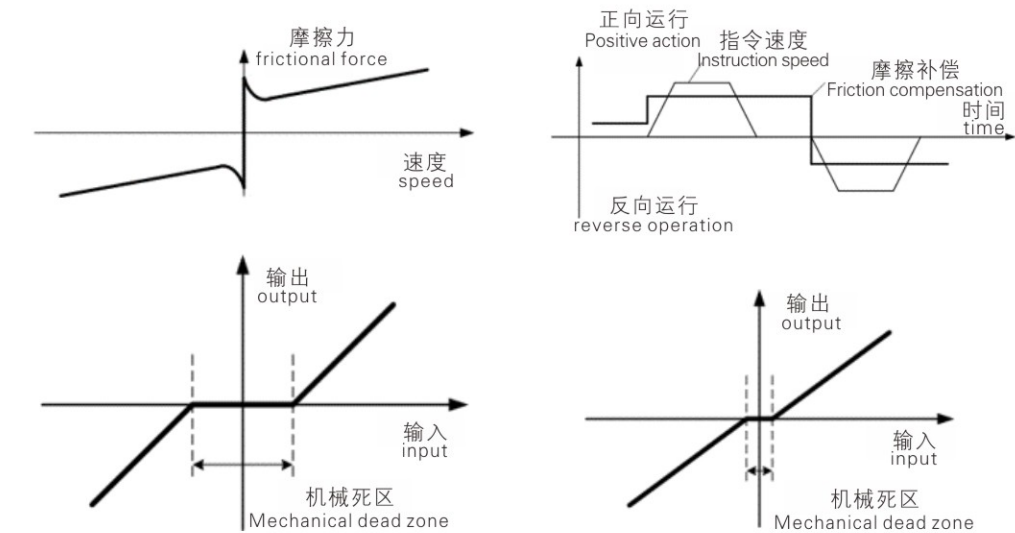
内置多组共振抑制滤波器可以针对不同场合下伺服电机因机械共振而造成的震动进行抑制

The built-in multi-group resonance suppression filter can suppress the vibration caused by mechanical resonance of servo motor in different situations



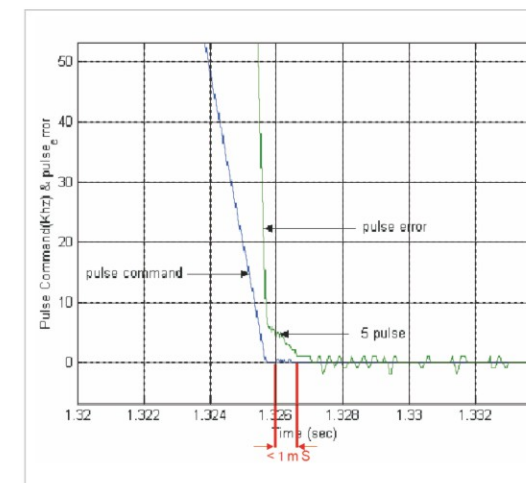
优秀的伺服算法，可以针对摩擦力以及机械间隙进行有效的补偿

Excellent servo algorithm can effectively compensate for friction and mechanical clearance



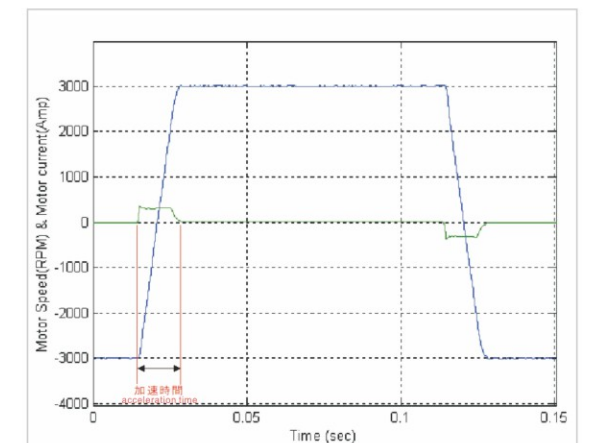
高速动态响应，系统整定时间为1ms

High speed dynamic response, system setting time is 1ms



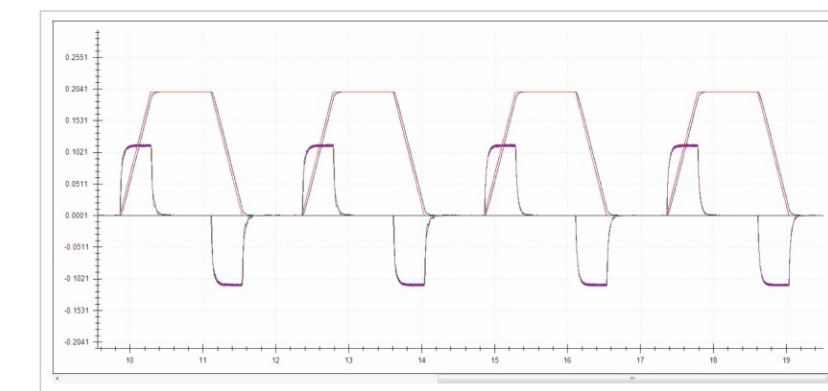
快速加减速，以400W电机驱动为例，-3000~3000rpm做加减速整个加减速时间为7ms

Rapid acceleration and deceleration. Take 400W motor drive as an example, the whole acceleration and deceleration time of -3000~3000rpm is 7ms



优秀的伺服算法，可以针对摩擦力以及机械间隙进行有效的补偿

Excellent servo algorithm can effectively compensate for friction and mechanical clearance





EC-F1X10/15S□□*L
50-400W 220V



EC-F1X20S□□*L
0.75-1.0KW 220V



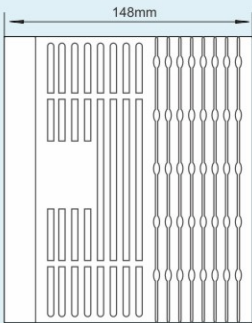
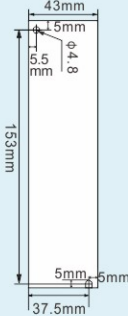
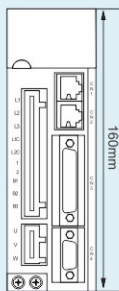
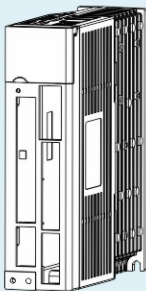
EC-F1X30/35S□□*L
1.0-2.6KW 220V



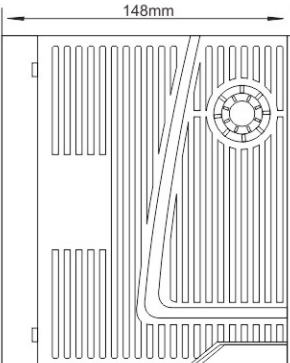
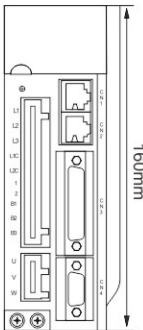
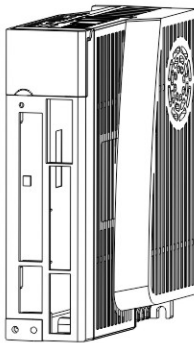
EC-F1X40S□□*L
2.6KW-3.8KW 220V

EC-F1X35/45/55/75S□□*H
2.3KW-7.5KW 380V

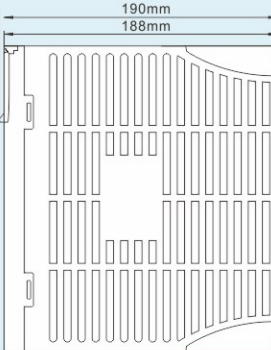
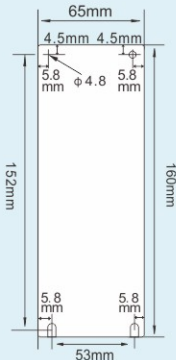
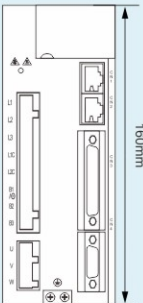
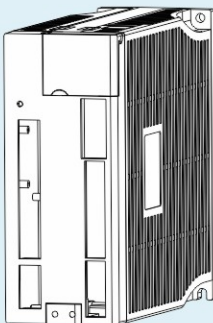
EC-F1X10/15S□□*L 50-400W 220V



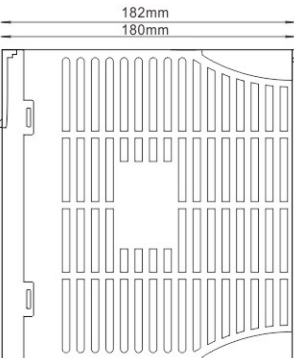
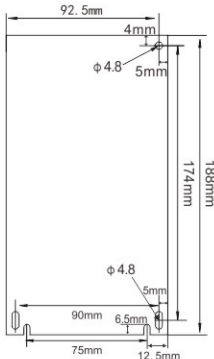
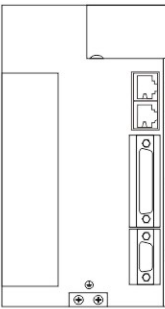
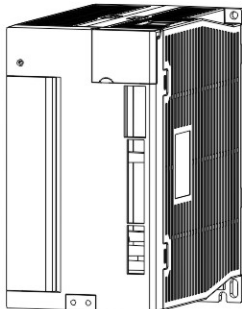
EC-F1X20S□□*L 0.4-0.75KW 220V



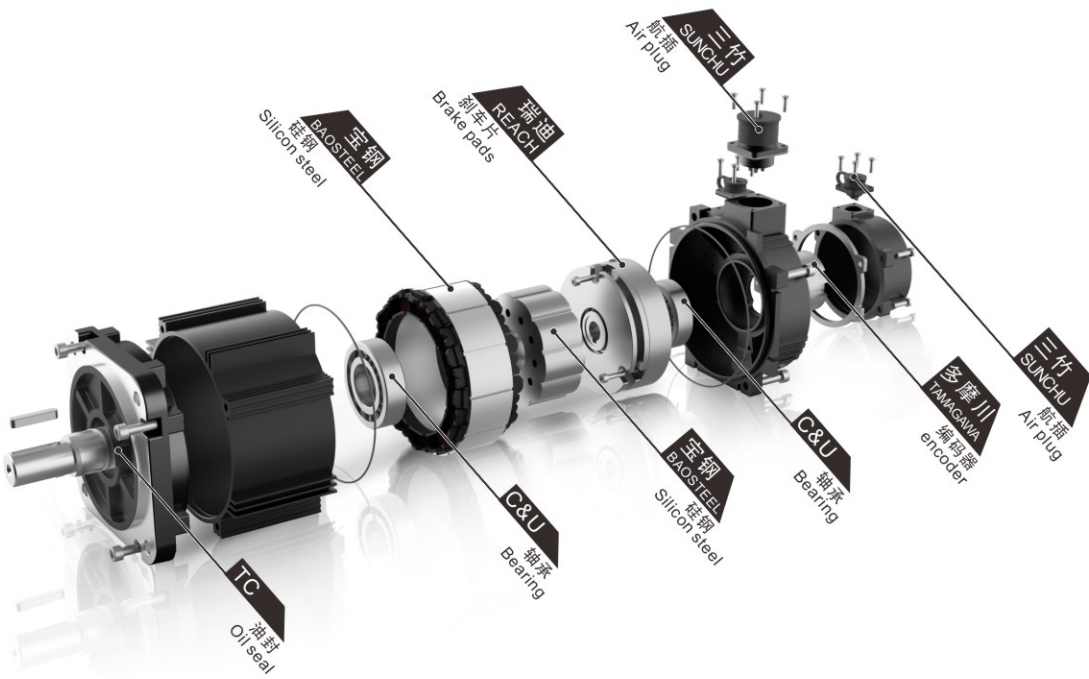
EC-F1X30/35S□□*L 1.0-2.6KW 220V



EC-F1X40S□□*L 2.6KW-3.8KW 220V
EC-F1X35/45/55/75S□□*H 2.3KW-7.5KW 380V



马达命名规则
Motor naming convention



优质供应链: 保证产品性能。
Quality supply chain: **guarantee product performance.**

产品型号识别方法
Model description

EC-F1	CC	100	R - M	2	X	M	*	A	
①	②	③	④	⑤	⑥	⑦	⑧	⑨	
①:产品系列 ①: product range		③:功率规格 ③: Power specifications		④:电机转速 ④: motor speed		⑥:电源电压规格 ⑥: power supply voltage specification		⑨:编码器规格 ⑨: encoder specification	
代码 code	含义 meaning	代码 code	含义 meaning	代码 code	含义 meaning	代码 code	含义 meaning	代码 code	含义 meaning
F1	40mm边长正方形法兰盘 Square flange with side length	005	0.05KW	R	1000	1	110V	A	光电编码器2500线 Photoelectric encoder 2500 lines
F2	60mm边长正方形法兰盘 Square flange with side length	010	0.10KW	S	1500	2	220V	L	磁编码器2500线 Magnetic encoder 2500lines
F3	80mm边长正方形法兰盘 Square flange with side length	020	0.20KW	T	2000	3	380V	B	光电编码器5000线 Photoelectric encoder 5000 lines
F4	110mm边长正方形法兰盘 Square flange with side length	040	0.40KW	U	2500	4	48V	E	多圈绝对值编码器17bit Absolute value of multicoil encoder 17 bits
F5	130mm边长正方形法兰盘 Square flange with side length	075	0.75KW	V	3000	⑦:轴加工规格 ⑦: shaft machining specification		F	多圈绝对值编码器23bit Absolute value of multicoil encoder 23 bits
F6	180mm边长正方形法兰盘 Square flange with side length	100	1.0KW	⑤:制动器规格 ⑤: brake specification		代码 code	含义 meaning	G	多摩川绝对值17bit The absolute value of tamagawa is 17th
		150	1.5KW	代码 code	含义 meaning	X	键轴/带油封 Key shaft/oil seal	H	多摩川绝对值23bit The absolute value of tamagawa is 23th
		200	2.0KW	M	不带制动器 No brake	Y	键轴/不带油封 Key shaft/without oil seal	K	单圈磁编码器17bit Single coil magnetic encoder 17 bit
		300	3.0KW	N	带制动器 Take brake	⑧:电机极对数 ⑧: Pole pairs of motor		D	多圈磁编码器17bit Multi turn magnetic encoder 17 bit
		400	4.0KW			代码 code	含义 meaning		
		550	5.5KW			M	4对极 4 to		
		750	7.5KW			N	5对极 5 to		
②:惯量规格 ②: inertia specification									
代码 code	含义 meaning								
CA	低惯量 Low inertia								
CC	中惯量 In the moment of inertia								
CH	高惯量 High moment of inertia								
CG	低速大转矩 Low speed high torque								

EC-F1/F2/F3/F4/F5/F6马达系列
EC-F1/F2/F3/F4/F5/F6 motor series

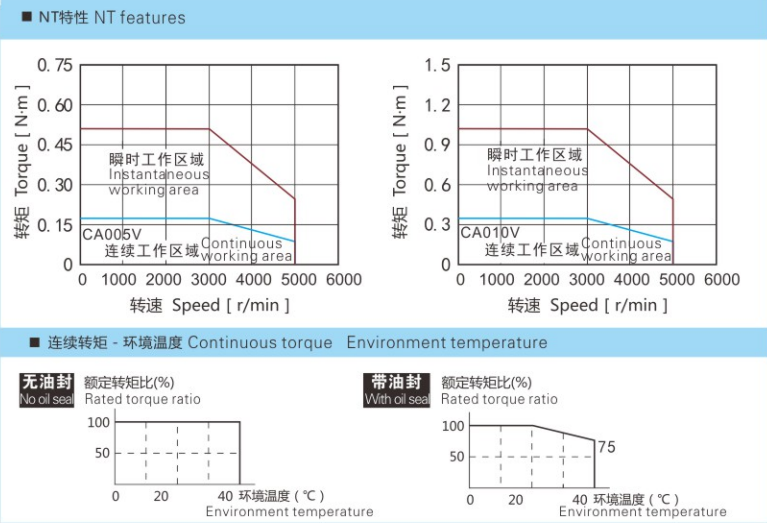
在要求自动化、高速化、高精度化、便利化的新一代制造业所有领域中，
EC系列伺服提供了最佳的解决方案

In the demand for automation, high speed, high precision, In all areas of facilitating a
new generation of manufacturing, EC series servo provides the best solution



满足各种场合和高精度制造业
Meet various occasions and high precision manufacturing

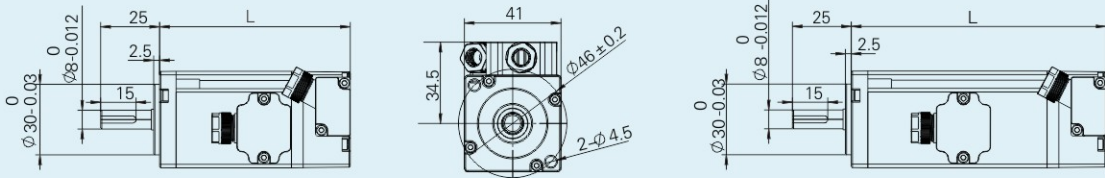
40 法兰外型图
40Flange profile drawing



规格表 Specification table

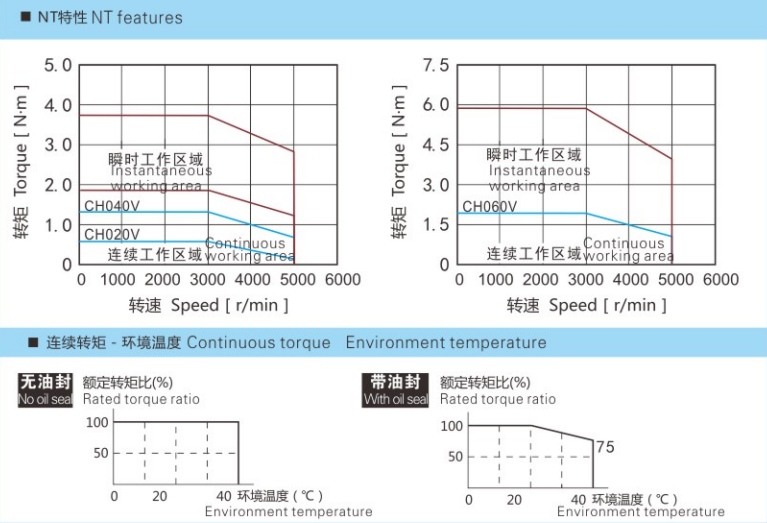
马达型号 F1□□□2□N*□ Motor model F1□□□2□N*□	单位 Unit	50W中惯量CA005V 50W centre inertiaCA005V	100W中惯量CA010V 100W centre inertiaCA010V
安装法兰盘尺寸 Install flange dimensions	mm	□40	□40
额定功率 Rated power	W	50	100
额定电压 Rated voltage	V	220	220
额定电流 Rated current	A	1.2	1.3
峰值电流 Peak current	A	3.6	3.9
额定转矩 Rated torque	N.m	0.16	0.32
最大转矩 Maximum torque	N.m	0.48	0.95
额定转速 Rated speed	r/min	3000	3000
最高转速 Highest speed	r/min	5000	5000
转子惯量无制动 Rotor inertia without braking	Kg · m ²	0.025 × 10 ⁻⁴	0.05 × 10 ⁻⁴
转子惯量带制动 Rotor inertia belt brake	Kg · m ²	0.028 × 10 ⁻⁴	0.053 × 10 ⁻⁴
反电势 Electric potential	V/1000r/min	14.8	21.8
力矩系数 Moment coefficient	N.m/A	0.013	0.24
绕组电阻 Winding resistance	Ω	15.2	25.7
绕组电感 Winding inductance	mH	11.6	21.8
重量无制动 Weight without braking	kg	0.25	0.49
重量带制动 Weight belt brake	kg	0.43	0.67
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%
	额定功率 Rated power	W	6
	静扭矩 Static torque	N.m	≥0.32
	吸引时间 Attract time	ms	<50
	释放时间 Release time	ms	<20
	释放电压 Release of the voltage	V	>0.5

外型尺寸图 Outline dimension drawing



电机型号 Motor model	CA005V	CA010V
L(不带抱闸) Without the brake	69	81
L(带抱闸) With the brake	96	108

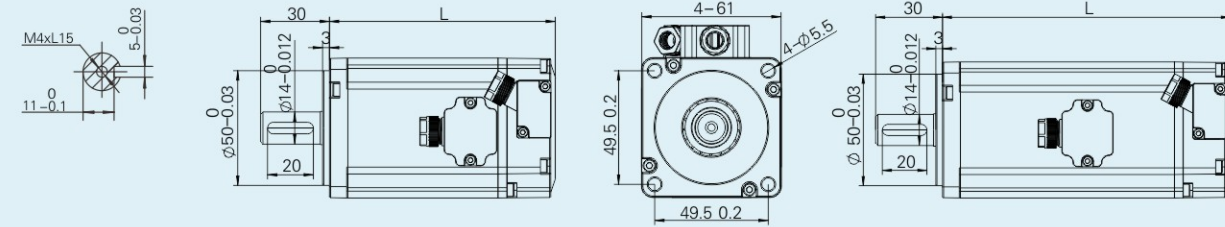
60 法兰外型图
60Flange profile drawing



规格表 Specification table

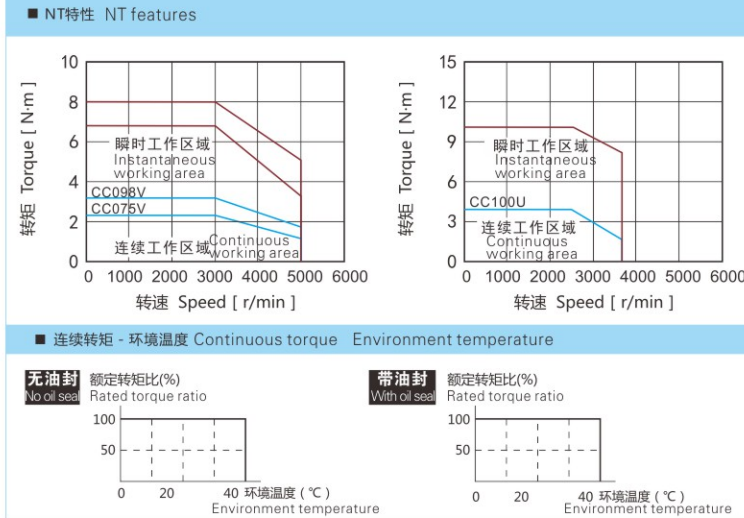
马达型号 F2□□□2□N*□ Motor model F2□□□2□N*□	单位 Unit	200W高惯量CH020V 200W high inertiaCH020V	400W高惯量CH040V 400W high inertiaCH040V	600W高惯量CH060V 600W high inertiaCH060V	
安装法兰盘尺寸 Install flange dimensions	mm	□60	□60	□60	
额定功率 Rated power	W	200	400	600	
额定电压 Rated voltage	V	220	220	220	
额定电流 Rated current	A	1.3	2.3	3.5	
峰值电流 Peak current	A	4.5	7.1	10.8	
额定转矩 Rated torque	N.m	0.63	1.27	1.9	
最大转矩 Maximum torque	N.m	1.89	3.81	5.7	
额定转速 Rated speed	r/min	3000	3000	3000	
最高转速 Highest speed	r/min	5000	5000	5000	
转子惯量无制动 Rotor inertia without braking	Kg · m ²	0.30 × 10 ⁻⁴	0.58 × 10 ⁻⁴	0.86 × 10 ⁻⁴	
转子惯量带制动 Rotor inertia belt brake	Kg · m ²	0.32 × 10 ⁻⁴	0.60 × 10 ⁻⁴	0.88 × 10 ⁻⁴	
反电势 Electric potential	V/1000r/min	34	36	36.5	
力矩系数 Moment coefficient	N.m/A	0.48	0.55	0.54	
绕组电阻 Winding resistance	Ω	12.6	6.5	3.3	
绕组电感 Winding inductance	mH	22	16	6.9	
重量无制动 Weight without braking	kg	0.75	1.3	1.81	
重量带制动 Weight belt brake	kg	1.15	1.7	2.21	
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	
	额定功率 Rated power	W	7.6	7.6	7.6
	静扭矩 Static torque	N.m	≥1.5	≥1.5	≥1.5
	吸引时间 Attract time	ms	<60	<60	<60
	释放时间 Release time	ms	<20	<20	<20
	释放电压 Release of the voltage	V	>1.5	>1.5	>1.5

外型尺寸图Outline dimension drawing



电机型号 Motor model	CH020V	CH040V	CH060V
L(不带抱闸) Without the brake	81	99	127
L(带抱闸) With the brake	111	129	157

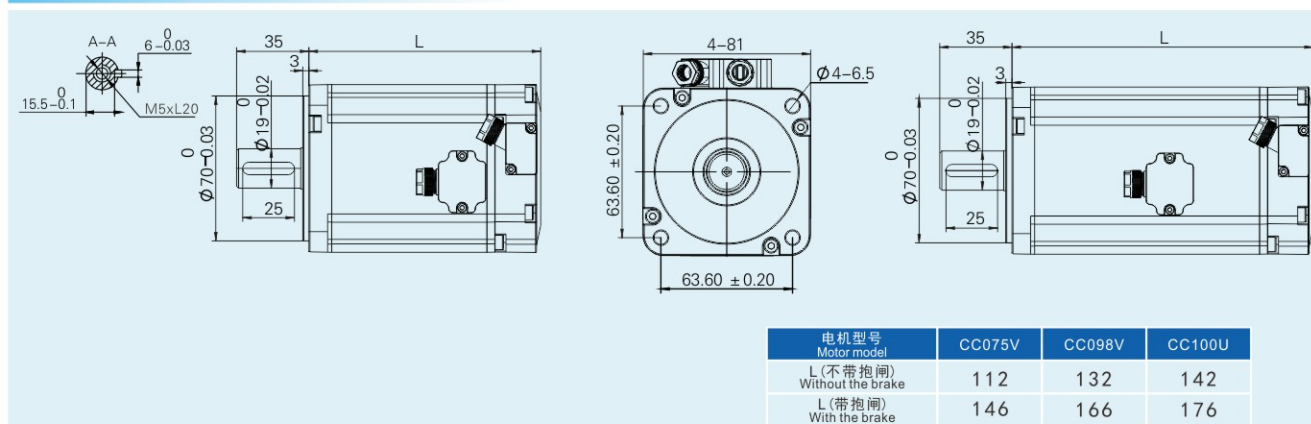
80 法兰外型图
80Flange profile drawing



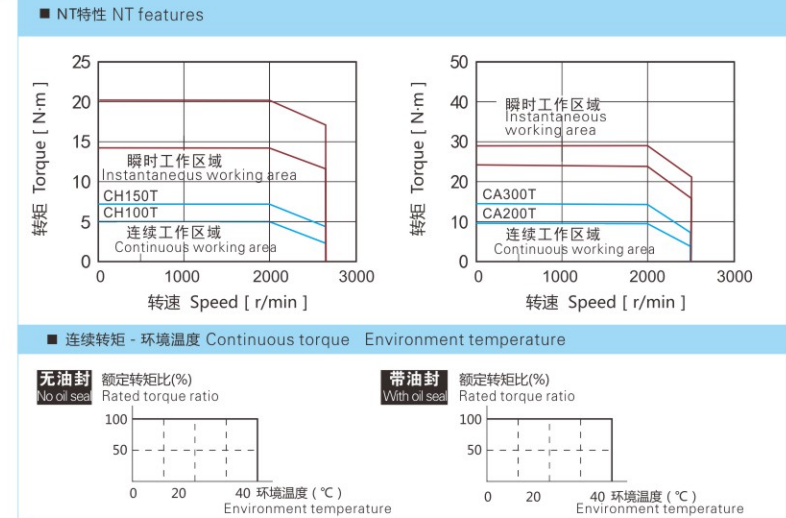
规格表 Specification table

马达型号 F3□□□2□N*□ Motor model F3□□□2□N*□	单位 Unit	750W中惯量CC075V 750W centre inertiaCC075V	980W中惯量CC098V 980W centre inertiaCC098V	1.0KW中惯量CC100U 1.0KW centre inertiaCC100U
安装法兰盘尺寸 Install flange dimensions	mm	□80	□80	□80
额定功率 Rated power	W	750	980	1000
额定电压 Rated voltage	V	220	220	220
额定电流 Rated current	A	4.2	5	5
峰值电流 Peak current	A	11.5	12.5	12.8
额定转矩 Rated torque	N.m	2.4	3.2	4
最大转矩 Maximum torque	N.m	7.2	8	10
额定转速 Rated speed	r/min	3000	3000	2500
最高转速 Highest speed	r/min	5000	5000	3600
转子惯量无制动 Rotor inertia without braking	Kg·m ²	1.06×10^{-4}	1.73×10^{-4}	1.94×10^{-4}
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	1.16×10^{-4}	1.83×10^{-4}	2.04×10^{-4}
反电势 Electric potential	V/1000r/min	36	41	52
力矩系数 Moment coefficient	N.m/A	0.57	0.64	0.8
绕组电阻 Winding resistance	Ω	1.9	1.3	1.96
绕组电感 Winding inductance	mH	12.5	11.6	13.6
重量无制动 Weight without braking	kg	2.4	3.3	3.75
重量带制动 Weight belt brake	kg	3.1	4	4.45
制动参数 Braking parameters	额定电压 Rated voltage	V	$24 \pm 10\%$	$24 \pm 10\%$
	额定功率 Rated power	W	8.5	8.5
	静扭矩 Static torque	N.m	≥ 3.8	≥ 3.8
	吸引时间 Attract time	ms	< 60	< 60
	释放时间 Release time	ms	< 40	< 40
	释放电压 Release of the voltage	V	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing



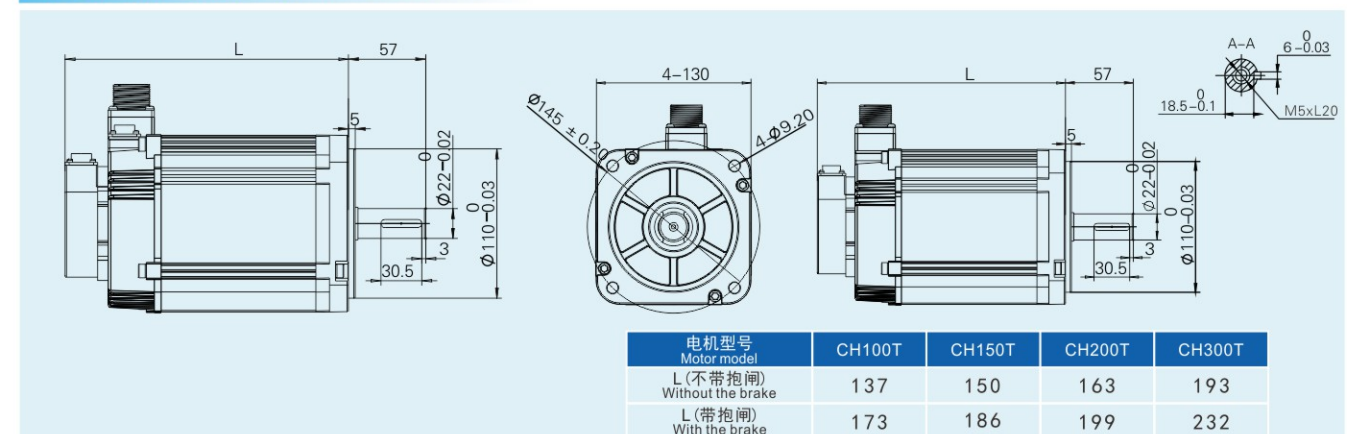
130 法兰外型图
130Flange profile drawing



规格表 Specification table

马达型号 F5□□□2□N*□ Motor model F5□□□2□N*□	单位 Unit	1.0KW高惯量CH100T 1.0KW high inertiaCH100T	1.5KW高惯量CH150T 1.5KW high inertiaCH150T	2.0KW高惯量CH200T 2.0KW high inertiaCH200T	3.0KW高惯量CH300T 3.0KW high inertiaCH300T
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130
额定功率 Rated power	KW	1.0	1.5	2.0	3.0
额定电压 Rated voltage	V	220	220	220	220
额定电流 Rated current	A	5	7.3	9.5	14
峰值电流 Peak current	A	14.3	19.1	24.5	28.5
额定转矩 Rated torque	N.m	5.0	7.5	9.8	14.7
最大转矩 Maximum torque	N.m	13.8	20.2	23.4	29.4
额定转速 Rated speed	r/min	2000	2000	2000	2000
最高转速 Highest speed	r/min	2700	2700	2700	2700
转子惯量无制动 Rotor inertia without braking	Kg·m ²	1.35×10^{-3}	1.83×10^{-3}	2.25×10^{-3}	3.34×10^{-3}
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	1.45×10^{-3}	1.93×10^{-3}	2.35×10^{-3}	3.44×10^{-3}
反电势 Electric potential	V/1000r/min	68	65	66	67
力矩系数 Moment coefficient	N.m/A	1	1.03	1.03	1.05
绕组电阻 Winding resistance	Ω	1.9	1.05	0.76	0.48
绕组电感 Winding inductance	mH	15.5	9.1	6.9	5.2
重量无制动 Weight without braking	kg	5.6	6.8	7.9	10.5
重量带制动 Weight belt brake	kg	7.3	8.5	9.6	12.6
制动参数 Braking parameters	额定电压 Rated voltage	V	$24 \pm 10\%$	$24 \pm 10\%$	$24 \pm 10\%$
	额定功率 Rated power	W	14.4	14.4	14.4
	静扭矩 Static torque	N.m	≥ 10	≥ 10	≥ 10
	吸引时间 Attract time	ms	< 80	< 80	< 80
	释放时间 Release time	ms	< 40	< 40	< 40
	释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing



130 法兰高惯量外形图 130 Profile of flange high inertia



CH085S



CH130S



CH180S

NT特性 NT features



连续转矩 - 环境温度 Continuous torque Environment temperature

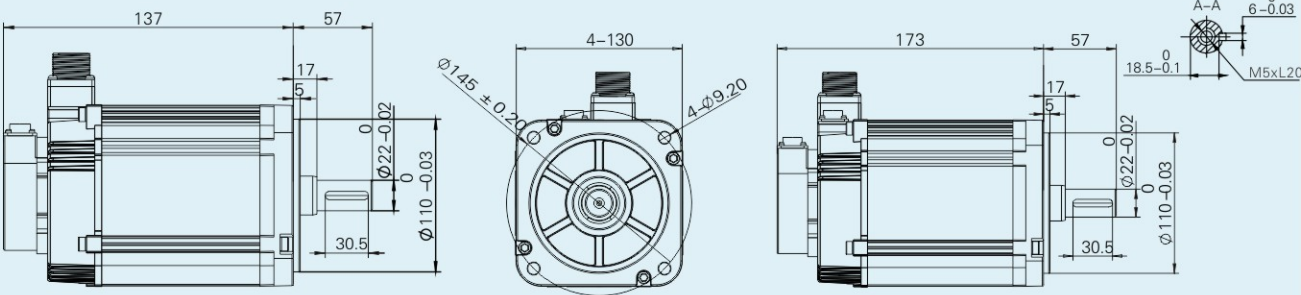


规格表 Specification table

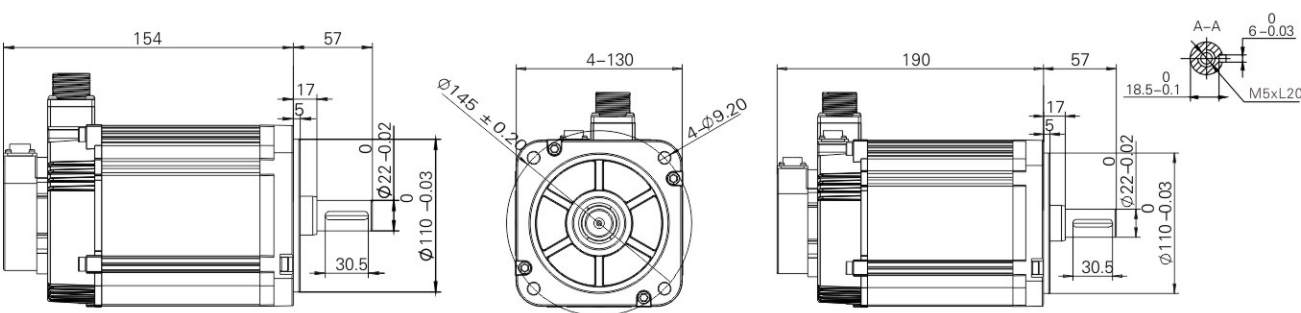
马达型号 F5□□□□2□N*□ Motor model F5□□□□2□N*□	单位 Unit	850W高惯量CH085S 850W high inertiaCH085S	1.3KW高惯量CH130S 1.3KW high inertiaCH130S	1.8KW高惯量CH180S 1.8KW high inertiaCH180S
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130
额定功率 Rated power	W	850	1300	1800
额定电压 Rated voltage	V	220	220	220
额定电流 Rated current	A	6.9	10.7	16.7
峰值电流 Peak current	A	18.6	28.7	46.3
额定转矩 Rated torque	N.m	5.39	8.34	11.5
最大转矩 Maximum torque	N.m	13.8	23.3	34.5
额定转速 Rated speed	r/min	1500	1500	1500
最高转速 Highest speed	r/min	3000	3000	3000
转子惯量无制动 Rotor inertia without braking	Kg · m²	1.35 × 10 ⁻³	1.95 × 10 ⁻³	2.55 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg · m²	1.45 × 10 ⁻³	2.05 × 10 ⁻³	2.65 × 10 ⁻³
反电势 Electric potential	V/1000r/min	50.5	50.7	45.5
力矩系数 Moment coefficient	N.m/A	0.78	0.78	0.69
绕组电阻 Winding resistance	Ω	0.92	0.5	0.3
绕组电感 Winding inductance	mH	8.72	5.45	3.22
重量无制动 Weight without braking	kg	5.6	7	8.4
重量带制动 Weight belt brake	kg	7.3	8.7	10.5
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	14.4	14.4	19.5
静扭矩 Static torque	N.m	≥ 10	≥ 10	≥ 15
吸引时间 Attract time	ms	< 80	< 80	< 100
释放时间 Release time	ms	< 40	< 40	< 40
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5

外形尺寸图 Outline dimension drawing

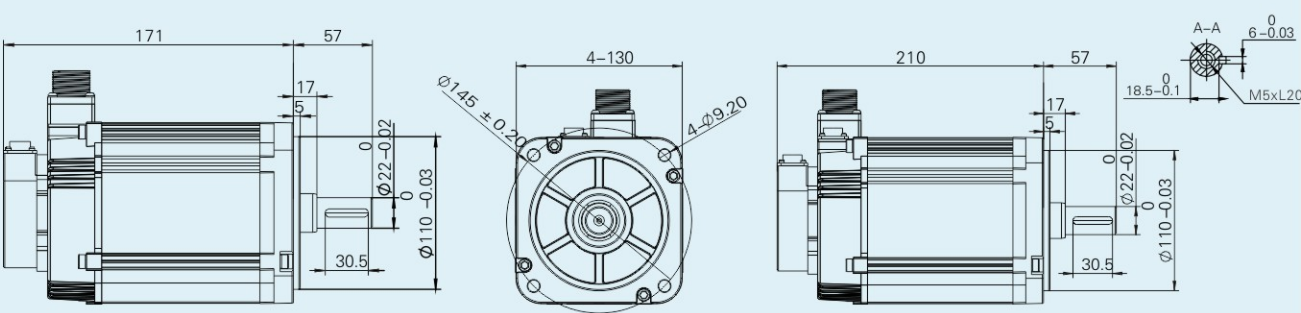
CH085S



CH0130S



CH180S



F系列电机输出轴的容许负载
Permissible load of F series motor output shaft

径向方向
Radial direction

轴向方向
Axial direction

径向方向
Radial direction

轴
Shaft

L/2

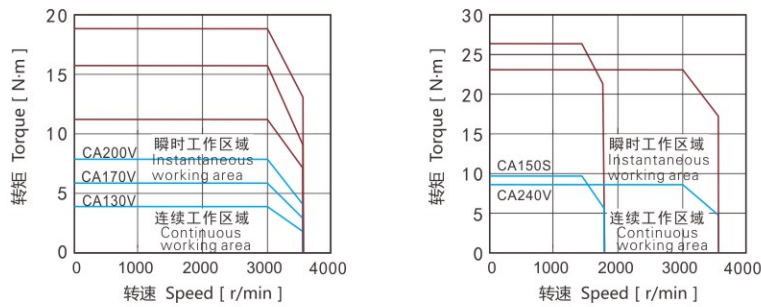
L

容许负载 Allow the load	单位 unit	50W	100W	200W	400W	400W	750W	1.0KW	1.5KW	2.0KW	3.0KW	850W	1.3KW	1.8KW
径向方向 Radial direction	N	70	70	260	260	260	398	495	495	495	495	495	690	980
轴向方向 Axial direction	N	60	60	100	100	100	148	198	198	198	198	98	345	392

130 法兰外型图
130Flange profile drawing



■ NT特性 NT features



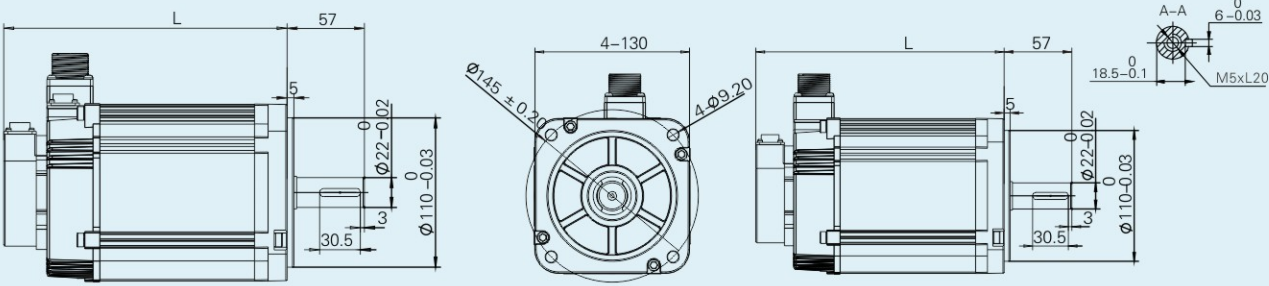
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F5□□□2□N*□ Motor model F5□□□2□N*□	单位 Unit	1.3KW低惯量CA130V 1.3KW low inertia CA130V	1.7KW低惯量CA170V 1.7KW low inertia CA170V	2.0KW低惯量CA200V 2.0KW low inertia CA200V	2.4KW低惯量CA240V 2.4KW low inertia CA240V	1.5KW低惯量CA150S 1.5KW low inertia CA150S
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130	□130
额定功率 Rated power	KW	1.3	1.7	2.0	2.4	1.5
额定电压 Rated voltage	V	220	220	220	220	220
额定电流 Rated current	A	5.2	6.9	7.2	9	6.5
峰值电流 Peak current	A	16	21	22.1	28	20.5
额定转矩 Rated torque	N.m	4.2	5.4	6.4	7.7	9.8
最大转矩 Maximum torque	N.m	12.6	16.2	19.2	23.1	26.7
额定转速 Rated speed	r/min	3000	3000	3000	3000	1500
最高转速 Highest speed	r/min	3600	3600	3600	3600	1700
转子惯量无制动 Rotor inertia without braking	Kg·m ²	0.52 × 10 ⁻³	0.58 × 10 ⁻³	0.71 × 10 ⁻³	0.84 × 10 ⁻³	1.05 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	0.52 × 10 ⁻³	0.58 × 10 ⁻³	0.71 × 10 ⁻³	0.84 × 10 ⁻³	1.05 × 10 ⁻³
反电势 Electric potential	V/1000r/min	55	54	59	56.5	96
力矩系数 Moment coefficient	N.m/A	0.8	0.78	0.89	0.85	1.67
绕组电阻 Winding resistance	Ω	1.2	0.8	0.71	0.56	1.09
绕组电感 Winding inductance	mH	10.5	8.2	6.6	5.3	5.7
重量无制动 Weight without braking	kg	5.36	5.9	6.6	7.4	8.7
重量带制动 Weight belt brake	kg	7	7.6	8.3	9.1	10.4
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
	额定功率 Rated power	W	14.4	14.4	14.4	14.4
	静扭矩 Static torque	N.m	≥ 10	≥ 10	≥ 10	≥ 10
	吸引时间 Attract time	ms	< 80	< 80	< 80	< 80
	释放时间 Release time	ms	< 40	< 40	< 40	< 40
	释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

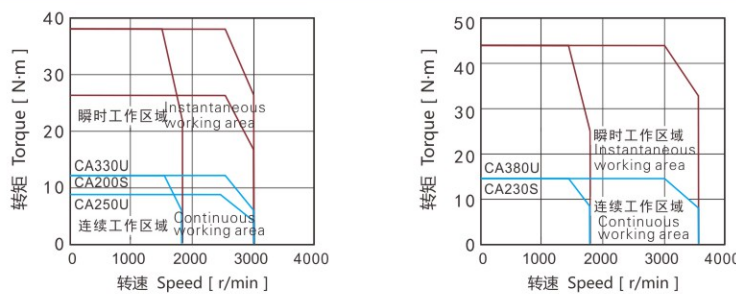


电机型号 Motor model	CA130V	CA170V	CA200V	CA240V	CA150S
L (不带抱闸) Without the brake	134	140	150	160	177
L (带抱闸) With the brake	170	176	186	196	213

130 法兰外型图
130Flange profile drawing



■ NT特性 NT features



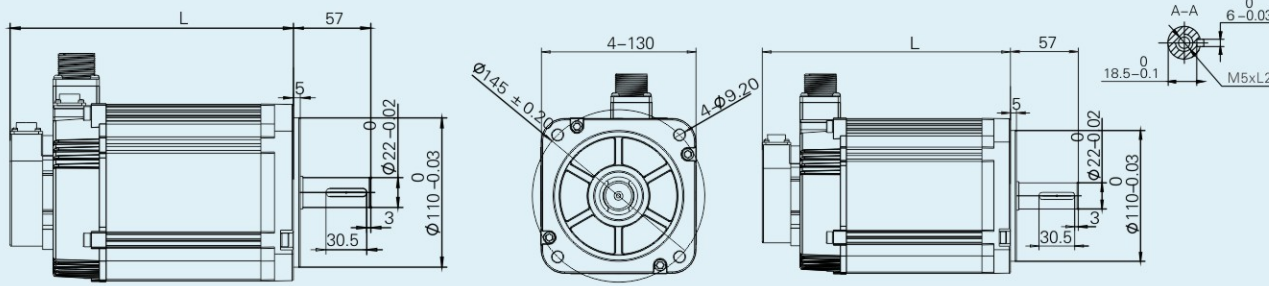
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F5□□□2□N*□ Motor model F5□□□2□N*□	单位 Unit	2.5KW/低惯量CA250U 2.5KW low inertia CA250U	2.0KW/低惯量CA200S 2.0KW low inertia CA200S	3.3KW/低惯量CA330U 3.3KW low inertia CA330U	2.3KW/低惯量CA230S 2.3KW low inertia CA230S	3.8KW/低惯量CA380U 3.8KW low inertia CA380U	
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130	□130	
额定功率 Rated power	KW	2.5	2.0	3.3	2.3	3.8	
额定电压 Rated voltage	V	220	220	220	220	220	
额定电流 Rated current	A	10.2	8.5	14	9	17	
峰值电流 Peak current	A	30.8	25.9	42	27.9	51	
额定转矩 Rated torque	N.m	9.8	12.7	12.7	14.7	14.7	
最大转矩 Maximum torque	N.m	26.7	38	38	44	44	
额定转速 Rated speed	r/min	2500	1500	2500	1500	2500	
最高转速 Highest speed	r/min	3000	1700	3000	1700	3000	
转子惯量无制动 Rotor inertia without braking	Kg · m ²	0.95 × 10 ⁻³	1.2 × 10 ⁻³	1.2 × 10 ⁻³	1.32 × 10 ⁻³	1.32 × 10 ⁻³	
转子惯量带制动 Rotor inertia belt brake	Kg · m ²	1.05 × 10 ⁻³	1.3 × 10 ⁻³	1.3 × 10 ⁻³	1.42 × 10 ⁻³	1.42 × 10 ⁻³	
反电势 Electric potential	V/1000r/min	60	98	57	105	57	
力矩系数 Moment coefficient	N.m/A	1.5	0.96	0.9	1.6	0.86	
绕组电阻 Winding resistance	Ω	0.48	0.82	0.3	0.85	0.24	
绕组电感 Winding inductance	mH	4.5	10.6	3.2	10.8	3.03	
重量无制动 Wweight without braking	kg	8.7	10.4	10.4	11.4	11.4	
重量带制动 Wweight belt brake	kg	10.4	12.7	12.7	13.7	13.7	
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
	额定功率 Rated power	W	14.4	19.5	19.5	19.5	19.5
	静扭矩 Static torque	N.m	≥ 10	≥ 15	≥ 15	≥ 15	≥ 15
	吸引时间 Attract time	ms	<80	<100	<100	<100	<100
	释放时间 Release time	ms	<40	<40	<40	<40	<40
	释放电压 Release of the voltage	V	>1.5	>1.5	>1.5	>1.5	>1.5

外型尺寸图 Outline dimension drawing

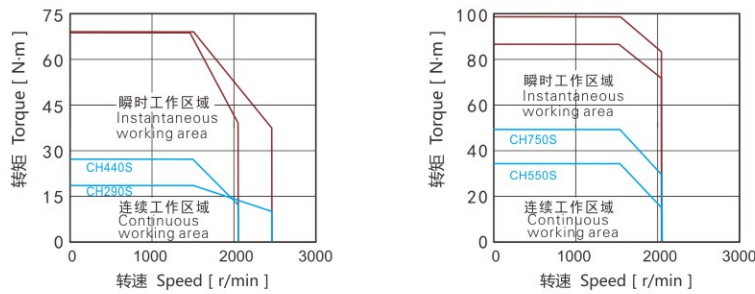


电机型号 Motor model	CA250U	CA200S	CA330U	CA230S	CA380U
L (不带抱闸) Without the brake	177	198	198	210	210
L (带抱闸) With the brake	213	239	239	251	251

180 法兰外型图
180Flange profile drawing



■ NT特性 NT features



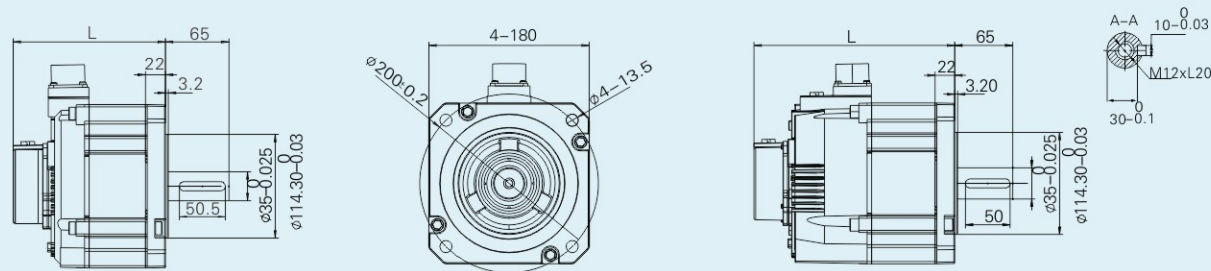
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F6□□□3□N*□ Motor model F6□□□3□N*□	单位 Unit	2.9KW高惯量CH290S 2.9KW high inertiaCH290S	4.4KW高惯量CH440S 4.4KW high inertiaCH440S	5.5KW高惯量CH550S 5.5KW high inertiaCH550S	7.5KW高惯量CH750S 7.5KW high inertiaCH750S
安装法兰盘尺寸 Install flange dimensions	mm	□180	□180	□180	□180
额定功率 Rated power	KW	2.9	4.4	5.5	7.5
额定电压 Rated voltage	V	380	380	380	380
额定电流 Rated current	A	9	11.5	13	19
峰值电流 Peak current	A	28.1	26.5	27.9	36.1
额定转矩 Rated torque	N.m	18.6	28.4	35	48
最大转矩 Maximum torque	N.m	71.4	71	87.5	96
额定转速 Rated speed	r/min	1500	1500	1500	1500
最高转速 Highest speed	r/min	2500	2100	2100	2100
转子惯量无制动 Rotor inertia without braking	Kg·m²	4.43X10 ⁻³	6.5X10 ⁻³	10.1X10 ⁻³	14.7X10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m²	5.13X10 ⁻³	7.2X10 ⁻³	10.8X10 ⁻³	15.4X10 ⁻³
反电势 Electric potential	V/1000r/min	132	164	170	161
力矩系数 Moment coefficient	N.m/A	2.06	2.47	2.9	2.5
绕组电阻 Winding resistance	Ω	0.93	0.84	0.5	0.27
绕组电感 Winding inductance	mH	18.16	17.94	11.7	6.7
重量无制动 Weight without braking	kg	12.7	17	21	29
重量带制动 Weight belt brake	kg	17.5	21.8	25.8	32.8
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%
	额定功率 Rated power	W	50	50	50
	静扭矩 Static torque	N.m	≥50	≥50	≥50
	吸引时间 Attract time	ms	<180	<180	<180
	释放时间 Release time	ms	<80	<80	<80
	释放电压 Release of the voltage	V	>1.5	>1.5	>1.5

外型尺寸图 Outline dimension drawing

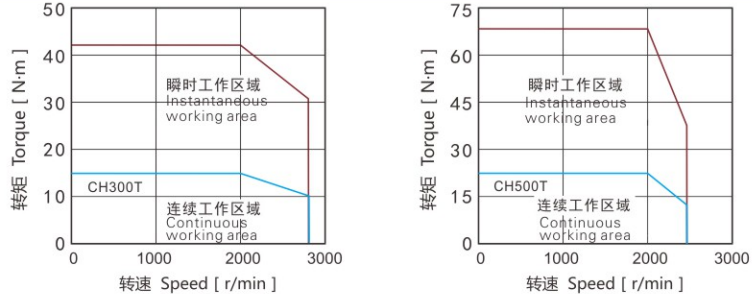


电机型号 Motor model	CH290S	CH440S	CH550S	CH750S
L (不带抱闸) Without the brake	177	201	234	284
L (带抱闸) With the brake	225	249	282	332

180 法兰外型图
180Flange profile drawing



■ NT特性 NT features



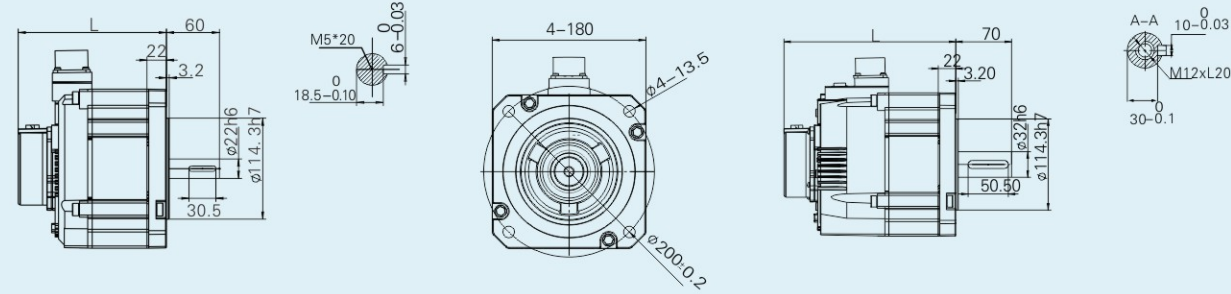
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

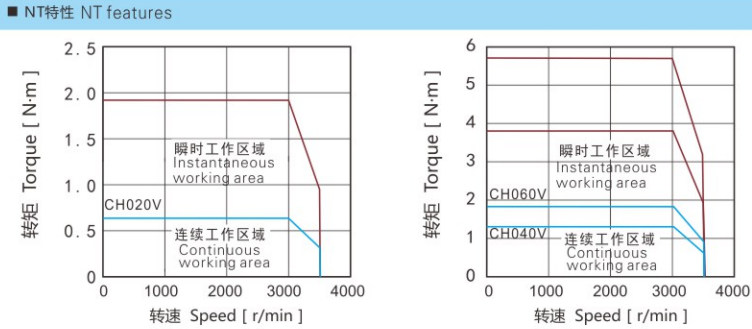
马达型号 F6□□□3□N*□ Motor model F6□□□3□N*□	单位 Unit	3.0KW高惯量CH300T 3.0KW high inertiaCH300T	5.0KW高惯量CH500T 5.0KW high inertiaCH500T
安装法兰盘尺寸 Install flange dimensions	mm	□180	□180
额定功率 Rated power	KW	3.0	5.0
额定电压 Rated voltage	V	380	380
额定电流 Rated current	A	7.8	11.8
峰值电流 Peak current	A	23.5	36.4
额定转矩 Rated torque	N.m	14.3	23.8
最大转矩 Maximum torque	N.m	42.9	71.4
额定转速 Rated speed	r/min	2000	2000
最高转速 Highest speed	r/min	2800	2500
转子惯量无制动 Rotor inertia without braking	Kg·m²	3.6X10 ⁻³	5.6X10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m²	4.3X10 ⁻³	6.3X10 ⁻³
反电势 Electric potential	V/1000r/min	120	130
力矩系数 Moment coefficient	N.m/A	1.71	2.0
绕组电阻 Winding resistance	Ω	1.12	0.63
绕组电感 Winding inductance	mH	19.2	12.9
重量无制动 Weight without braking	kg	11.6	15.5
重量带制动 Weight belt brake	kg	16.4	20.3
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%
	额定功率 Rated power	W	50
	静扭矩 Static torque	N.m	≥50
	吸引时间 Attract time	ms	<180
	释放时间 Release time	ms	<80
	释放电压 Release of the voltage	V	>1.5

外型尺寸图 Outline dimension drawing



电机型号 Motor model	CH300T	CH500T
L (不带抱闸) Without the brake	168	192
L (带抱闸) With the brake	216	240

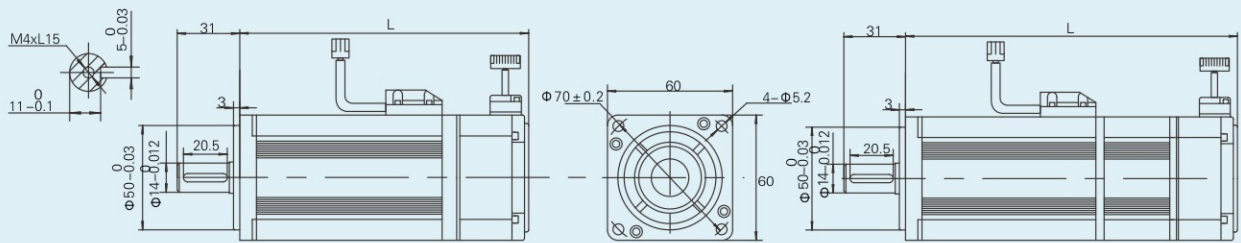
60 法兰外型图
60Flange profile drawing



规格表 Specification table

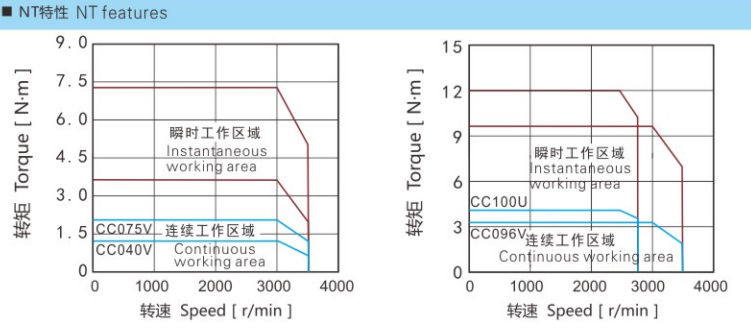
马达型号 F2□□□2□N*□ Motor model F2□□□2□N*□	单位 Unit	200W中惯量CC020V 200W centre inertiaCC020V	400W中惯量CC040V 400W centre inertiaCC040V	600W中惯量CC060V 600W centre inertiaCC060V
安装法兰盘尺寸 Install flange dimensions	mm	□60	□60	□60
额定功率 Rated power	W	200	400	600
额定电压 Rated voltage	V	220	220	220
额定电流 Rated current	A	1.4	2.5	3.5
峰值电流 Peak current	A	4.3	7.5	10.5
额定转矩 Rated torque	N.m	0.637	1.27	1.9
最大转矩 Maximum torque	N.m	1.9	3.8	5.7
额定转速 Rated speed	r/min	3000	3000	3000
最高转速 Highest speed	r/min	3500	3500	3500
转子惯量无制动 Rotor inertia without braking	Kg·m ²	0.175 × 10 ⁻⁴	0.32 × 10 ⁻⁴	0.42 × 10 ⁻⁴
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	0.245 × 10 ⁻⁴	0.39 × 10 ⁻⁴	0.49 × 10 ⁻⁴
反电势 Electric potential	V/1000r/min	32.4	34.5	33.3
力矩系数 Moment coefficient	N.m/A	0.42	0.52	0.54
绕组电阻 Winding resistance	Ω	6.8	4.98	2.84
绕组电感 Winding inductance	mH	30	15	9.1
重量无制动 Weight without braking	kg	1.2	1.7	2.0
重量带制动 Weight belt brake	kg	1.6	2.1	2.4
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	7.2	7.2	7.2
静扭矩 Static torque	N.m	≥ 1.5	≥ 1.5	≥ 1.5
吸引时间 Attract time	ms	< 60	< 60	< 60
释放时间 Release time	ms	< 20	< 20	< 20
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing



电机型号 Motor model	CC020V	CC040V	CC060V
L (不带抱闸) Without the brake	117	142	167
L (带抱闸) With the brake	158	183	208

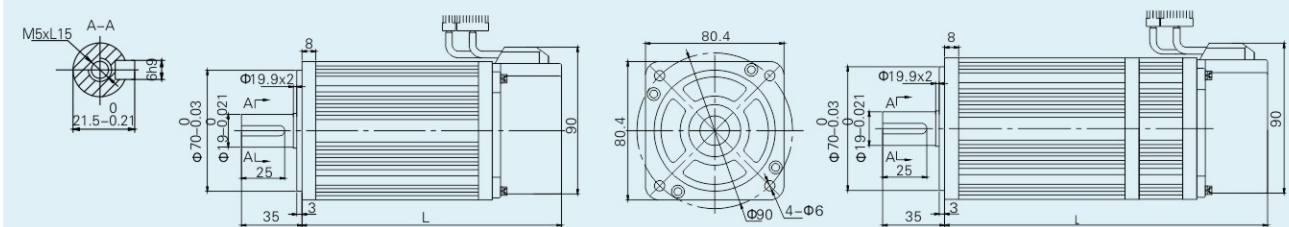
80 法兰外型图
80Flange profile drawing



规格表 Specification table

马达型号 F3□□□2□N*□ Motor model F3□□□2□N*□	单位 Unit	400W中惯量CC040V 400W centre inertiaCC040V	750W中惯量CC075V 750W centre inertiaCC075V	960W中惯量CC096V 960W centre inertiaCC096V	1.0KW中惯量CC100U 1.0KW centre inertiaCC100U
安装法兰盘尺寸 Install flange dimensions	mm	□80	□80	□80	□80
额定功率 Rated power	W	400	750	960	1000
额定电压 Rated voltage	V	220	220	220	220
额定电流 Rated current	A	2	3	4.1	4.5
峰值电流 Peak current	A	6.8	10.5	13.8	14.3
额定转矩 Rated torque	N.m	1.27	2.4	3.2	4
最大转矩 Maximum torque	N.m	3.8	7.2	9.6	12
额定转速 Rated speed	r/min	3000	3000	3000	2500
最高转速 Highest speed	r/min	3500	3500	3500	2800
转子惯量无制动 Rotor inertia without braking	Kg·m ²	1.1 × 10 ⁻⁴	1.73 × 10 ⁻⁴	2.59 × 10 ⁻⁴	2.71 × 10 ⁻⁴
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	1.2 × 10 ⁻⁴	1.83 × 10 ⁻⁴	2.69 × 10 ⁻⁴	2.81 × 10 ⁻⁴
反电势 Electric potential	V/1000r/min	47	52.5	52	61
力矩系数 Moment coefficient	N.m/A	0.65	0.8	0.78	0.89
绕组电阻 Winding resistance	Ω	5.5	2.45	1.9	2.25
绕组电感 Winding inductance	mH	20.5	11.3	12	13.2
重量无制动 Weight without braking	kg	1.9	2.8	3.4	3.6
重量带制动 Weight belt brake	kg	2.8	3.7	4.3	4.5
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	14.5	14.5	14.5	14.5
静扭矩 Static torque	N.m	≥ 4	≥ 4	≥ 4	≥ 4
吸引时间 Attract time	ms	< 60	< 60	< 60	< 60
释放时间 Release time	ms	< 40	< 40	< 40	< 40
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

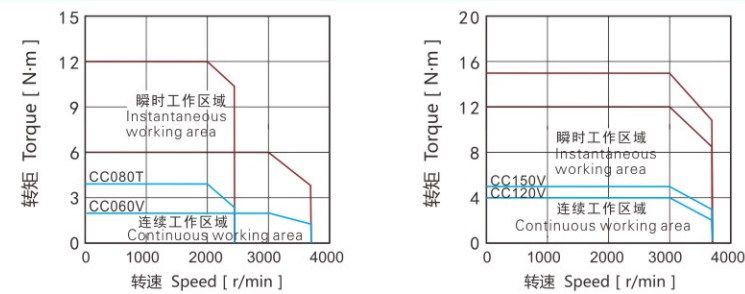


电机型号 Motor model	CC040V	CC075V	CC096V	CC100U
L (不带抱闸) Without the brake	124	154	186	216
L (带抱闸) With the brake	168	198	230	260

110 法兰外型图
110Flange profile drawing



■ NT特性 NT features



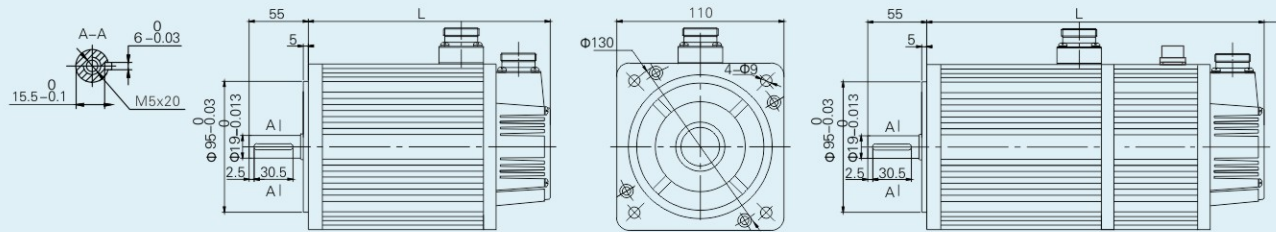
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F4□□□2□N*□ Motor model F4□□□2□N*□	单位 Unit	600W中惯量CC060V 600W centre inertiaCC060V	800W中惯量CC080T 800W centre inertiaCC080T	1.2KW中惯量CC120V 1.2KW centre inertiaCC120V	1.5KW中惯量CC150V 1.5KW centre inertiaCC150V
安装法兰盘尺寸 Install flange dimensions	mm	□110	□110	□110	□110
额定功率 Rated power	KW	0.6	0.8	1.2	1.5
额定电压 Rated voltage	V	220	220	220	220
额定电流 Rated current	A	4	3.2	5.0	6.0
峰值电流 Peak current	A	12.5	10.5	15.6	18.7
额定转矩 Rated torque	N.m	2	4	4	5
最大转矩 Maximum torque	N.m	6	12	12	15
额定转速 Rated speed	r/min	3000	2000	3000	3000
最高转速 Highest speed	r/min	3600	2400	3600	3600
转子惯量无制动 Rotor inertia without braking	Kg·m ²	0.33 × 10 ⁻³	0.65 × 10 ⁻³	0.65 × 10 ⁻³	0.82 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	0.43 × 10 ⁻³	0.75 × 10 ⁻³	0.75 × 10 ⁻³	0.92 × 10 ⁻³
反电势 Electric potential	V/1000r/min	56	67.7	56.8	62
力矩系数 Moment coefficient	N.m/A	0.5	1.1	0.8	0.83
绕组电阻 Winding resistance	Ω	4	2.99	1.5	1.03
绕组电感 Winding inductance	mH	8.32	10.5	5.5	3.43
重量无制动 Weight without braking	kg	4.5	6.1	6.1	6.9
重量带制动 Weight belt brake	kg	6.4	8.0	8.0	8.8
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%
	额定功率 Rated power	W	14.4	14.4	14.4
	静扭矩 Static torque	N.m	≥ 12	≥ 12	≥ 12
	吸引时间 Attract time	ms	< 80	< 80	< 80
	释放时间 Release time	ms	< 40	< 40	< 40
	释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

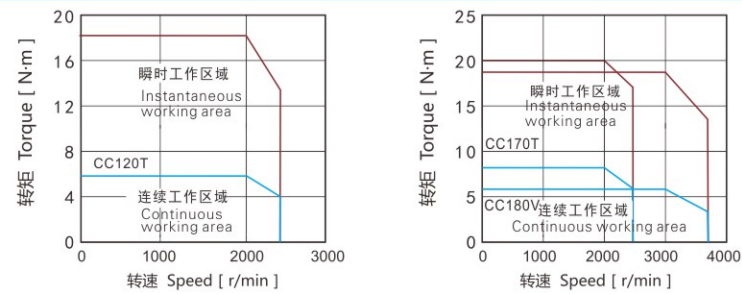


电机型号 Motor model	CC060V	CC080T	CC120V	CC150V
L (不带抱闸) Without the brake	160	190	190	205
L (带抱闸) With the brake	219	249	249	264

110 法兰外型图
80Flange profile drawing



■ NT特性 NT features



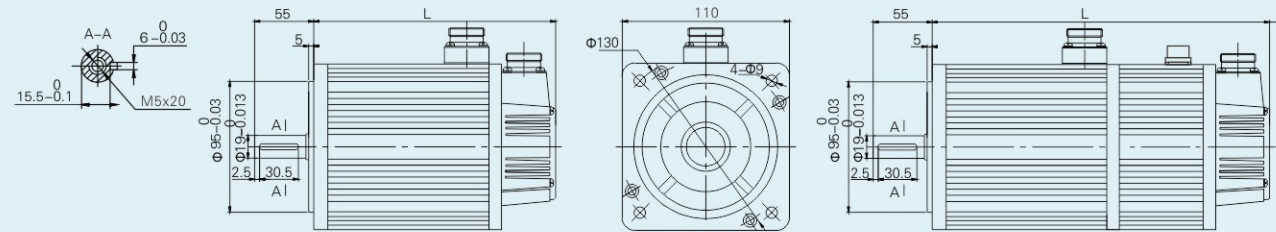
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F4□□□2□N*□ Motor model F4□□□2□N*□	单位 Unit	1.2KW中惯量CC120T 1.2KW centre inertiaCC120T	1.8KW中惯量CC180V 1.8KW centre inertiaCC180V	1.7KW中惯量CC170T 1.7KW centre inertiaCC170T
安装法兰盘尺寸 Install flange dimensions	mm	□110	□110	□110
额定功率 Rated power	KW	1.2	1.8	1.7
额定电压 Rated voltage	V	220	220	220
额定电流 Rated current	A	4.5	6.0	6.5
峰值电流 Peak current	A	14.2	18.4	19.1
额定转矩 Rated torque	N.m	6	6	8
最大转矩 Maximum torque	N.m	18	18	20
额定转速 Rated speed	r/min	2000	3000	2000
最高转速 Highest speed	r/min	2400	3600	2400
转子惯量无制动 Rotor inertia without braking	Kg·m ²	1.0 × 10 ⁻³	1.0 × 10 ⁻³	1.3 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	1.1 × 10 ⁻³	1.1 × 10 ⁻³	1.4 × 10 ⁻³
反电势 Electric potential	V/1000r/min	83.3	59.3	78.5
力矩系数 Moment coefficient	N.m/A	1.3	1.0	1.23
绕组电阻 Winding resistance	Ω	1.75	1.15	1.12
绕组电感 Winding inductance	mH	7.3	4.2	5.11
重量无制动 Weight without braking	kg	7.8	7.8	9.6
重量带制动 Weight belt brake	kg	9.7	9.7	11.5
制动参数 Braking parameters	额定电压 Rated voltage	V	24 ± 10%	24 ± 10%
	额定功率 Rated power	W	14.4	14.4
	静扭矩 Static torque	N.m	≥ 12	≥ 12
	吸引时间 Attract time	ms	< 80	< 80
	释放时间 Release time	ms	< 40	< 40
	释放电压 Release of the voltage	V	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

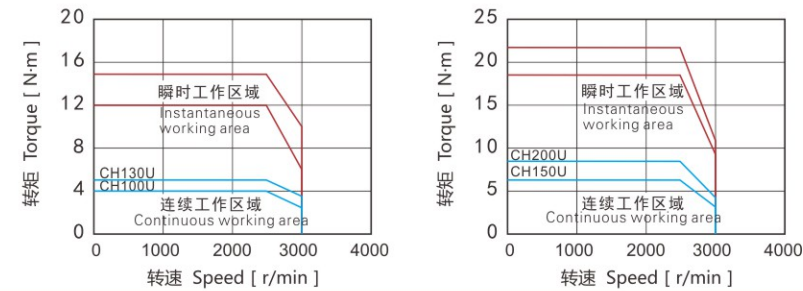


电机型号 Motor model	CC120T	CC180V	CC170T
L (不带抱闸) Without the brake	220	220	250
L (带抱闸) With the brake	279	279	309

130 法兰外型图
130Flange profile drawing



■ NT特性 NT features



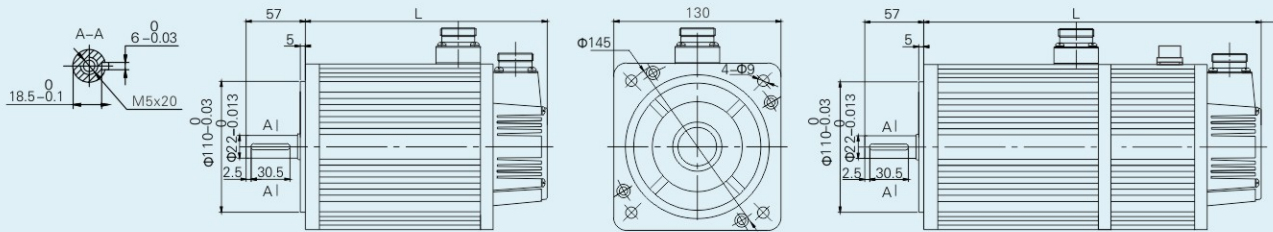
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F5□□□2□N*□ Motor model F5□□□2□N*□	单位 Unit	1.0KW中惯量CC100U 1.0KW centre inertiaCC100U	1.3KW中惯量CC130U 1.3KW centre inertiaCC130U	1.5KW中惯量CC150U 1.5KW centre inertiaCC150U	2.0KW中惯量CC200U 2.0KW centre inertiaCC200U
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130
额定功率 Rated power	KW	1.0	1.3	1.5	2.0
额定电压 Rated voltage	V	220	220	220	220
额定电流 Rated current	A	4	5	6	7.5
峰值电流 Peak current	A	12.8	15.6	19	22.6
额定转矩 Rated torque	N.m	4	5	6	7.7
最大转矩 Maximum torque	N.m	12	15	18	22
额定转速 Rated speed	r/min	2500	2500	2500	2500
最高转速 Highest speed	r/min	3000	3000	3000	3000
转子惯量无制动 Rotor inertia without braking	Kg·m ²	0.85 × 10 ⁻³	1.06 × 10 ⁻³	1.26 × 10 ⁻³	1.53 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	0.95 × 10 ⁻³	1.16 × 10 ⁻³	1.36 × 10 ⁻³	1.63 × 10 ⁻³
反电势 Electric potential	V/1000r/min	72	68	65	68
力矩系数 Moment coefficient	N.m/A	1	1	1	1.03
绕组电阻 Winding resistance	Ω	2.76	1.84	1.21	1.01
绕组电感 Winding inductance	mH	6.42	4.9	3.87	2.94
重量无制动 Weight without braking	kg	6.2	6.6	7.4	8.3
重量带制动 Weight belt brake	kg	8.2	8.6	9.4	10.3
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	14.4	14.4	14.4	14.4
静扭矩 Static torque	N.m	≥ 12	≥ 12	≥ 12	≥ 12
吸引时间 Attract time	ms	< 80	< 80	< 80	< 80
释放时间 Release time	ms	< 40	< 40	< 40	< 40
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

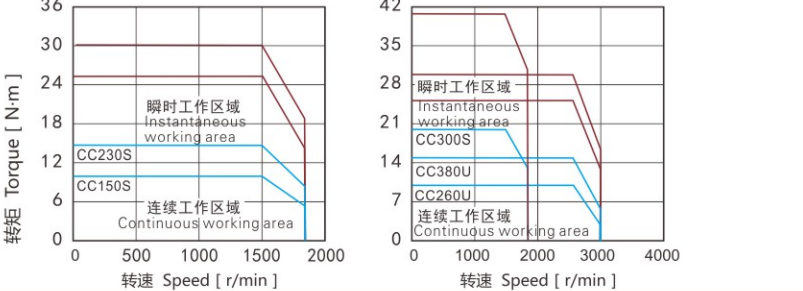


电机型号 Motor model	CC100U	CC130U	CC150U	CC200U
L (不带抱闸) Without the brake	168	174	181	194
L (带抱闸) With the brake	221	227	234	247

130 法兰外型图
130Flange profile drawing



■ NT特性 NT features



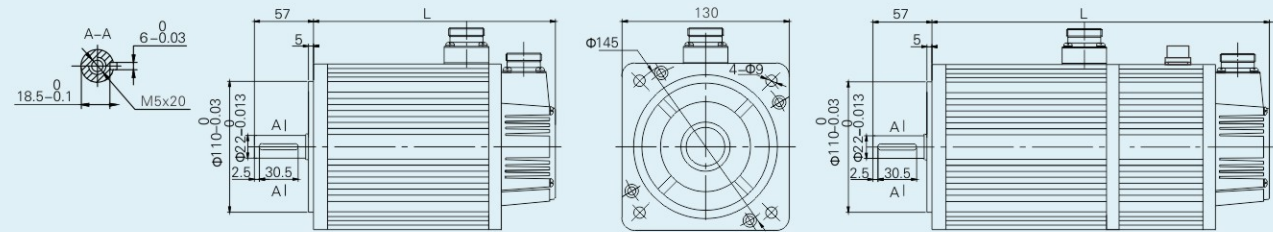
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F5□□□2□N*□ Motor model F5□□□2□N*□	单位 Unit	1.5KW中惯量CC150S 1.5KW centre inertiaCC150S	2.6KW中惯量CC260U 2.6KW centre inertiaCC260U	2.3KW中惯量CC230S 2.3KW centre inertiaCC230S	3.8KW中惯量CC380U 3.8KW centre inertiaCC380U	3.0KW中惯量CC300S 3.0KW centre inertiaCC300S
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130	□130
额定功率 Rated power	KW	1.5	2.6	2.3	3.8	3.0
额定电压 Rated voltage	V	220	220	220	220	220
额定电流 Rated current	A	6	10	9.5	17	13.5
峰值电流 Peak current	A	16.3	26	20	34	27
额定转矩 Rated torque	N.m	10	10	15	15	20
最大转矩 Maximum torque	N.m	25	25	30	30	40
额定转速 Rated speed	r/min	1500	2500	1500	2500	1500
最高转速 Highest speed	r/min	1800	3000	1800	3000	1800
转子惯量无制动 Rotor inertia without braking	Kg·m ²	1.94 × 10 ⁻³	1.94 × 10 ⁻³	2.77 × 10 ⁻³	2.77 × 10 ⁻³	3.14 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	2.04 × 10 ⁻³	2.04 × 10 ⁻³	2.87 × 10 ⁻³	2.87 × 10 ⁻³	3.24 × 10 ⁻³
反电势 Electric potential	V/1000r/min	103	70	114	67	95
力矩系数 Moment coefficient	N.m/A	1.67	1	1.58	1.11	1.53
绕组电阻 Winding resistance	Ω	1.29	0.73	1.1	0.49	0.61
绕组电感 Winding inductance	mH	5.07	2.45	4.45	1.68	2.67
重量无制动 Weight without braking	kg	9.8	9.8	11.6	11.6	14.1
重量带制动 Weight belt brake	kg	11.8	11.8	13.6	13.6	16.1
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	14.4	14.4	14.4	14.4	14.4
静扭矩 Static torque	N.m	≥ 12	≥ 12	≥ 12	≥ 12	≥ 12
吸引时间 Attract time	ms	< 80	< 80	< 80	< 80	< 80
释放时间 Release time	ms	< 40	< 40	< 40	< 40	< 40
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

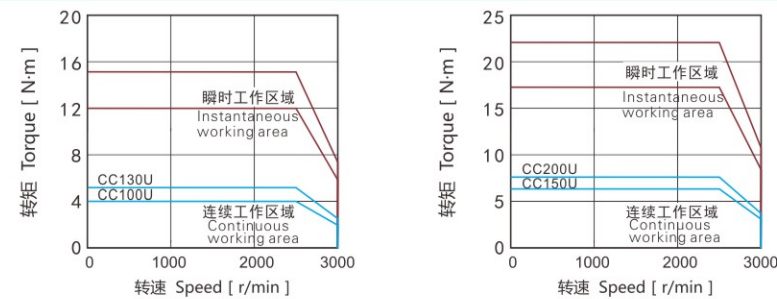


电机型号 Motor model	CC150S	CC260U	CC230S	CC380U	CC300S
L (不带抱闸) Without the brake	211	211	233	233	268
L (带抱闸) With the brake	264	264	286	286	321

130 法兰外型图
130Flange profile drawing



■ NT特性 NT features



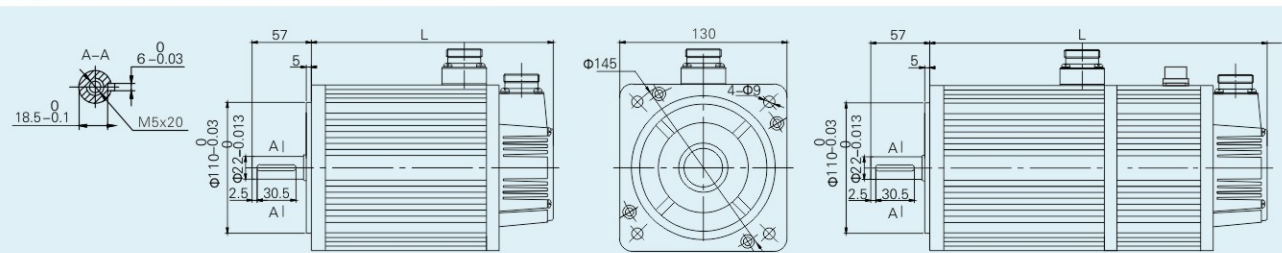
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 Motor model	单位 Unit	1.0KW中惯量CC100U 1.0KW centre inertiaCC100U	1.3KW中惯量CC130U 1.3KW centre inertiaCC130U	1.5KW中惯量CC150U 1.5KW centre inertiaCC150U	2.0KW中惯量CC200U 2.0KW centre inertiaCC200U
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130
额定功率 Rated power	KW	1.0	1.3	1.5	2.0
额定电压 Rated voltage	V	380	380	380	380
额定电流 Rated current	A	2.5	3.1	3.5	4.7
峰值电流 Peak current	A	7	8.8	11.2	13.6
额定转矩 Rated torque	N.m	4	5	6	7.7
最大转矩 Maximum torque	N.m	12	15	18	22
额定转速 Rated speed	r/min	2500	2500	2500	2500
最高转速 Highest speed	r/min	3000	3000	3000	3000
转子惯量无制动 Rotor inertia without braking	Kg·m ²	0.85*10 ⁻³	1.06*10 ⁻³	1.26*10 ⁻³	1.53*10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	0.95*10 ⁻³	1.16*10 ⁻³	1.36*10 ⁻³	1.63*10 ⁻³
反电势 Electric potential	V/1000r/min	110	109.5	104	107
力矩系数 Moment coefficient	N.m/A	1.6	1.6	1.53	1.6
绕组电阻 Winding resistance	Ω	6.45	5.16	3.75	2.26
绕组电感 Winding inductance	mH	20.9	17.1	12.3	9.4
重量无制动 Weight without braking	kg	6.2	6.6	7.4	8.3
重量带制动 Weight belt brake	kg	8.2	8.6	9.4	10.3
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	14.4	14.4	14.4	14.4
静扭矩 Static torque	N.m	≥ 12	≥ 12	≥ 12	≥ 12
吸引时间 Attract time	ms	< 80	< 80	< 80	< 80
释放时间 Release time	ms	< 40	< 40	< 40	< 40
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

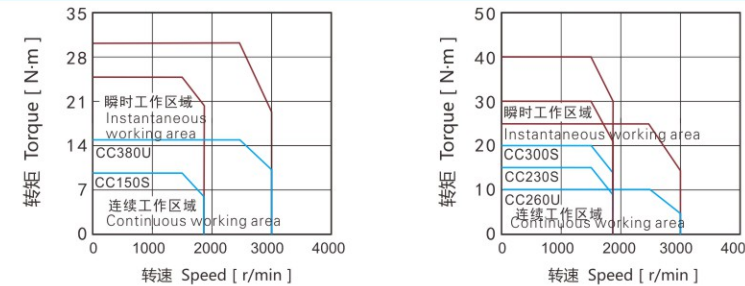


电机型号 Motor model	CC100U	CC130U	CC150U	CC200U
L (不带抱闸) Without the brake	168	174	181	194
L (带抱闸) With the brake	221	227	234	247

130 法兰外型图
130Flange profile drawing



■ NT特性 NT features



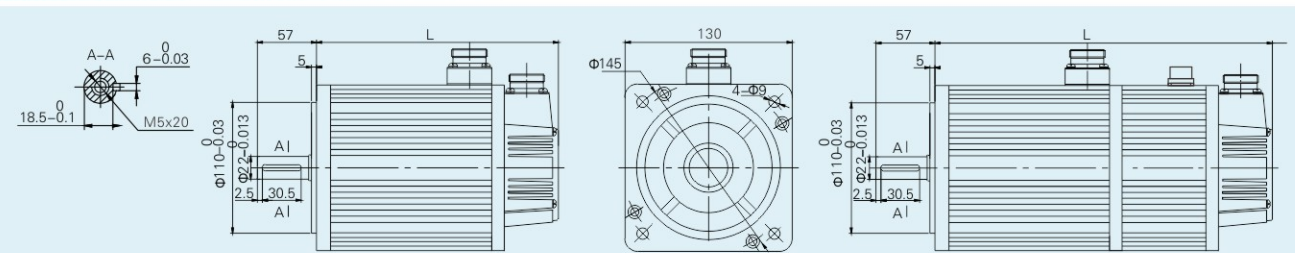
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 Motor model	单位 Unit	1.5KW中惯量CC150S 1.5KW centre inertiaCC150S	2.6KW中惯量CC260U 2.6KW centre inertiaCC260U	2.3KW中惯量CC230S 2.3KW centre inertiaCC230S	3.8KW中惯量CC380U 3.8KW centre inertiaCC380U	3.0KW中惯量CC300S 3.0KW centre inertiaCC300S
安装法兰盘尺寸 Install flange dimensions	mm	□130	□130	□130	□130	□130
额定功率 Rated power	KW	1.5	2.6	2.3	3.8	3.0
额定电压 Rated voltage	V	380	380	380	380	380
额定电流 Rated current	A	3.7	6	6	8.5	8.0
峰值电流 Peak current	A	14.8	17.2	11.5	17	16
额定转矩 Rated torque	N.m	10	10	15	15	20
最大转矩 Maximum torque	N.m	25	25	30	30	40
额定转速 Rated speed	r/min	1500	2500	1500	2500	1500
最高转速 Highest speed	r/min	1800	3000	1800	3000	1800
转子惯量无制动 Rotor inertia without braking	Kg·m ²	1.94*10 ⁻³	1.94*10 ⁻³	2.77*10 ⁻³	2.77*10 ⁻³	3.14*10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	2.04*10 ⁻³	2.04*10 ⁻³	2.87*10 ⁻³	2.87*10 ⁻³	3.24*10 ⁻³
反电势 Electric potential	V/1000r/min	161	119	164	108	150
力矩系数 Moment coefficient	N.m/A	2.7	1.67	2.5	1.76	2.5
绕组电阻 Winding resistance	Ω	4.13	2.24	3.13	1.15	1.6
绕组电感 Winding inductance	mH	17.4	9.6	5.5	2.9	3.8
重量无制动 Weight without braking	kg	9.8	9.8	11.6	11.6	14.1
重量带制动 Weight belt brake	kg	11.8	11.8	13.6	13.6	16.1
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	14.4	14.4	14.4	14.4	14.4
静扭矩 Static torque	N.m	≥ 12	≥ 12	≥ 12	≥ 12	≥ 12
吸引时间 Attract time	ms	< 80	< 80	< 80	< 80	< 80
释放时间 Release time	ms	< 40	< 40	< 40	< 40	< 40
释放电压 Release of the voltage	V	> 1.5	> 1.5	> 1.5	> 1.5	> 1.5

外型尺寸图 Outline dimension drawing

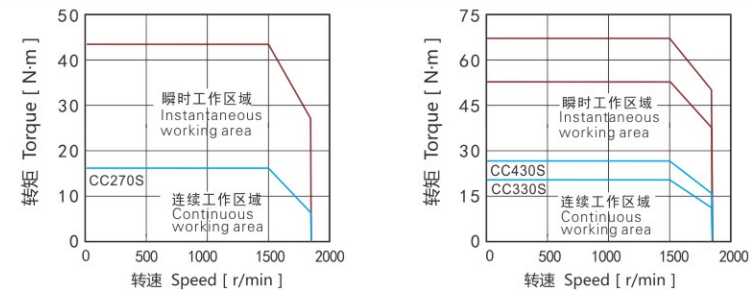


电机型号 Motor model	CC150S	CC260U	CC230S	CC380U	CC300S
L (不带抱闸) Without the brake	211	211	233	233	268
L (带抱闸) With the brake	264	264	286	286	321

180 法兰外型图
180Flange profile drawing



■ NT特性 NT features



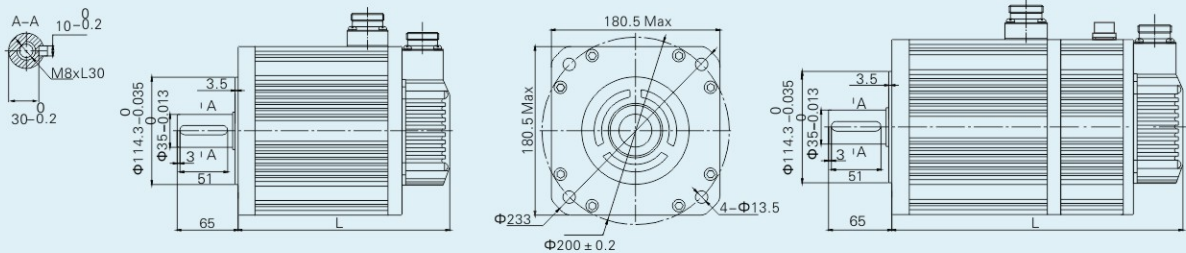
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F6□□□2□N*□ Motor model F6□□□2□N*□	单位 Unit	2.7KW中惯量CC270S 2.7KW centre inertiaCC270S	3.3KW中惯量CC330S 3.3KW centre inertiaCC330S	4.3KW中惯量CC430S 4.3KW centre inertiaCC430S
安装法兰盘尺寸 Install flange dimensions	mm	□180	□180	□180
额定功率 Rated power	KW	2.7	3.3	4.3
额定电压 Rated voltage	V	220	220	220
额定电流 Rated current	A	10.5	13.5	16
峰值电流 Peak current	A	31	37	40
额定转矩 Rated torque	N.m	17	21	27
最大转矩 Maximum torque	N.m	43	53	67
额定转速 Rated speed	r/min	1500	1500	1500
最高转速 Highest speed	r/min	1800	1800	1800
转子惯量无制动 Rotor inertia without braking	Kg·m ²	3.4 × 10 ⁻³	4.7 × 10 ⁻³	6.1 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	4.1 × 10 ⁻³	5.4 × 10 ⁻³	6.8 × 10 ⁻³
反电势 Electric potential	V/1000r/min	112	100	103
力矩系数 Moment coefficient	N.m/A	1.6	1.6	1.68
绕组电阻 Winding resistance	Ω	0.47	0.34	0.28
绕组电感 Winding inductance	mH	3.5	2.3	1.82
重量无制动 Weight without braking	kg	18.8	22.2	24.8
重量带制动 Weight belt brake	kg	24.6	28	30.6
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	30	30	30
静扭矩 Static torque	N.m	≥35	≥35	≥35
吸引时间 Attract time	ms	<170	<170	<170
释放时间 Release time	ms	<80	<80	<80
释放电压 Release of the voltage	V	>1.5	>1.5	>1.5

外型尺寸图 Outline dimension drawing

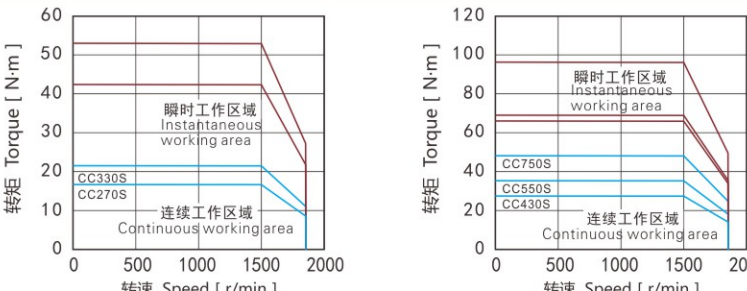


电机型号 Motor model	CC270S	CC330S	CC430S
L (不带抱闸) Without the brake	227	244	263
L (带抱闸) With the brake	299	316	335

180 法兰外型图
180Flange profile drawing



■ NT特性 NT features



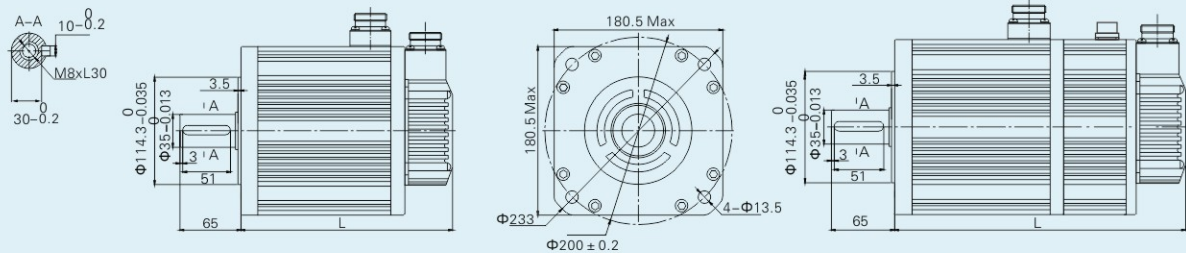
■ 连续转矩 - 环境温度 Continuous torque Environment temperature



规格表 Specification table

马达型号 F6□□□3□N*□ Motor model F6□□□3□N*□	单位 Unit	2.7KW中惯量CC270S 2.7KW centre inertiaCC270S	3.3KW中惯量CC330S 3.3KW centre inertiaCC330S	4.3KW中惯量CC430S 4.3KW centre inertiaCC430S	5.5KW中惯量CC550S 5.5KW centre inertiaCC550S	7.5KW中惯量CC750S 7.5KW centre inertiaCC750S
安装法兰盘尺寸 Install flange dimensions	mm	□180	□180	□180	□180	□180
额定功率 Rated power	KW	2.7	3.3	4.3	5.5	7.5
额定电压 Rated voltage	V	380	380	380	380	380
额定电流 Rated current	A	6.5	8.5	10	12	16.7
峰值电流 Peak current	A	19	25.8	25	23.6	33.1
额定转矩 Rated torque	N.m	17	21.5	27	35	48
最大转矩 Maximum torque	N.m	43	53	67	70	96
额定转速 Rated speed	r/min	1500	1500	1500	1500	1500
最高转速 Highest speed	r/min	1800	1800	1800	1800	1800
转子惯量无制动 Rotor inertia without braking	Kg·m ²	3.4 × 10 ⁻³	4.7 × 10 ⁻³	6.1 × 10 ⁻³	8.6 × 10 ⁻³	9.5 × 10 ⁻³
转子惯量带制动 Rotor inertia belt brake	Kg·m ²	4.1 × 10 ⁻³	5.4 × 10 ⁻³	6.8 × 10 ⁻³	9.3 × 10 ⁻³	10.2 × 10 ⁻³
反电势 Electric potential	V/1000r/min	168	160	178	181	186
力矩系数 Moment coefficient	N.m/A	2.6	2.5	2.7	2.9	2.87
绕组电阻 Winding resistance	Ω	1.7	0.81	0.75	0.56	0.44
绕组电感 Winding inductance	mH	7.8	5.8	5.6	4.5	3.5
重量无制动 Weight without braking	kg	18.8	22.2	24.8	30.2	39.1
重量带制动 Weight belt brake	kg	24.6	28	30.6	36	44.9
额定电压 Rated voltage	V	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%	24 ± 10%
额定功率 Rated power	W	30	30	30	30	30
静扭矩 Static torque	N.m	≥35	≥35	≥35	≥35	≥35
吸引时间 Attract time	ms	<170	<170	<170	<170	<170
释放时间 Release time	ms	<80	<80	<80	<80	<80
释放电压 Release of the voltage	V	>1.5	>1.5	>1.5	>1.5	>1.5

外型尺寸图 Outline dimension drawing



电机型号 Motor model	CC270S	CC330S	CC430S	CC550S	CC750S
L (不带抱闸) Without the brake	227	244	263	293	347
L (带抱闸) With the brake	299	316	335	365	419

驱动器匹配马达型号
Drive matches the motor model

[illegible]

增量2500线 380V/4对极马达 Incremental 2500 wire 380V/4 opposite-pole motor						
系列 Series	型号 Model	有无制动器 Brake or not	键轴 Bond axis	是否带油封 Whether with oil seal	编码器 Encoder	
130法兰 130 flange	EC-F5CC100U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC100U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC130U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC130U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC150U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC150U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC150S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC150S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC200U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC200U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC230S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC230S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC260U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC260U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC300S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC300S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
180法兰 180 flange	EC-F5CC380U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F5CC380U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC270S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC270S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC330S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC330S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC430S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC430S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC550S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC550S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC650U-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC650U-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC750S-M3XM*A	X	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder
	EC-F6CC750S-N3XM*A	●	键轴 Bond axis	●	增量2500线编码器	Incremental 2500 line encoder

驱动器匹配马达型号
Drive matches the motor model

[illegible]