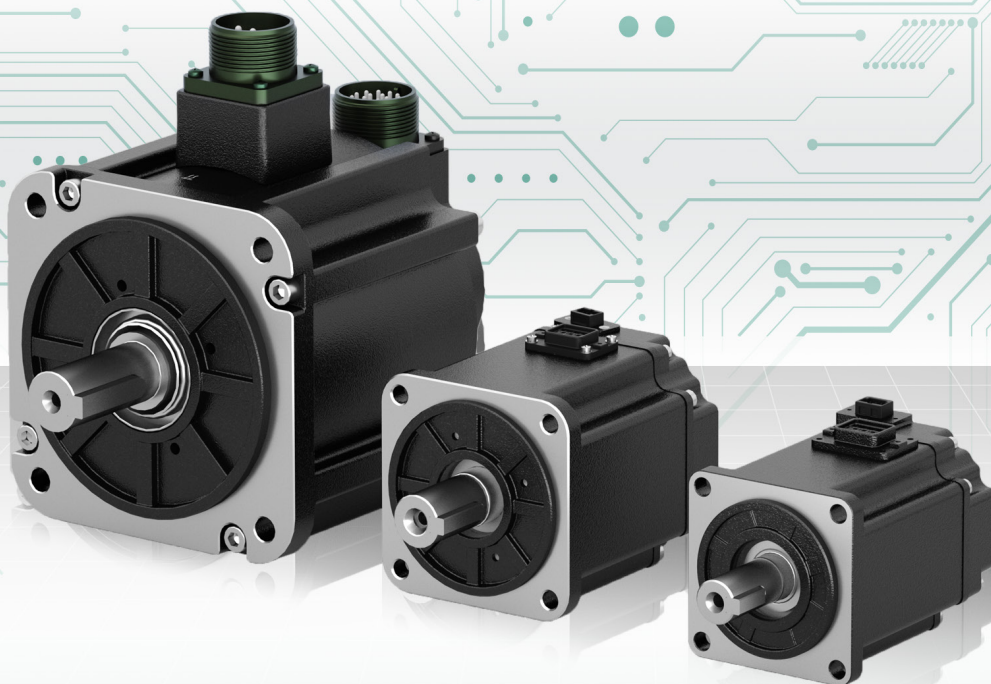


高性能
High performance

永磁同步旋转伺服电动机 PH3E/S 系列选型手册

Permanent magnet synchronous rotary servomotor
PH3E/S series selection manual





我们的企业 | Company

高创运动控制公司，1987 年成立于以色列，是一家专业研、产、销伺服系统及控制系统等产品的综合解决方案供应商，致力于在自动化领域不断取得突破，助力中国高端制造业快速发展。旗下拥有 Servotronix 高创及 Dorna 两个品牌。

高创与东菱为设备制造商和自动化系统供应商设计并提供标准化与定制化运动控制解决方案，为全球 30 多个国家、1000 多家客户提供专业服务，其中高创品牌在中国直驱领域持续领先。高创运动控制分别在以色列、上海、嘉善、顺德设置研发团队，是一家国际化公司。

Founded in Israel in 1987, Servotronix Motion Control Ltd, as a comprehensive solution provider for development, production, and sales of servomechanism, control systems, and other products, is committed to making continuous breakthrough in the field of automation and facilitating the rapid development of China's high-end manufacturing industry. It owns two brands namely Servotronix and Dorna. Servotronix and Dorna are dedicated to designing and providing standardized and customized motion control solutions for equipment manufacturers and automation system suppliers, providing professional services to more than 1000+ customers in over 30 countries around the globe. In particular, Servotronix has been leading the direct-driver industry in the Chinese market, As an international company Servotronix has set up R&D teams in Israel, Shanghai, Jiashan, and Shunde.



我们的产品应用 | Product & Applications

我们的运动控制解决方案覆盖了大多数行业和自动化设备，如锂电池、半导体、机器人、机械手、3C 激光、光伏等行业。

Our motion control solutions cover most industries and automation equipment, such as lithium battery industry, semiconductor industry, robot industry, robotic arms industry, electronics industry, laser industry, photovoltaic industry, etc.

目录

CONTENTS

PH3 系列伺服电机	01
PH3 series servo motor	
PH3 代系电机产品概述	01
PH3 series servo motor	
PH3 代系电机命名规则	01
PH3 generation motor naming rules	
PH3 代系电机产品亮点	02
PH3 generation motor product highlights	
PH3 代系电机产品地图	04
PH3 generation motor product map	
PH3 代系产品上市时间预览	04
PH3 generation product launch time preview	
产品型谱	06
The product spectrum	
PH3-M	06
PH3-M	
PH3-G	06
PH3-G	
PH3-L	07
PH3-L	
通用技术规格	08
General technical specification	
电机电气规格	08
Motor electrical specifications	
PH3-M	08
PH3-M	
PH3-G	09
PH3-G	
T-N 工作区曲线	10
T - N workspace curve	
电机结构特性	11
Structural characteristics of motor	
结构尺寸	11
Structure size	
电机接口定义	14
Motor interface definition	
电机接口定义 -M02/04/06/08/10	15
Motor Interface Definition -M02/04/06/08/10	
电机接口定义 -G09/13/18	15
Motor interface definition - G09/13/18	
伺服驱动器线缆选型	16
Servo drive cable selection	
动力线或配件包	16
Power line or fittings bag	
编码器线或配件包	16
Encoder line or fittings bag	
PH3 接口转换线	17
PH3 interface conversion line	

PH3S 系列电机命名规则

PH3S series motor naming rules

PH 3 S - M 04 A 0 06 S T - ***
1 2 3 4 5 6 7 8 9 10 11 12 13

1 系列号 Serial number

符号 symbol	含义 implication
PH	PH 系列 PH series

2 版本号 Version number

符号 symbol	含义 implication
3	第 3 代 The third generation

3 性能类别 Performance Categories

符号 symbol	含义 implication
S	标准型旋转伺服电机 Standard rotary servo motor
E	经济型旋转伺服电机 Economical rotary servo motor

5 电机类型 (结构类型)

Motor Type (Structure type)

符号 symbol	含义 implication
L	小惯量 高速电机 High speed motor with small inertia
M	中惯量 高速电机 Medium inertia high speed motor
G	中惯量 大转矩电机 Medium inertia high torque motor

6 额定功率 Rated power

符号 symbol	规格 specification	符号 symbol	规格 specification
A5	0.05 kW	18	1.8 kW
01	0.1 kW	20	2.0 kW
02	0.2 kW	25	2.5 kW
04	0.4 kW	29	2.9 kW
06	0.6 kW	30	3.0 kW
08	0.75 kW	40	4.0 kW
09	0.85 kW	44	4.4 kW
10	1.0 kW	50	5.0 kW
13	1.3 kW	55	5.5 kW
15	1.5 kW	75	7.5 kW

7 电压等级 Voltage levels

符号 symbol	含义 implication
A	220V
B	380V

8 电磁设计序号

Electromagnetic design serial number

符号 symbol	含义 implication
0	电磁设计序号 0 Electromagnetic design serial number 0
其他 other	其它电磁设计 Other electromagnetic designs

9 机座号 Frame number

符号 symbol	规格 specification	符号 symbol	规格 specification
04	40mm	10	100mm
06	60mm	13	130mm
08	80mm	18	180mm

10 制动器 / 油封 / 轴配置

Brake/oil seal/shaft configuration

符号 symbol	含义 implication
S	带油封 无制动器 No brake with oil seal
E	带油封 带制动器 With oil seal band brake
N	无油封 无制动器 No oil seal no brake
B	无油封 带制动器 No oil seal band brake

11 编码器配置 Encoder configuration

符号 symbol	含义 implication
T	23bit 多圈绝对值光学编码器 (仅 PH3S 机型) 23bit multi-turn absolute optical encoder (PH3S model only)
M	20bit 多圈绝对值磁编码器 (仅 PH3E 机型) 20bit multi-turn absolute magnetic encoder (PH3E model only)
G	20bit 单圈绝对值磁编码器 (仅 PH3E 机型) 20bit single-turn absolute magnetic encoder (PH3E model only)

13 定制代码 Custom Code

符号 symbol	含义 implication
空 blank	标准品 (标准结构、标准键、标准轴) Standard product (standard structure, standard key, standard axis)
**	其它定制代码, 详参定制产品规格书。 For other custom codes, refer to the custom product specification.

4、12: 连接符号, 无特殊含义

4, 12: connection symbol, no special meaning

备注:

仅用于说明产品型号的字符含义, 不代表所有字符组合都存在产品。

Note:

This parameter is used only to describe the character of the product model and does not mean that all character combinations exist in the product.

PH3 代系电机产品亮点

PH3 generation motor product highlights

PH3 系列高性能旋转伺服电机，是高创公司新一代平台的伺服电机产品，相对前代 PH2 系列伺服电机，新产品在电气特性、结构特性、控制精度、易用性、可制造性等方面做了全方位的升级，同时安装法兰 / 输出轴 / 线缆规格可以和前代产品保持完全兼容，具有以下优良特性：

PH3 series high-performance rotary servo motor, is a new generation of platform servo motor products, compared with the previous generation PH2 series servo motor, the new product in the electrical characteristics, structural characteristics, control accuracy, ease of use, manufacturability and other aspects of a full range of upgrades, while the installation flange/output shaft/cable specifications can be fully compatible with the previous product. Has the following excellent characteristics:

更高性能

Higher performance

□ 40/60/80 机座产品
□ 40/60/80 stand products

最大转矩过载可达

3.5 倍 以上

Maximum torque overload can reach more than 3.5 times

最高转速

7000RPM

Maximum speed 7000rpm

□ 100/110 机座产品
□ 100/110 stand products

最大转矩过载可达

3 倍 以上

Maximum torque overload can reach more than 3 times

最高转速

6000RPM

Maximum speed 6000rpm

□ 130/180 机座产品
□ 130/180 stand products

最大转矩过载可达

2.5 倍 以上

Maximum torque overload can reach more than 2.5 times

最高转速

4500RPM

Maximum speed 4500rpm

高效能

High energy efficiency



550W 以上机型符合 GB30253 中 1 级能效要求（内置制动器机型不强制粘贴能效备案标识）

Models above 550W meet GB30253 Level 1 energy efficiency requirements (built-in brake models are not forced to attach energy efficiency record marks)

认证齐全

Complete certification

全系符合 UL、CE、UKCA 认证

All systems comply with UL, CE, UKCA certification



产品更多

More Products

标准型谱覆盖 □ 40~ □ 180 机座、0.05kW~7.5kW 功率段、中、低惯量产品；增加小惯量 40 法兰 0.15kW、中惯量 60 法兰 0.6kW、中惯量 80 法兰 1.0kW 机型

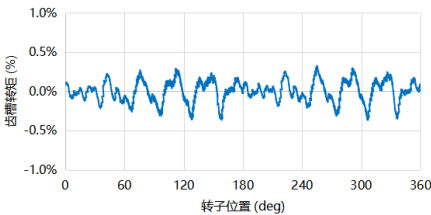
Standard spectrum covers □ 40~ □ 180 frame, 0.05kW~7.5kW power segment, medium and low inertia products; Added small inertia 40 flange 0.15kW, medium inertia 60 flange 0.6kW, medium inertia 80 flange 1.0kW models

高平稳性

More Products

齿槽转矩优化到最低 1% 以内

Groove torque is optimized to a minimum of 1%



低升温

Low temperature rise

专利电磁回路设计，典型工况下机壳温升

低于 60K

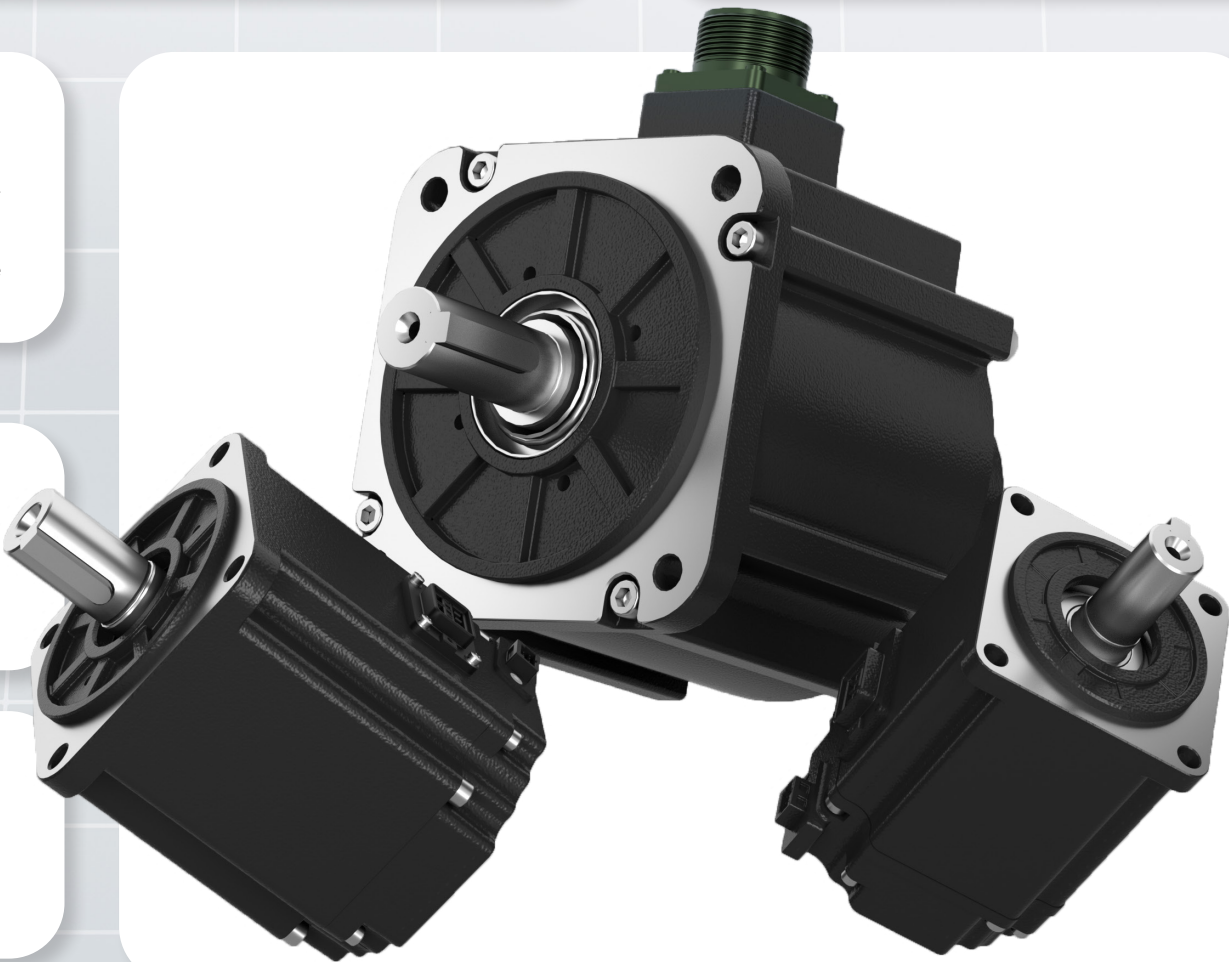
Under typical working conditions, the temperature rise of the casing is less than 60K

低噪音

Low noise

优化磁路设计、结构设计，运行噪音更低

Under typical working conditions, the temperature rise of the casing is less than 60K

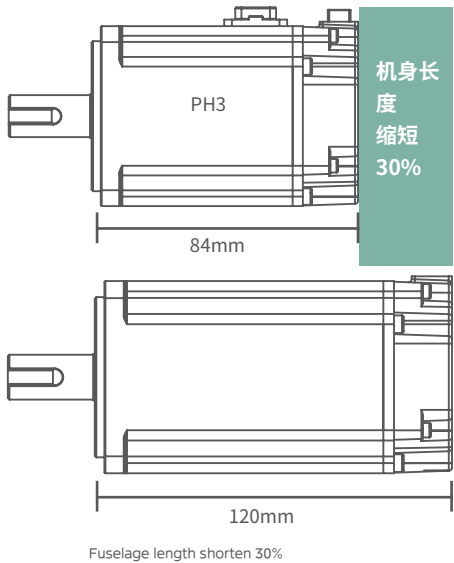


短机身

Short fuselage

相对 PH2，电机尺寸最大缩短 30%，大幅减小安装空间

Compared with PH2, the motor size is reduced by up to 30%, greatly reducing the installation space



快插设计

Quick-plug design

全系电机采用快插连接器设计，本体无“小尾巴”线缆，避免连接器空中对接，接口可靠性更高、布线更方便、更灵活

The whole motor adopts quick-plug connector design, and there is no "small tail" cable in the body, so as to avoid the air docking of the connector, the interface is more reliable, and the wiring is more convenient and flexible

高防护

High Protection



全系产品外壳均符合 IP67 防护等级认证要求（含连接器部位，不含轴贯通部位）

The whole product shell meets the IP67 protection grade certification requirements (including connector parts, excluding shaft through parts).

多编码器配置

Multiple encoder configuration

搭配多款编码器可选，并且默认使用多摩川数据协议，通用性更强

With a variety of encoders to choose from, and the default use of Tamagawa data protocol, more versatile

20bit 磁编版本

重复定位精度可达 50 角秒

Standard 20bit high-precision multi-turn optical knitting, Repeat positioning accuracy 50 arcseconds

23bit 磁编版本

重复定位精度可达 20 角秒

Standard 23bit high-precision multi-turn optical knitting, Repeat positioning accuracy 20 arcseconds

PH3 代系电机产品地图

PH3 generation motor product map

20

代表 20bit 单圈磁编
Stands for 20bit single-coil
magnetic braid

20

代表 20bit 多圈磁编
Stands for 20bit multi-coil
magnetic braid

23

代表 23bit 单圈绝对值光电编码器
Stands for 23bit single-turn absolute value
photoelectric encoder

惯量等级 Class of inertia	规格 specification	50W	100W	150W	200W	400W	750W	1000W	1500W	2000W	3000W	4000W	5000W
PH3 □ -L 小惯量 高速 PH3 □ -L Small inertia high speed	型号 Model number	LA5A004	L01A004	LB1A004	L02A006	L04A006	L08A008	L10A010/ L10B010	L15A010/ L15B010	L20A010/ L20B010	L30A013/ L30B013	L40A013/ L40B013	L50A013/ L50B013
	法兰 [mm]Francois	40	40	40	60	60	80	100	100	100	130	130	130
	额定 / 峰值扭矩 [N · m]Rated/peak torque	0.16/0.56	0.32/1.12	0.48/1.68	0.64/2.24	1.27/4.46	2.39/8.36	3.18/9.54	4.78/14.34	6.37/19.11	9.55/28.65	12.7/38.1	15.9/47.7
	额定 / 峰值转速 [rpm]Rated/peak speed	3000/7000	3000/7000	3000/7000	3000/7000	3000/7000	3000/7000	3000/6000	3000/6000	3000/6000	3000/6000	3000/6000	3000/6000
	有制动 / 无制动 惯量 [kg*m2]With/without braking inertia	0.02/0.027	0.035/0.042	0.055/0.062	0.14/0.147	0.23/0.236	0.791/0.861	2.23/2.57	3.14/3.48	4.17/4.51	9.6/11.5	14.7/16.6	18.5/20.4
	电压等级 [VAC]Voltage level	220	220	220	220	220	220	220/380	220/380	220/380	220/380	220/380	220/380
	编码器类型 [bit]Encoder type	202023	202023	202023	202023	202023	202023	202023	202023	202023	202023	202023	202023

惯量等级 Class of inertia	规格 specification	50W	100W	200W	400W	600W	750W	1000W
PH3 □ -M 中惯量 高速 PH3 □ -M medium inertia high speed	型号 Model number	MA5A004	M01A004	M02A006	M04A006	M06A006	M08A008	M10A008
	法兰 [mm]Francois	40	40	60	60	80	80	80
	额定 / 峰值扭矩 [N · m]Rated/peak torque	0.16/0.56	0.32/1.12	0.64/2.24	1.27/4.77	1.91/4.69	2.39/8.37	3.18/11.13
	额定 / 峰值转速 [rpm]Rated/peak speed	3000/7000	3000/7000	3000/7000	3000/7000	3000/7000	3000/7000	3000/7000
	有制动 / 无制动 惯量 [kg*m2]With/without braking inertia	0.041/0.048	0.075/0.082	0.27/0.29	0.045/0.455	0.65/0.66	1.45/1.50	1.87/1.97
	电压等级 [VAC]Voltage level	220	220	220	220	220	220	220
	编码器类型 [bit]Encoder type	202023	202023	202023	202023	202023	202023	202023

惯量等级 Class of inertia	规格 specification	850W	1300W	1800W	2900W	4400W	5500W	7500W
PH3 □ -G 中惯量 大转矩 PH3 □ -G large inertia torque	型号 Model number	G09A013/ G09B013	G13A013/ G13B013	G18A013/ G18B013	G29A018/ G29B018	G44A018/ G44B018	G55B018	G75B018
	法兰 [mm]Francois	130	130	130	180	180	180	180
	额定 / 峰值扭矩 [N · m]Rated/peak torque	5.39/16.17	8.34/20.85	11.5/28.75	19.1/47.75	28.6/71.5	35/87.5	48/120
	额定 / 峰值转速 [rpm]Rated/peak speed	1500/4500	1500/4500	1500/4500	1500/4500	1500/4500	1500/4500	1500/4500
	有制动 / 无制动 惯量 [kg*m2]With/without braking inertia	12.5/14.5	18.5/20.5	24.2/26.2	42.4/49.4	62.3/69.3	84.1/91.1	122/129
	电压等级 [VAC]Voltage level	220/380	220/380	220/380	220/380	220/380	380	380
	编码器类型 [bit]Encoder type	202023	202023	202023	202023	202023	202023	202023

PH3 代系产品上市时间预览

PH3 generation product launch time preview

	发布 publish	小批 sublot	量产 Mass production
M04	2024.Q2	2024.Q3	2024.Q4
M02/06	2024.Q2	2025.Q1	2025.Q1
M08/10	2024.Q4	2025.Q1	2025.Q1
G09/13/18	2024.Q4	2025.Q1 (磁编 Magnetic knitting) 2025.Q2 (光编 Optical plaiting)	2025.Q1 (磁编 Magnetic knitting) 2025.Q2 (光编 Optical plaiting)
MA5/01、LA5/01/B5/02/04/08	2025.Q1	2025.Q2	2025.Q3
L10/15/20/30/40/50、G29/44/55/75	2025.Q2	2025.Q2 (磁编 Magnetic knitting) 2025.Q3 (光编 Optical plaiting)	2025.Q3 (磁编 Magnetic knitting) 2025.Q4 (光编 Optical plaiting)

PH3-M 中惯量高速电机

PH3-M medium inertia high speed motor

机座号 Engine seat number	额定功 率 (kW) Rated power	电压等 级 (VAC)	转矩值 (额定 / 峰值) Torque value (Rated/peak)	转速 (额定 / 最高) Rotational speed (Rated/Max)	惯量值 (无制动 / 带制动) Value of inertia (No brake/with brake)	油封 Oil seal	制动器 brake	20bit 磁编 单圈绝对值 20bit magnetic knitting Absolute value of a turn	20bit 磁编 多圈绝对值 20bit magnetic knitting Multiturn absolute value	23bit 光编 多圈绝对值 23bit optical knitting Multiturn absolute value
40	0.05	220	0.16/0.56	3000/7000	0.041/0.048	✓	✓	PH3E-MA5A004EG	PH3E-MA5A004EM	PH3S-MA5A004ET
						✓	×	PH3E-MA5A004SG	PH3E-MA5A004SM	PH3S-MA5A004ST
						×	✓	PH3E-MA5A004BG	PH3E-MA5A004BM	PH3S-MA5A004BT
						×	×	PH3E-MA5A004NG	PH3E-MA5A004NM	PH3S-MA5A004NT
	0.1	220	0.32/1.12	3000/7000	0.075/0.082	✓	✓	PH3E-M01A004EG	PH3E-M01A004EM	PH3S-M01A004ET
						✓	×	PH3E-M01A004SG	PH3E-M01A004SM	PH3S-M01A004ST
						×	✓	PH3E-M01A004BG	PH3E-M01A004BM	PH3S-M01A004BT
						×	×	PH3E-M01A004NG	PH3E-M01A004NM	PH3S-M01A004NT
60	0.2	220	0.64/2.24	3000/7000	0.23/0.25	✓	✓	PH3E-M02A006EG	PH3E-M02A006EM	PH3S-M02A006ET
						✓	×	PH3E-M02A006SG	PH3E-M02A006SM	PH3S-M02A006ST
	0.4	220	1.27/4.77	3000/7000	0.45/0.455	✓	✓	PH3E-M04A006EG	PH3E-M04A006EM	PH3S-M04A006ET
						✓	×	PH3E-M04A006SG	PH3E-M04A006SM	PH3S-M04A006ST
	0.6	220	1.91/4.69	3000/7000	0.65/0.66	✓	✓	PH3E-M06A006EG	PH3E-M06A006EM	PH3S-M06A006ET
						✓	×	PH3E-M06A006SG	PH3E-M06A006SM	PH3S-M06A006ST
	0.75	220	2.39/8.37	3000/7000	1.45/1.50	✓	✓	PH3E-M08A008EG	PH3E-M08A008EM	PH3S-M08A008ET
						✓	×	PH3E-M08A008SG	PH3E-M08A008SM	PH3S-M08A008ST
80	1.0	220	3.18/11.13	3000/7000	1.87/1.97	✓	✓	PH3E-M10A008EG	PH3E-M10A008EM	PH3S-M10A008ET
						✓	×	PH3E-M10A008SG	PH3E-M10A008SM	PH3S-M10A008ST

PH3-G 中惯量大转矩电机

PH3-G medium inertia high torque motor

机座号 Engine seat number	额定功 率 (kW) Rated power	电压等 级 (VAC)	转矩值 (额定 / 峰值) Torque value (Rated/peak)	转速 (额定 / 最高) Rotational speed (Rated/Max)	惯量值 (无制动 / 带制动) Value of inertia (No brake/with brake)	油封 Oil seal	制动 器 brake	20bit 磁编 单圈绝对值 20bit magnetic knitting Absolute value of a turn	20bit 磁编 多圈绝对值 20bit magnetic knitting Multiturn absolute value	23bit 光编 多圈绝对值 23bit optical knitting Multiturn absolute value
130	0.85	220	5.39/16.17	1500/4500	12.5/14.5	✓	✓	PH3E-G09A013EG	PH3E-G09A013EM	PH3S-G09A013ET
						✓	×	PH3E-G09A013SG	PH3E-G09A013SM	PH3S-G09A013ST
		380	5.39/16.17	1500/4500	12.5/14.5	✓	✓	PH3E-G09B013EG	PH3E-G09B013EM	PH3S-G09B013ET
						✓	×	PH3E-G09B013SG	PH3E-G09B013SM	PH3S-G09B013ST
	1.3	220	8.34/20.85	1500/4500	18.5/20.5	✓	✓	PH3E-G13A013EG	PH3E-G13A013EM	PH3S-G13A013ET
						✓	×	PH3E-G13A013SG	PH3E-G13A013SM	PH3S-G13A013ST
		380	8.34/20.85	1500/4500	18.5/20.5	✓	✓	PH3E-G13B013EG	PH3E-G13B013EM	PH3S-G13B013ET
						✓	×	PH3E-G13B013SG	PH3E-G13B013SM	PH3S-G13B013ST
	1.8	220	11.5/28.75	1500/4500	24.2/26.2	✓	✓	PH3E-G18A013EG	PH3E-G18A013EM	PH3S-G18A013ET
						✓	×	PH3E-G18A013SG	PH3E-G18A013SM	PH3S-G18A013ST
		380	11.5/28.75	1500/4500	24.2/26.2	✓	✓	PH3E-G18B013EG	PH3E-G18B013EM	PH3S-G18B013ET
						✓	×	PH3E-G18B013SG	PH3E-G18B013SM	PH3S-G18B013ST
180	2.9	220	19.1/47.75	1500/4500	42.4/49.4	✓	✓	PH3E-G29A018EG	PH3E-G29A018EM	PH3S-G29A018ET
						✓	×	PH3E-G29A018SG	PH3E-G29A018SM	PH3S-G29A018ST
		380	19.1/47.75	1500/4500	42.4/49.4	✓	✓	PH3E-G29B018EG	PH3E-G29B018EM	PH3S-G29B018ET
						✓	×	PH3E-G29B018SG	PH3E-G29B018SM	PH3S-G29B018ST
	4.4	220	28.6/71.5	1500/4500	62.3/69.3	✓	✓	PH3E-G44A018EG	PH3E-G44A018EM	PH3S-G44A018ET
						✓	×	PH3E-G44A018SG	PH3E-G44A018SM	PH3S-G44A018ST
		380	28.6/71.5	1500/4500	62.3/69.3	✓	✓	PH3E-G44B018EG	PH3E-G44B018EM	PH3S-G44B018ET
						✓	×	PH3E-G44B018SG	PH3E-G44B018SM	PH3S-G44B018ST
	5.5	380	35/87.5	1500/4500	84.1/91.1	✓	✓	PH3E-G55B018EG	PH3E-G55B018EM	PH3S-G55B018ET
						✓	×	PH3E-G55B018SG	PH3E-G55B018SM	PH3S-G55B018ST
		7.5	48/120	1500/4500	122/129	✓	✓	PH3E-G75B018EG	PH3E-G75B018EM	PH3S-G75B018ET
						✓	×	PH3E-G75B018SG	PH3E-G75B018SM	PH3S-G75B018ST

PH3-L 小惯量高速电机

PH3-L small inertia high speed motor

机座号 Engine seat number	额定功率 (kW) Rated power	电压等级 (VAC)	转矩值 (额定 / 峰值) Torque value (Rated/peak)	转速 (额定 / 最高) Rotational speed (Rated/Max)	惯量值 (无制动 / 带制动) Value of inertia (No brake/with brake)	油封 Oil seal	制动器 brake	20bit 磁编 单圈绝对值 20bit magnetic knitting Absolute value of a turn	20bit 磁编 多圈绝对值 20bit magnetic knitting Multiturn absolute value	23bit 光编 多圈绝对值 23bit optical knitting Multiturn absolute value
40	0.05	220	0.16/0.56	3000/7000	0.02/0.027	✓	✓	PH3E-LA5A004EG	PH3E-LA5A004EM	PH3S-LA5A004ET
						✓	×	PH3E-LA5A004SG	PH3E-LA5A004SM	PH3S-LA5A004ST
						×	✓	PH3E-LA5A004BG	PH3E-LA5A004BM	PH3S-LA5A004BT
						×	×	PH3E-LA5A004NG	PH3E-LA5A004NM	PH3S-LA5A004NT
	0.1	220	0.32/1.12	3000/7000	0.035/0.042	✓	✓	PH3E-L01A004EG	PH3E-L01A004EM	PH3S-L01A004ET
						✓	×	PH3E-L01A004SG	PH3E-L01A004SM	PH3S-L01A004ST
						×	✓	PH3E-L01A004BG	PH3E-L01A004BM	PH3S-L01A004BT
						×	×	PH3E-L01A004NG	PH3E-L01A004NM	PH3S-L01A004NT
	0.15	220	0.48/1.68	3000/7000	0.055/0.062	✓	✓	PH3E-LB5A004EG	PH3E-LB5A004EM	PH3S-LB5A004ET
						✓	×	PH3E-LB5A004SG	PH3E-LB5A004SM	PH3S-LB5A004ST
						×	✓	PH3E-LB5A004BG	PH3E-LB5A004BM	PH3S-LB5A004BT
						×	×	PH3E-LB5A004NG	PH3E-LB5A004NM	PH3S-LB5A004NT
60	0.2	220	0.64/2.24	3000/7000	0.14/0.147	✓	✓	PH3E-L02A006EG	PH3E-L02A006EM	PH3S-L02A006ET
						✓	×	PH3E-L02A006SG	PH3E-L02A006SM	PH3S-L02A006ST
	0.4	220	1.27/4.77	3000/7000	0.23/0.236	✓	✓	PH3E-L04A006EG	PH3E-L04A006EM	PH3S-L04A006ET
						✓	×	PH3E-L04A006SG	PH3E-L04A006SM	PH3S-L04A006ST
80	0.75	220	2.39/8.37	3000/7000	0.791/0.861	✓	✓	PH3E-L08A008EG	PH3E-L08A008EM	PH3S-L08A008ET
						✓	×	PH3E-L08A008SG	PH3E-L08A008SM	PH3S-L08A008ST
100	1.0	220	3.18/9.54	3000/6000	2.23/2.57	✓	✓	PH3E-L10A010EG	PH3E-L10A010EM	PH3S-L10A010ET
						✓	×	PH3E-L10A010SG	PH3E-L10A010SM	PH3S-L10A010ST
		380	3.18/9.54	3000/6000	2.23/2.57	✓	✓	PH3E-L10B010EG	PH3E-L10B010EM	PH3S-L10B010ET
						✓	×	PH3E-L10B010SG	PH3E-L10B010SM	PH3S-L10B010ST
	1.5	220	4.90/14.70	3000/6000	3.14/3.48	✓	✓	PH3E-L15A010EG	PH3E-L15A010EM	PH3S-L15A010ET
						✓	×	PH3E-L15A010SG	PH3E-L15A010SM	PH3S-L15A010ST
		380	4.90/14.70	3000/6000	3.14/3.48	✓	✓	PH3E-L15B010EG	PH3E-L15B010EM	PH3S-L15B010ET
						✓	×	PH3E-L15B010SG	PH3E-L15B010SM	PH3S-L15B010ST
	2.0	220	6.36/19.10	3000/6000	4.17/4.51	✓	✓	PH3E-L20A010EG	PH3E-L20A010EM	PH3S-L20A010ET
						✓	×	PH3E-L20A010SG	PH3E-L20A010SM	PH3S-L20A010ST
		380	6.36/19.10	3000/6000	4.17/4.51	✓	✓	PH3E-L20B010EG	PH3E-L20B010EM	PH3S-L20B010ET
						✓	×	PH3E-L20B010SG	PH3E-L20B010SM	PH3S-L20B010ST
130	3.0	220	9.55/28.6	3000/6000	9.6/11.5	✓	✓	PH3E-L30A013EG	PH3E-L30A013EM	PH3S-L30A013ET
						✓	×	PH3E-L30A013SG	PH3E-L30A013SM	PH3S-L30A013ST
		380	9.55/28.6	3000/6000	9.6/11.5	✓	✓	PH3E-L30B013EG	PH3E-L30B013EM	PH3S-L30B013ET
						✓	×	PH3E-L30B013SG	PH3E-L30B013SM	PH3S-L30B013ST
	4.0	220	12.7/38.1	3000/6000	14.7/16.6	✓	✓	PH3E-L40A013EG	PH3E-L40A013EM	PH3S-L40A013ET
						✓	×	PH3E-L40A013SG	PH3E-L40A013SM	PH3S-L40A013ST
		380	12.7/38.1	3000/6000	14.7/16.6	✓	✓	PH3E-L40B013EG	PH3E-L40B013EM	PH3S-L40B013ET
						✓	×	PH3E-L40B013SG	PH3E-L40B013SM	PH3S-L40B013ST
	5.0	220	15.9/47.7	3000/6000	18.5/20.4	✓	✓	PH3E-L50A013EG	PH3E-L50A013EM	PH3S-L50A013ET
						✓	×	PH3E-L50A013SG	PH3E-L50A013SM	PH3S-L50A013ST
		380	15.9/47.7	3000/6000	18.5/20.4	✓	✓	PH3E-L50B013EG	PH3E-L50B013EM	PH3S-L50B013ET
						✓	×	PH3E-L50B013SG	PH3E-L50B013SM	PH3S-L50B013ST

通用技术规格
General technical specification

产品代系 Product generation		PH3 系列 PH3 Series	
电压等级 Voltage level		220V 机型 220V Model	380V 机型 380V model
耐压等级 Pressure rating		1500 VAC 1 分钟，漏电流 ≤ 10mA A1500 VAC 1 minute, leakage current ≤ 10mA	1800 VAC 1 分钟，漏电流 ≤ 20mA 1800 VAC 1 minute, leakage current ≤ 20mA
工作制 Working system		S1	
绝缘等级 Insulation class		F	
绝缘阻抗 Insulation impedance		≥ 10MΩ @ 500 VDC	
励磁方式 Excitation mode		永磁式 Permanent magnet	
安装方式 Installation mode		法兰安装 Flange mounting	
驱动连接方式 Drive connection mode		通过延长线直接连接驱动器 Connect the driver directly via an extension cable	
旋转方向 Direction of rotation		从电机出轴侧 / 负载侧视入，约定转子逆时针旋转（CCW）为正方向，此时电机反电动势的相位关系为：U>V>W。 Viewed from the motor axle side/load side, it is agreed that the rotor counterclockwise rotation (CCW) is the positive direction, and the phase relationship of the motor back electromotive force is U>V>W.	
振动等级 Vibration level		V15	
外壳防护等级 Case protection class		IP67（轴贯通部分除外） IP67 (except through part of shaft)	
抗振动强度 Vibration strength		振动频率 10~150Hz，振幅 0.175mm 或加速度 25m/s2，扫频次数 10； Vibration frequency 10~150Hz, amplitude 0.175mm or acceleration 25m/s2, sweep frequency 10;	
抗冲击强度 Impact strength		峰值加速度 50m/s2，脉冲持续时间 30ms，半正弦波；每方向 3 次，共 18 次； Peak acceleration 50m/s2, pulse duration 30ms, half sine wave; 3 times in each direction, a total of 18 times;	
环境条件 Environment Conditions	存储环境 Storage environment	在电机不通电的状态下保管时，请遵守下列环境要求： When the motor is not powered on, please comply with the following environmental requirements:	
		环境温度：-10° C ~ +40° C （不冻结）； Ambient temperature: -10° C ~ +40° C (non-freezing);	
		环境湿度：20%RH ~ 85%RH （不结露） Ambient humidity: 20%RH ~ 85%RH (no condensation)	
	使用环境 Use environment	环境温度：-10° C ~ 40° C, Ambient temperature: -10° C ~ 40° C,	
		环境湿度：20%RH ~ 85%RH （不结露） Ambient humidity: 20%RH ~ 85%RH (no condensation)	
		· 室内无腐蚀性或爆炸性气体的场所 Indoor places free of corrosive or explosive gases	
	安装场所 Installation site	· 通风良好，灰尘、垃圾及湿气少的场所 Well-ventilated areas with little dust, garbage and moisture	
		· 便于检查和清扫的场所 Easy to inspect and clean	
		· 海拔 1000m 以下（1000m ~ 2000m 时，可降低额定值后使用） Altitude below 1000m (1000m ~ 2000m, can lower the rating after use)	
		· 不会产生强大磁场的场所 Sites that do not generate strong magnetic fields	

PH3-M 中惯量高速电机电气规格
PH3-M medium inertia high speed motor electrical specifications

项目 Project	单位 unit	M02A006	M04A006	M06A006	M08A008	M10A008
额定电压 Rated voltage	V	220	220	220	220	220
惯量类型 Type of inertia	/	中惯量 Medium inertia	中惯量 Medium inertia	中惯量 Medium inertia	中惯量 Medium inertia	中惯量 Medium inertia
安装法兰 Mounting flange	mm	60	60	60	80	80
额定功率 Rated power	W	200	400	600	750	1000
额定转矩 Rated torque	N · m	0.64	1.27	1.91	2.39	3.18
最大转矩 Maximum torque	N · m	2.3	4.46	6.69	8.37	11.13
额定转速 Rated speed	r/min	3000	3000	3000	3000	3000
最高转速 *1Maximum speed *1	r/min	7000	7000	7000	7000	7000
额定电流 Rated current	Arms	1.5	2.4	3.9	4.2	5.6
最大电流 Maximum current	Arms	5.6	9	14.3	15.9	21.2
转矩常数 *Torque constant *	N · m/A	0.48	0.6	0.53	0.596	0.599
极对数 Number of poles	/	5	5	5	5	5
电压常数 *Voltage constant *	V/krpm	28.8	36.5	32.2	36.06	36.2
电气时间常数 Electrical time constant	ms	1.11	1.62	3	2.96	2.86
线电阻 *Line resistance *	Ω	7.93	3.08	1.83	1.17	0.803
线电感 *Line inductance *	mH	8.8	5	5.49	3.46	2.3
电感 Inductance	q 轴 q-axis	mH	4.75	2.73	1.865	1.215
	d 轴 d axis	mH	4.1	2.4	1.1	1.075
转子惯量 * Rotor inertia *	无制动器 No brake	x10 ⁻⁴ Kg.m ²	0.24	0.47	0.68	1.46
	有制动器 With brake	x10 ⁻⁴ Kg.m ²	0.25	0.48	0.69	1.51
机械时间常数 Mechanical time constant	无制动器 No brake	ms	1.45	0.69	0.76	0.72
	有制动器 With brake	ms	1.51	0.7	0.77	0.745
质量 Quality	无制动器 No brake	kg	0.68	1.01	1.27	1.98
	有制动器 With brake	kg	1.03	1.36	1.62	2.27
容许负载 Allowable load	径向负载 Radial load	N	245	245	245	147
	轴向负载 Axial load	N	75	75	75	393
制动器规格 *2 Brake specifications *2	额定电压 rated voltage	VDC	24	24	24±10%	24±10%
	额定电流 Rated current	A	0.4	0.4	0.438	0.353
	额定功率 Rated power	W	9.6	9.6	9.6	8.5
	静摩擦转矩 Static friction torque	N.m	2.3	2.3	2.3	≥ 3.2
	吸合时间 Suction time	ms	< 70	< 70	< 70	< 60
	释放时间 Release time	ms	< 20	< 20	< 20	< 40
	释放电压 Release voltage	VDC	0.5~8	0.5~8	0.5~8	> 1.5
	回转间隙 Rotating clearance	°	< 0.5°	< 0.5°	< 0.5°	< 0.5°

PH3-G 中惯量大转矩电机电气规格
PH3-G medium inertia high torque motor electrical specifications

项目 Project	单位 unit	G09A013	G13A013	G18A013	G09B013	G13B013	G18B013
额定电压 Rated voltage	V	220	220	220	380	380	380
惯量类型 Type of inertia	/	中惯量 Mediuminertia	中惯量 Mediuminertia	中惯量 Mediuminertia	中惯量 Mediuminertia	中惯量 Mediuminertia	中惯量 Mediuminertia
安装法兰 Mounting flange	mm	130	130	130	130	130	130
额定功率 Rated power	W	850	1300	1800	850	1300	1800
额定转矩 Rated torque	N · m	5.39	8.28	11.5	5.39	8.28	11.5
最大转矩 Maximum torque	N · m	13.5	20.85	28.75	13.5	20.85	28.75
额定转速 Rated speed	r/min	1500	1500	1500	1500	1500	1500
最高转速 *1Maximum speed *1	r/min	4500	4500	4500	4500	4500	4500
额定电流 Rated current	Arms	5.96	9.7	11.4	3.23	4.85	7.33
最大电流 Maximum current	Arms	15.7	25.2	29.8	8.5	12.6	19.2
转矩常数 *Torque constant *	N · m/A	0.92	0.88	1.03	1.71	1.75	1.6
极对数 Number of poles	/	5	5	5	5	5	5
电压常数 *Voltage constant *	V/krpm	55.91	53.05	62.13	103.13	106.1	96.64
电气时间常数 Electrical time constant	ms	7.95	17.45	50.32	2.78	8.13	12.23
线电阻 *Line resistance *	Ω	0.97	0.44	0.39	3.42	1.77	0.96
线电感 *Line inductance *	mH	7.7	7.7	19.6	9.5	14.4	11.7
电感 Inductance	q 轴 q-axis	mH	2.94	1.6	1.51	10.12	6.4
	d 轴 d axis	mH	2.29	1.2	1.16	7.77	4.85
转子惯量 * Rotor inertia *	无制动器 No brake	x10 ⁻⁴ Kg.m ²	13.14	18.91	25.05	13.14	18.91
	有制动器 With brake	x10 ⁻⁴ Kg.m ²	15.4	21.2	27	15.4	21.2
机械时间常数 Mechanical time constant	无制动器 No brake	ms	2.6	1.87	1.59	2.66	1.89
	有制动器 With brake	ms	3.05	2.09	1.72	3.12	2.12
容许负载 Allowable load	径向负载 Radial load	N	686	686	686	686	686
	轴向负载 Axial load	N	343	343	343	343	343
制动器规格 *2 Brake specifications *2	额定电压 rated voltage	VDC	24	24	24	24	24
	额定电流 Rated current	A	0.94	0.94	0.94	0.94	0.94
	额定功率 Rated power	W	23	23	23	23	23
	静摩擦转矩 Static friction torque	N.m	16	16	16	16	16
	吸合时间 Suction time	ms	80	80	80	80	80
	释放时间 Release time	ms	40	40	40	40	40
	释放电压 Release voltage	VDC	> 0.5	> 0.5	> 0.5	> 0.5	> 0.5
	回转间隙 Rotating clearance	°	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

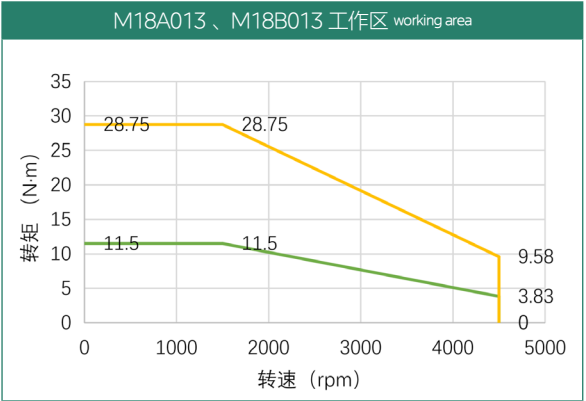
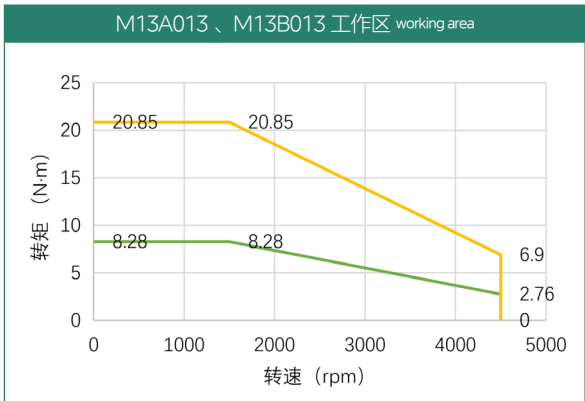
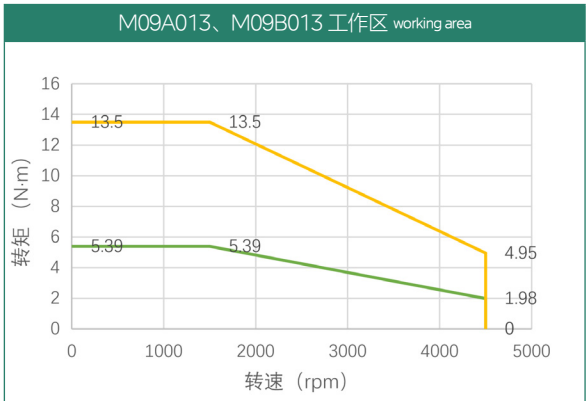
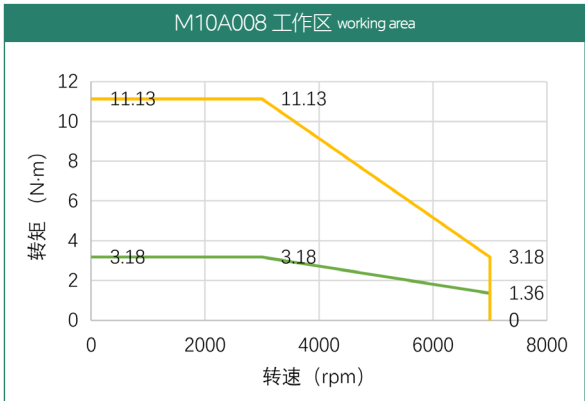
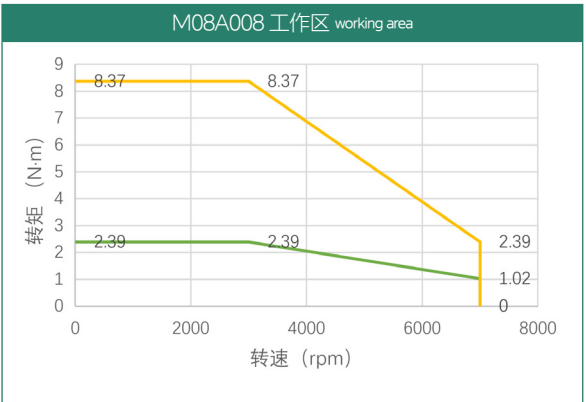
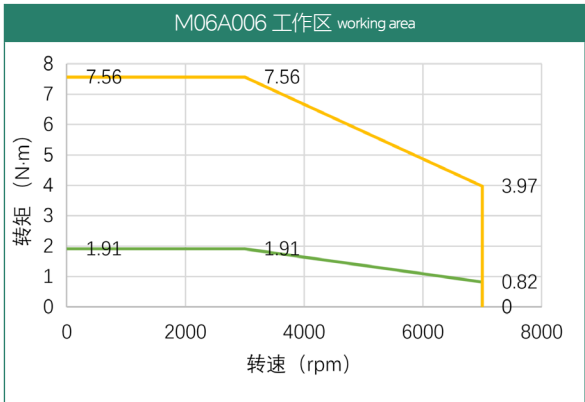
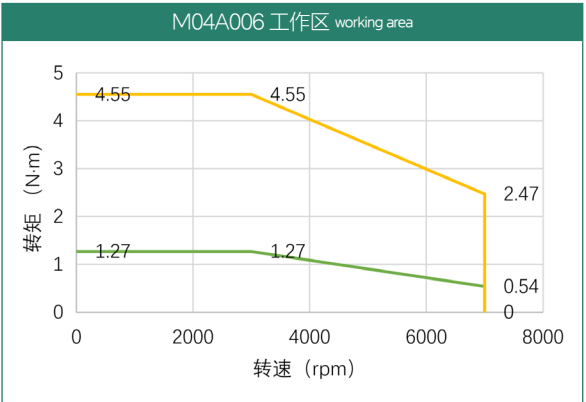
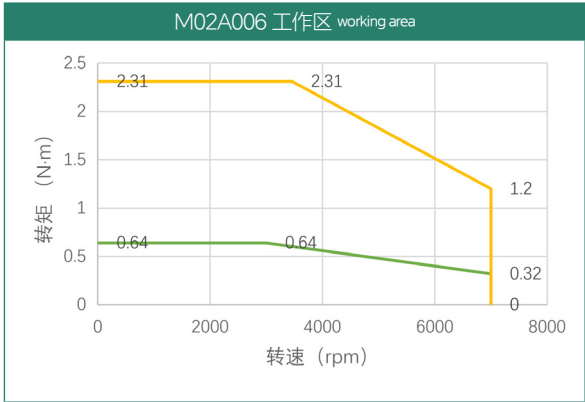
*表中数值为典型值，实际产品存在一定的容差：
*1 代表电机搭配标配伺服驱动器时的性能表现；搭配其它驱动器使用时，性能可能存在差异。
*2 制动器仅用于静态保持制动，不可用于动态制动。

* The values in the table are typical values, and the actual products have certain tolerances:
*1 represents the performance of the motor with a standard servo driver; Performance may vary when used with other drives.
*2 brake is only used for static holding braking, not for dynamic braking.

T-N 工作区曲线

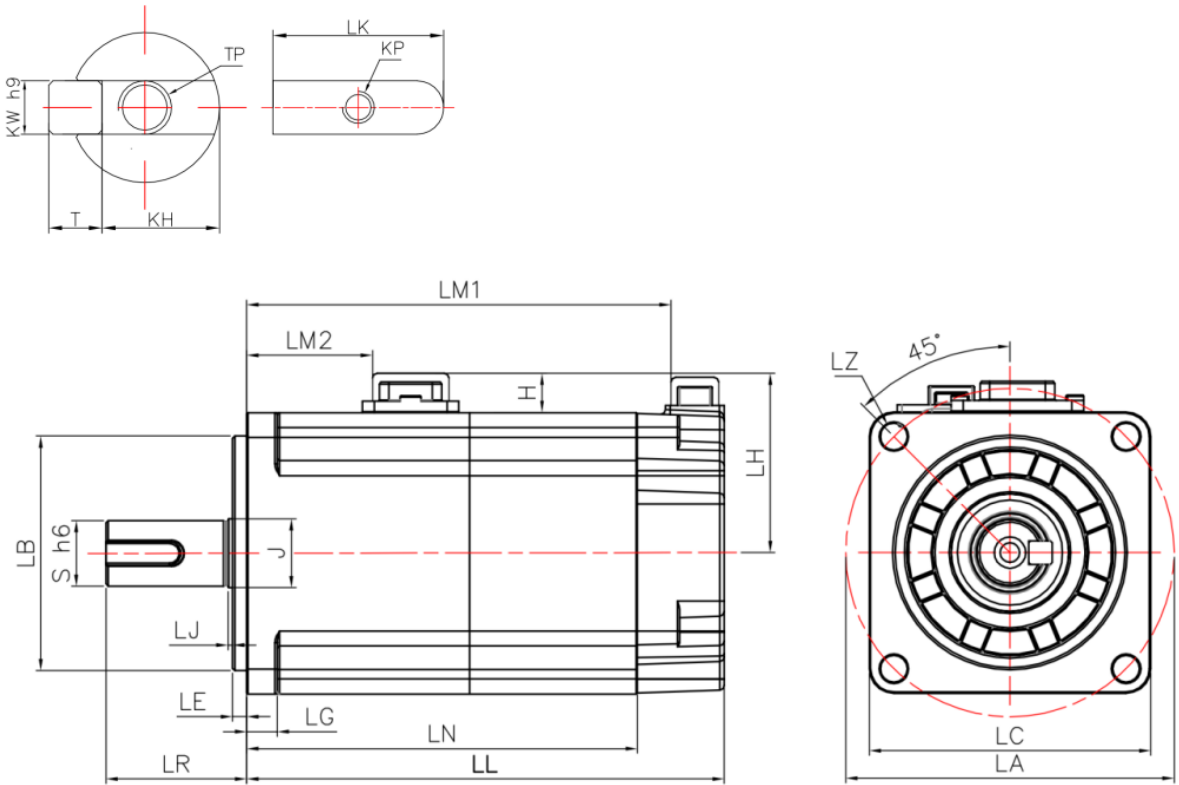
T-N workspace curve

连续工作区 短时工作区
Continuous working area Short-time working area



结构尺寸图例 (PH3-M 系列 60/80 机座)

Structure size legend (PH3-M series 60/80 stand)



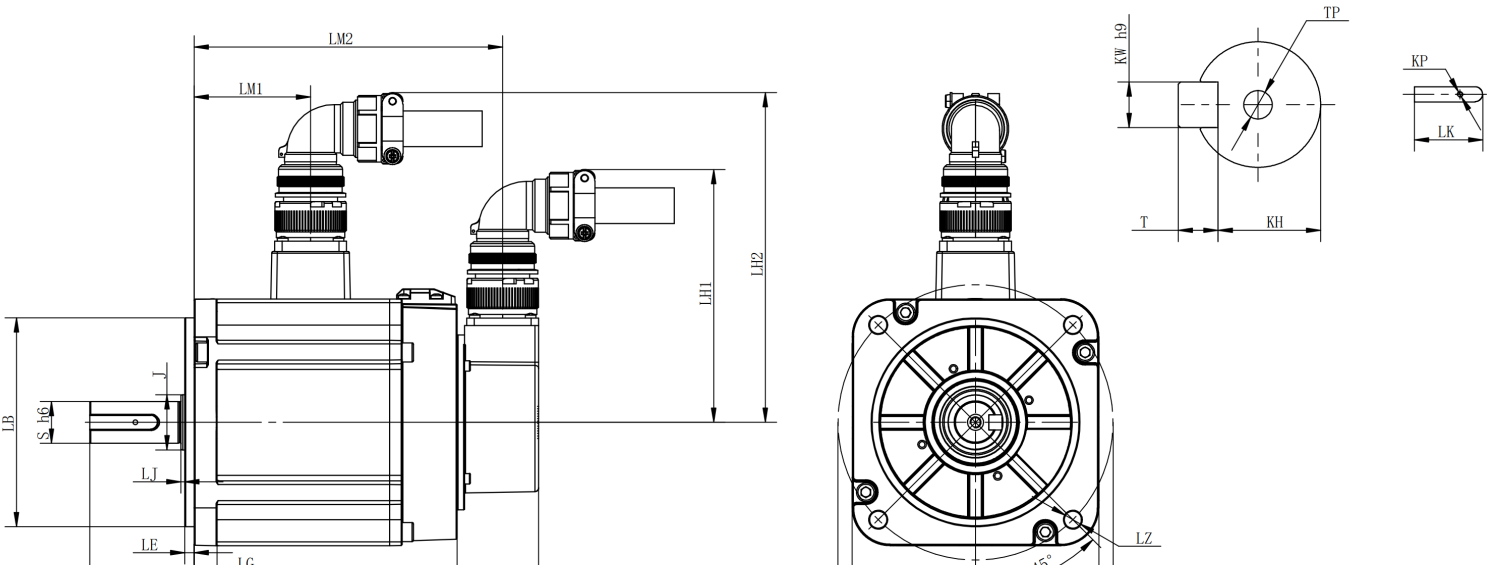
型号 Model number	M02A006	M04A006	M06A006	M08A008	M10A008
LA	φ 70	φ 70	φ 70	φ 90	φ 90
LB	φ 50	φ 50	φ 50	φ 70	φ 70
LC	60	60	60	80	80
LZ	4 φ 5.7	4 φ 5.7	4 φ 5.7	4 φ 6.6	4 φ 6.6
S	φ 14h6	φ 14h6	φ 14h6	φ 19h6	φ 19h6
J	φ 14.7	φ 14.7	φ 14.7	φ 19.8	φ 19.8
LH	38.3	38.3	38.3	46.5	46.5
LR	30	30	30	35	35
LE	3	3	3	3	3
LG	6.5	6.5	6.5	8	8
LJ	0.5	0.5	0.5	0.5	0.5
LL	无制动 No brake	69.3	84.8	96	108
	有制动 with brake	101.8	117.3	126	145
LM1	无制动 No brake	57.95	146.9	87	99
	有制动 with brake	90.45	211.9	116	137
LM2	无制动 No brake	26.8	84.6	60	72
	有制动 with brake	26.8	84.6	60	72
键型 Bond type	C	C	C	C	C
LK	16	16	16	25	25
KP	M3	M3	M3	M3	M3
T	5	5	5	6	6
KW	5	5	5	6	6
KH	11	11	11	15.5	15.5
TP	M5 深 12 M5 deep 12	M5 深 12 M5 deep 12	M5 深 12 M5 deep 12	M6 深 14 M6 deep 14	M6 深 14 M6 deep 14

备注: 尺寸单位 毫米 (mm)

Note: Size unit mm (mm)

结构尺寸图例 (PH3-G 系列 130 机座)

Structure size legend (PH3-G series 130 stand)



型号 Model number		G09A013 G09B013	G13A013 G13B013	G18A013 G18B013
LA		130	130	130
LB		110	110	110
LC		145	145	145
LZ		9	9	9
S		22	22	22
J		φ 29	φ 29	φ 29
LH1		135	135	135
LH2		175	175	175
LR		55	55	55
LE		5	5	5
LG		12	12	12
LJ		2	2	2
LL (磁编) (magnetic knitting)	无制动 No brake	135	151.5	168
	有制动 with brake	164	180.5	197
LL (光编) (light knitting)	无制动 No brake	145	161.5	178
	有制动 with brake	174	190.5	207
LM1	无制动 No brake	115.5	132	148.5
	有制动 with brake	144.5	161	177.5
LM2	无制动 No brake	58.5	75	91.5
	有制动 with brake	58.5	75	91.5
键类型 Bond type		C	C	C
LK		36	36	36
KP		M3	M3	M3
T		7	7	7
KW		8	8	8
KH		18	18	18
TP		M6	M6	M6

备注:

- 图示航插连接器非标配，在图纸中仅用于示意最大安装高度。
- 尺寸单位 毫米 (mm)

Note:

- The navigational connector is not standard and is only used to indicate the maximum installation height in the drawing.
- Size unit mm (mm)

电机接口定义

Motor interface definition

M02/04/06/08/10

	电机连接器 Motor connector	延长线连接器 Extension cord connector																																							
编码器接口 Encoder interface	Connector: Model: SC-MC7P-MDDL	Connector: Model: SC-MC7S-AB20-000-10 Pin: Model: 正向: S-FMC19012220 (*7) 反向: S-FMC19012220 (*7)																																							
	<table><tr><th>管脚号 Pin</th><th>信号 number signal</th></tr><tr><td>1</td><td>Shield</td></tr><tr><td>2</td><td>VCC</td></tr><tr><td>3</td><td>GND</td></tr><tr><td>4</td><td>Data+</td></tr><tr><td>5</td><td>Data-</td></tr><tr><td>6</td><td>Bat+</td></tr><tr><td>7</td><td>Bat-</td></tr></table>	管脚号 Pin	信号 number signal	1	Shield	2	VCC	3	GND	4	Data+	5	Data-	6	Bat+	7	Bat-	<table><tr><th>管脚号 Pin</th><th>信号 number signal</th><th>线色 Line color</th></tr><tr><td>1</td><td>Shield</td><td>屏蔽层</td></tr><tr><td>2</td><td>VCC</td><td>红</td></tr><tr><td>3</td><td>GND</td><td>黑</td></tr><tr><td>4</td><td>Data+</td><td>蓝</td></tr><tr><td>5</td><td>Data-</td><td>蓝黑</td></tr><tr><td>6</td><td>Bat+</td><td>绿</td></tr><tr><td>7</td><td>Bat-</td><td>绿黑</td></tr></table>	管脚号 Pin	信号 number signal	线色 Line color	1	Shield	屏蔽层	2	VCC	红	3	GND	黑	4	Data+	蓝	5	Data-	蓝黑	6	Bat+	绿	7	Bat-
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5	Data-	蓝黑																																							
6	Bat+	绿																																							
7	Bat-	绿黑																																							
动力线接口 (无制动) Power line interface (no braking)	Connector: Model: SC-MC6P-AP2G-054-19	Connector: Model: SC-MC6S-AP20-00 Pin: Model: 正向: S-FMCK6012220 (*4) 反向: S-FMCK6092220 (*4)																																							
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	正向	反向																																							
动力线接口 (带制动) Power line interface (with braking)	Connector: Model: SC-MC6P-AP2G-044-19	Connector: Model: SC-MC6S-AP20-00 Pin: Model: 正向: S-FMCK6012220 (*4) S-FMC19012220 (*2) 反向: S-FMCK6092220 (*4) S-FMC19012220 (*2)																																							
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备注:

表中线色为推荐线色，若实际线色不同，请以管脚号定义为准来确认信号。

编码器接口中，6、7 为多圈编码器外接电池供电接口，仅多圈编码器机型有效。

Note:

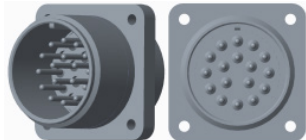
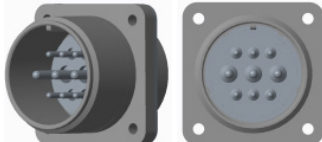
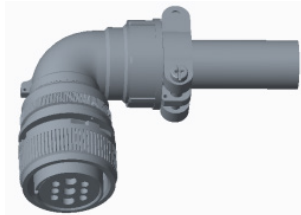
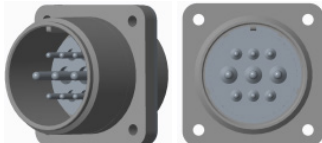
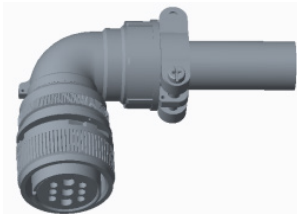
The line color in the table is the recommended line color. If the actual line color is different, please refer to the pin number definition to confirm the signal.

Encoder interface, 6, 7 multi-turn encoder external battery power interface, only the multi-turn encoder model is effective.

电机接口定义

Motor interface definition

G09/13/18

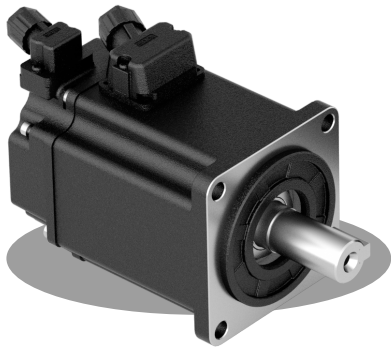
	电机连接器 Motor connector	延长线连接器 Extension cord connector																																								
编码器接口 Encoder interface	Connector: Model: CMS3102A20-29P P/N: 12119400001081 <table><tr><th>管脚号 Pin</th><th>信号 number signal</th></tr><tr><td>E</td><td>SD+</td></tr><tr><td>F</td><td>SD-</td></tr><tr><td>G</td><td>GND</td></tr><tr><td>H</td><td>VCC</td></tr><tr><td>J</td><td>Shield</td></tr><tr><td>S</td><td>Bat-</td></tr><tr><td>T</td><td>Bat+</td></tr></table>	管脚号 Pin	信号 number signal	E	SD+	F	SD-	G	GND	H	VCC	J	Shield	S	Bat-	T	Bat+	Connector: Model: HMS3108AE20-29S P/N: 12119400000581 <table><tr><th>管脚号 Pin</th><th>信号 number signal</th><th>线色 Line color</th></tr><tr><td>E</td><td>SD+</td><td>蓝</td></tr><tr><td>F</td><td>SD-</td><td>蓝黑</td></tr><tr><td>G</td><td>GND</td><td>黑</td></tr><tr><td>H</td><td>VCC</td><td>红</td></tr><tr><td>J</td><td>Shield</td><td>屏蔽层</td></tr><tr><td>S</td><td>Bat-</td><td>绿黑</td></tr><tr><td>T</td><td>Bat+</td><td>绿</td></tr></table>	管脚号 Pin	信号 number signal	线色 Line color	E	SD+	蓝	F	SD-	蓝黑	G	GND	黑	H	VCC	红	J	Shield	屏蔽层	S	Bat-	绿黑	T	Bat+	绿
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动力线接口 (无制动) Power line interface (no braking)	Connector: Model: CMS3102A20-18P P/N: 12119400000841 <table><tr><th>管脚号 Pin</th><th>信号 number signal</th></tr><tr><td>E</td><td>PE</td></tr><tr><td>F</td><td>U</td></tr><tr><td>I</td><td>V</td></tr><tr><td>B</td><td>W</td></tr></table>	管脚号 Pin	信号 number signal	E	PE	F	U	I	V	B	W	Connector: Model: CMS3108A20-18SI P/N: 12119400000502 <table><tr><th>管脚号 Pin</th><th>信号 number signal</th><th>线色 Line color</th></tr><tr><td>E</td><td>PE</td><td>黄绿</td></tr><tr><td>F</td><td>U</td><td>红</td></tr><tr><td>I</td><td>V</td><td>白</td></tr><tr><td>B</td><td>W</td><td>黑</td></tr></table>	管脚号 Pin	信号 number signal	线色 Line color	E	PE	黄绿	F	U	红	I	V	白	B	W	黑															
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编码器接口中，S、T 为多圈编码器外接电池供电接口，仅多圈编码器机型有效。

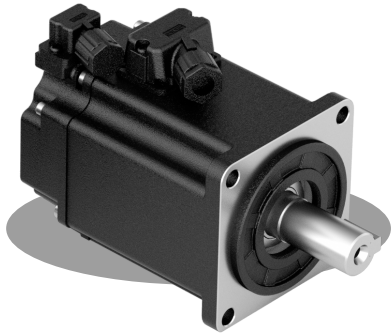
Note:
The line color in the table is the recommended line color. If the actual line color is different, please refer to the pin number definition to confirm the signal.
Encoder interface, S、T multi-turn encoder external battery power interface, only the multi-turn encoder model is effective.

伺服驱动器线缆选型

Servo driver cable selection



N 向出线
None Drive
(后出线 / 反向出线)



D 向出线
Drive
(前出线 / 正向出线)

动力线或配件包

Power cable or accessory pack

无制动器 no brake							
PH3 电机 型号 PH3 Motor model	驱动类型 Driver type	动力线延长线（无制动器款）Power line extension cable (without brake)					连接器套件包 Connector kit
		长度 (米) Length (m)	普通线 Common line		高柔线 High flexible wire		
			前出线 Front outlet	后出线 Rear outlet	前出线 Front outlet	后出线 Rear outlet	
M02/04/ 06/08/10	BD3 系列 CDHD2S 系列 BD3 Series CDHD2S series	3	SPC-A61031-0503-S	SPC-A63031-0503-S	SPC-A61031-0503-F	SPC-A63031-0503-F	前出线 Front outlet; CAP-A6-03-A 后出线 Rear outlet; CAP-A6-03-B
		5	SPC-A61031-0505-S	SPC-A63031-0505-S	SPC-A61031-0505-F	SPC-A63031-0505-F	
		10	SPC-A61031-0510-S	SPC-A63031-0510-S	SPC-A61031-0510-F	SPC-A63031-0510-F	
		15	SPC-A61031-0515-S	SPC-A63031-0515-S	SPC-A61031-0515-F	SPC-A63031-0515-F	
		20	SPC-A61031-0520-S	SPC-A63031-0520-S	SPC-A61031-0520-F	SPC-A63031-0520-F	
G09/ 13/18	BD3 系列 CDHD2S 系列 BD3 Series CDHD2S series	3	CBL-PWPH210000A003		CBL-PWPH220000A003		CAP-PWPH20000A0
		5	CBL-PWPH210000A005		CBL-PWPH220000A005		
		10	CBL-PWPH210000A010		CBL-PWPH220000A010		
		15	CBL-PWPH210000A015		CBL-PWPH220000A015		
		20	CBL-PWPH210000A020		CBL-PWPH220000A020		

带制动器 with brake							
PH3 电机 型号 PH3 Motor model	驱动类型 Driver type	动力线延长线（带制动器款） Power line extension cable (with brake)					连接器套件包 Connector kit
		长度（米） Length (m)	普通线 Common line		高柔线 High flexible wire		
			前出线 Front outlet	后出线 Rear outlet	前出线 Front outlet	后出线 Rear outlet	
M02/04/ 06/08/10	BD3 系列 CDHD2S 系列 BD3 Series CDHD2S series	3	SPC-A62041-0603-S	SPC-A64041-0603-S	SPC-A62041-0603-F	SPC-A64041-0603-F	前出线 Front outlet: CAP-A6-04-A 后出线 Rear outlet: CAP-A6-04-B
		5	SPC-A62041-0605-S	SPC-A64041-0605-S	SPC-A62041-0605-F	SPC-A64041-0605-F	
		10	SPC-A62041-0610-S	SPC-A64041-0610-S	SPC-A62041-0610-F	SPC-A64041-0610-F	
		15	SPC-A62041-0615-S	SPC-A64041-0615-S	SPC-A62041-0615-F	SPC-A64041-0615-F	
		20	SPC-A62041-0620-S	SPC-A64041-0620-S	SPC-A62041-0620-F	SPC-A64041-0620-F	
G09/ 13/18	BD3 系列 CDHD2S 系列 BD3 Series CDHD2S series	3	CBL-PWPH210001A003		CBL-PWPH220001A003		CBL-PWPH20001A0
		5	CBL-PWPH210001A005		CBL-PWPH220001A005		
		10	CBL-PWPH210001A010		CBL-PWPH220001A010		
		15	CBL-PWPH210001A015		CBL-PWPH220001A015		
		20	CBL-PWPH210001A020		CBL-PWPH220001A020		

编码器线或配件包Encoder cable or accessory pack

单圈绝对值编码器 Single-turn absolute encoder							
PH3 电机 型号 PH3 Motor model	驱动类型 Driver type	编码器线延长线 - 单圈磁编版（无电池） Encoder Cable Extension cable - Single turn magnetic editing (battery-free)					连接器套件包 （无电池） Connector kit (No battery)
		长度（米） Length (m)	普通线 Common line		高柔线 High flexible wire		
			前出线 Front outlet	后出线 Rear outlet	前出线 Front outlet	后出线 Rear outlet	
M02/04/ 06/08/10	BD3 系列 BD3 Series	3	SFC-A71A41-0103-S	SFC-A73A41-0103-S	SFC-A71A41-0103-F	SFC-A73A41-0103-F	CAP-A7-A4-1
		5	SFC-A71A41-0105-S	SFC-A73A41-0105-S	SFC-A71A41-0105-F	SFC-A73A41-0105-F	
		10	SFC-A71A41-0110-S	SFC-A73A41-0110-S	SFC-A71A41-0110-F	SFC-A73A41-0110-F	
		15	SFC-A71A41-0115-S	SFC-A73A41-0115-S	SFC-A71A41-0115-F	SFC-A73A41-0115-F	
		20	SFC-A71A41-0120-S	SFC-A73A41-0120-S	SFC-A71A41-0120-F	SFC-A73A41-0120-F	
	CDHD2S 系列 CDHD2S series	3	SFC-A71A51-0103-S	SFC-A73A51-0103-S	SFC-A71A51-0103-F	SFC-A73A51-0103-F	CAP-A7-A5-1
		5	SFC-A71A51-0105-S	SFC-A73A51-0105-S	SFC-A71A51-0105-F	SFC-A73A51-0105-F	
		10	SFC-A71A51-0110-S	SFC-A73A51-0110-S	SFC-A71A51-0110-F	SFC-A73A51-0110-F	
		15	SFC-A71A51-0115-S	SFC-A73A51-0115-S	SFC-A71A51-0115-F	SFC-A73A51-0115-F	
		20	SFC-A71A51-0120-S	SFC-A73A51-0120-S	SFC-A71A51-0120-F	SFC-A73A51-0120-F	
G09/ 13/18	BD3 系列 BD3 Series	3	CBL-FBPH21S301A003		CBL-FBPH22S301A003		CAP-FBPH2S301A0
		5	CBL-FBPH21S301A005		CBL-FBPH22S301A005		
		10	CBL-FBPH21S301A010		CBL-FBPH22S301A010		
		15	CBL-FBPH21S301A015		CBL-FBPH22S301A015		
		20	CBL-FBPH21S301A020		CBL-FBPH22S301A020		
	CDHD2S 系列 CDHD2S series	3	CBL-FBPH21S300A003		CBL-FBPH22S300A003		CAP-FBPH2S300A0
		5	CBL-FBPH21S300A005		CBL-FBPH22S300A005		
		10	CBL-FBPH21S300A000		CBL-FBPH22S300A000		
		15	CBL-FBPH21S300A005		CBL-FBPH22S300A005		
		20	CBL-FBPH21S300A020		CBL-FBPH22S300A020		

多圈绝对值编码器线 Multi-turn absolute encoder wire							
PH3 电机 型号 PH3 Motor model	驱动类型 Driver type	编码器线延长线 - 多圈磁编 / 多圈光编版（带电池） Encoder Cable Extension cable - Multi-turn magnetic/Multi-turn Optical editing (with battery)					连接器套件包 （带电池组件） Connector kit (with battery module)
		长度（米） Length (m)	普通线 Common line		高柔线 High flexible wire		
			前出线 Front outlet	后出线 Rear outlet	前出线 Front outlet	后出线 Rear outlet	
M02/04/ 06/08/10	BD3 系列 BD3 Series	3	SFC-A72A43-0103-S	SFC-A74A43-0103-S	SFC-A72A43-0103-F	SFC-A74A43-0103-F	CAP-A7-A4-3
		5	SFC-A72A43-0105-S	SFC-A74A43-0105-S	SFC-A72A43-0105-F	SFC-A74A43-0105-F	
		10	SFC-A72A43-0110-S	SFC-A74A43-0110-S	SFC-A72A43-0110-F	SFC-A74A43-0110-F	
		15	SFC-A72A43-0115-S	SFC-A74A43-0115-S	SFC-A72A43-0115-F	SFC-A74A43-0115-F	
		20	SFC-A72A43-0120-S	SFC-A74A43-0120-S	SFC-A72A43-0120-F	SFC-A74A43-0120-F	
	CDHD2S 系列 CDHD2S series	3	SFC-A72A52-0103-S	SFC-A74A52-0103-S	SFC-A72A52-0103-F	SFC-A74A52-0103-F	CAP-A7-A5-2
		5	SFC-A72A52-0105-S	SFC-A74A52-0105-S	SFC-A72A52-0105-F	SFC-A74A52-0105-F	
		10	SFC-A72A52-0110-S	SFC-A74A52-0110-S	SFC-A72A52-0110-F	SFC-A74A52-0110-F	
		15	SFC-A72A52-0115-S	SFC-A74A52-0115-S	SFC-A72A52-0115-F	SFC-A74A52-0115-F	
		20	SFC-A72A52-0120-S	SFC-A74A52-0120-S	SFC-A72A52-0120-F	SFC-A74A52-0120-F	
G09/ 13/18	BD3 系列 BD3 Series	3	CBL-FBPH21T203A003		CBL-FBPH22T203A003		CAP-FBPH2T203A0
		5	CBL-FBPH21T203A005		CBL-FBPH22T203A005		
		10	CBL-FBPH21T203A010		CBL-FBPH22T203A010		
		15	CBL-FBPH21T203A015		CBL-FBPH22T203A015		
		20	CBL-FBPH21T203A020		CBL-FBPH22T203A020		
	CDHD2S 系列 CDHD2S series	3	CBL-FBPH21T200A003		CBL-FBPH22T200A003		CAP-FBPH2T200A0
		5	CBL-FBPH21T200A005		CBL-FBPH22T200A005		
		10	CBL-FBPH21T200A010		CBL-FBPH22T200A010		
		15	CBL-FBPH21T200A015		CBL-FBPH22T200A015		
		20	CBL-FBPH21T200A020		CBL-FBPH22T200A020		

备注：
BD3 系列电池组件：型号 BT01，采购编码 17419450001421。
CDHD2S 系列电池盒组件：型号 DCH，采购编码 12119400000139；内含电池型号 EVE ER14505，采购编码 12119400000621。

Note:
BD3 Series Battery module: Model BT01, purchase code 17419450001421.
CDHD2S series battery box assembly: Model DCH, purchase code 12119400000139; Includes battery model EVE ER14505, purchase code 12119400000621.

PH3 接口转换线PH3 Interface conversion cable

电机类型 Motor type	长度（米） Length (m)	普通线 Common line		高柔线 High flexible wire		连接器套件包 Connector kit
		前出线 Front outlet	后出线 Rear outlet	前出线 Front outlet	后出线 Rear outlet	
动力线 - 无制动器 Power line - No brakes	0.3	SPC-A61D11-05A3-S	SPC-A63D11-05A3-S	SPC-A61D11-05A3-F	SPC-A63D11-05A3-F	前出线 Front outlet: CAP-A6-D1-A 后出线 Rear outlet: CAP-A6-D1-B
动力线 - 有制动器 Power line. - There are brakes	0.3	SPC-A62D31-06A3-S	SPC-A64D31-06A3-S	SPC-A62D31-06A3-F	SPC-A64D31-06A3-F	前出线 Front outlet: CAP-A6-D3-A 后出线 Rear outlet: CAP-A6-D3-B
编码器线 - 单圈 / 多圈通用 Encoder cable - single turn/ multiple turn universal	0.3	SFC-A72D51-01A3-S	SFC-A74D51-01A3-S	SFC-A72D51-01A3-F	SFC-A74D51-01A3-F	CAP-A7-D5

用途：
· 将 PH3 系列 M02/04/06/08/10 的电机接口，转换为 PH2/PM2/PM1 老系列 40/60/80 机座所使用的的 AMP 连接器接口，可以兼容使用老系列的对应线束，满足更多不同代系伺服驱动器的应用需求；
· 当客户使用高创老款 PM1/PM2/PH2 系列伺服电机需要升级为 PH3 系列 60/80 机座标准款电机时，由于 PH3 电机接口为快插版本，无法直接连接到客户设备上的 AMP 塑料连接器线缆。可以通过该转换线，将 PH3 的电机接口转换为老款电机的 AMP 连接器，和设备上原有线缆进行连接。

Purpose:
· The PH3 series M02/04/06/08/10 motor interface is converted to the AMP connector interface used by PH2/PM2/PM1 old series 40/60/80 frame, which can be compatible with the corresponding wiring harness of the old series to meet the application requirements of more different generations of servo drivers;
· When the customer uses the old PM1/PM2/PH2 series servo motor and needs to upgrade to the PH3 series 60/80 base standard motor, the PH3 motor interface is a fast-plug version, which cannot be directly connected to the AMP plastic connector cable on the customer's equipment. The conversion cable can be used to convert the PH3 motor interface into an AMP connector of the older motor and connect to the original cable on the device.



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