XINJE Wechat

XINJE

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EtherCAT®

EtherCAT bus More accurate and fast motion control



Servo System DS5/DF3/DM5

Precise control High-speed response Stable and reliable

Industrial automation trusted partner

Servo System Overview

Small-sized Servo System

At present, the small volume servo system has four subseries products of pulse type and bus type. In addition to all the functions of the general series, its outstanding advantage is that it is smaller and can save more installation space.

Applicable to 3C, textile, printing, packaging, food, medicine, electronics, environmental protection and other fields.

Adaptive motor: MS5, MS6 series.

Bus type	DS5C1	0.1kW~55kW	EtherCAT
	DS5N1	0.1kW~3kW	CANopen
Pulse type	DS5L1 New 5V+RS485	0.1kW~3kW	Modbus
	DS5K1 New analog input	11kW~15kW	Modbus



General Servo System

The general servo system has a complete product line, including five subseries of pulse type, bus type and full-function type. It has the characteristics of high-speed response, accurate synchronization, rapid adjustment, convenience and ease of use.

Suitable for a variety of applications.

Adaptive motor: MS5, MS6 series.

Bus type	DS5C	0.1kW~32kW	EtherCAT
	DS5E	0.1kW~22kW	X-NET Motion Bus
Pulse type	DS5L	0.1kW~2.6kW	Modbus
	DS5K	0.1kW~7.5kW	Modbus
Full-function type	DS5F	0.1kW~7.5kW	Modbus



*Note: Refer to the model list for the models that have been put into production. Please look forward to the development of some models.

Two-in-one Servo System

At present, the two-in-one series servo system has a pulse type subseries product. It has outstanding advantages such as flat appearance, dual-axis integrated drive, convenient wiring and accurate positioning. It has built-in gantry synchronous control, which can meet the accuracy requirements under high-speed movement.

Suitable for sewing, wire cutting, laser cutting, printing, turret punch and other equipment.

Adaptive motor: MS5, MS6 series.

Pulse type	DM5F	0.4kW~0.75kW	Modbus



Low Voltage Servo System

At present, the low-voltage servo system has a bus type subseries. It has compact design, light weight body, rich interfaces, supports communication protocols such as CANopen and Modbus, low-voltage DC power supply, with 24V brake power output, and only three steps for gain adjustment, which reduces the debugging time.

It is applicable to AGV, sorting, logistics, warehousing and medical fields.

Adaptive motor: MF3 series.

Bus type	DF3E	0.4kW~1.5kW	CANopen



*Note: Refer to the model list for the models that have been put into production. Please look forward to the development of some models.

General/Small-sized servo system

Stable and easy to use / Excellent performance
High-speed response / Rich product lineup

Suitable for: wire cutting,packaging, textile, woodworking, labeling and other applications



Small-sized Series



Bus type	DS5C1	EtherCAT, RS232, 3-channel SI, 3-channel SO, Position mode, Speed mode, Torque mode, Bus mode
	DS5N1	CANopen, RS232, 3-channel SI, 3-channel SO, Position mode,Speed mode, Torque mode, Bus mode
Pulse type	DS5L1	Pulse, RS232, RS485, 3-channel SI, 3-channel SO, Position mode, speed mode, torque mode
	DS5K1	Pulse, Analog input, RS485, RS232, 3-channel SI, 3-channel SO, Position mode, Speed mode Torque mode

General Series



Bus type	DS5C	Pulse, RS232, 4 or 3 channels SI, 4 or 3 channels SO, Position mode, Speed mode, Torque mode, Bus mode
	DS5E	Pulse, RS232, RS485, 4 or 3 channels SI, 4 or 3 channels SO, Position mode, Speed mode, Torque mode, Bus mode
Pulse type	DS5L	Pulse, RS232, 4 or 3 channels SI, 4 or 3 channels SO, Position mode, Speed mode, Torque mode
	DS5K	Pulse, RS232, 5 channels SI, 4 channels SO, Position mode, Speed mode, Torque mode
Full-function type	DS5F	Pulse, Line driver, Analog input, External displacement sensor, RS232, RS485, 10 channels SI, 8 channels SO, Position mode, Speed mode, Torque mode, Analog control, Full closed-loop control

*Note: The models above 750W have 4 channels of SI/SO. The models below and equal to 750W have 3 channels of SI/SO.

MS6,MS5 Series Servo Motor



High inertia		Occasions with large load and high stability requirements
	MS6H	0.1~7.5kW
Medium inertia		Occasions with general load and high stability requirements
	MS5G	0.85~22kW
	MS6G	0.85~2.3kW
Low inertia		Occasions with light load and high-speed positioning requirements
	MS6S	0.4~2.0kW

MS6,MS5 Series Servo Motor

High protection grade
Light weight design
High-precision positioning



MS6 series B3 motor

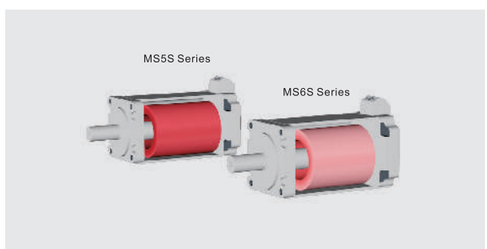
1 New Appearance and Structure

- The new black body with frosted texture can effectively reduce the tactile temperature of the motor.



2 Low Noise&Light Temperature Rise

- Effective noise reduction. Compared with the previous motor, the winding temperature rise of B3 motor can be reduced by 20℃ (take 400W as an example).



3 Higher Protection Level

- The structure of MS6 series motor is optimized to further improve the protection grade. The protection grade of B1/B2 series can reach IP66 and B3 series can reach IP67.



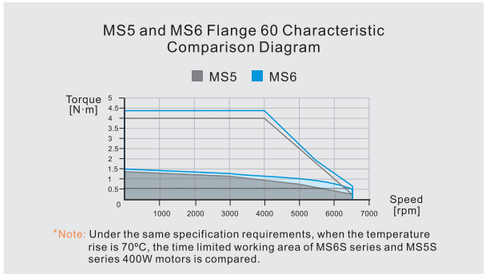
4 Motor is light and handy

- The body of MS6 series motor is further shortened, which can be shortened by 18% compared with MS5 series motor.



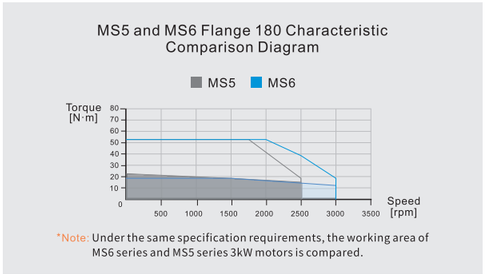
5 Higher Torque Output

- At present, the speed of MS6 series 400W motor can be overspeed to 6500rpm, and the maximum speed still maintains 80% of the rated output.



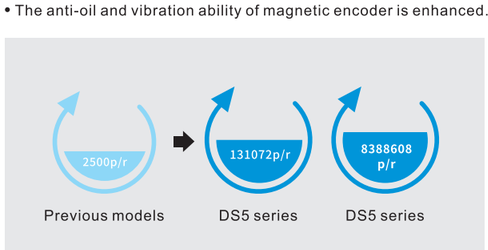
6 Wider Overspeed Range

- MS6 series flange 180 motor can overspeed up to 3000rpm, which is 20% higher than MS5 series.



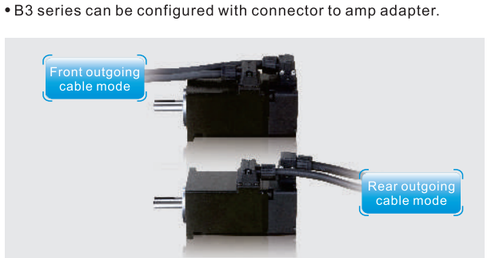
7 Encoder resolution

- The whole series is equipped with 17-bit encoder as standard, and 23-bit encoder is optional.
- Achieve higher precision position control and stable operation at low speed.
- The anti-oil and vibration ability of magnetic encoder is enhanced.



8 Flexible Configuration to Meet Different Needs

- Low inertia, medium inertia and high inertia motors are available.
- It can be equipped with power loss brake, oil seal, etc.
- B3 series front and rear outgoing cables are optional.
- B3 series can be configured with connector to amp adapter.



DS5 Series Servo Drive

Precise synchronization **High-speed response**

Rapid adjustment **Easy to use**



1 Smaller Size, Saving Installation Space

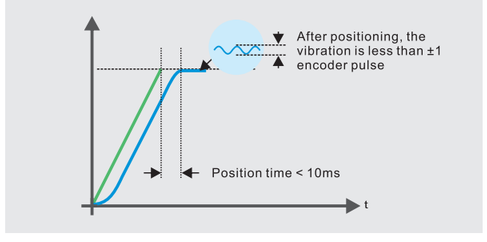
- The size is about 10% thinner than the previous generation.
- Save installation space.

Note: The figure shows the comparison of DS5L 750W and DS5L1 750W.



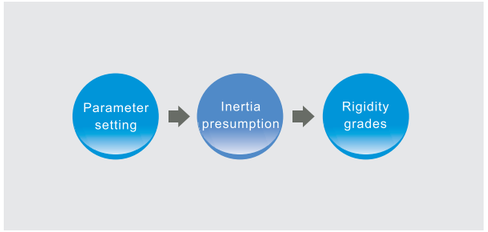
2 High Speed Response

- The rigid gain adjustment mode of servo system is self-tuning mode, which no need complicated adjustment process and greatly saves debugging time.
- By further gain adjustment, the positioning completion time can be reduced to 0 ~ 10ms.



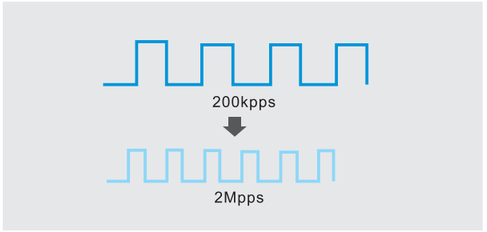
3 Quick Adjustment to Shorten Positioning Time

- Load inertia estimation, find the optimal gain, and the positioning completion time is within 20ms.
- The drive panel is adjusted offline.
- 63 rigidity grades.



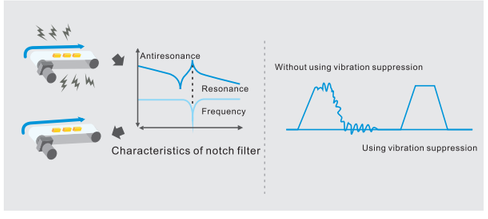
4 High Speed Pulse Input

- DS5F supports 2Mpps long line reception.
- The full range of drives supports 200kpps (collector input) and DS5F/DS5K/DS5L1/DS5K1 series drives support 500kpps (differential input).



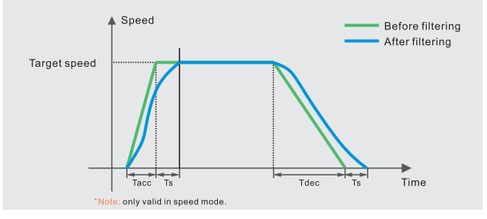
5 Active/Manual Vibration Suppression

- Support 1-channel active vibration suppression.
- Equipped with 5 notch filters, combined with the vibration mechanical characteristic analysis function, the vibration suppression ability is improved.
- The filter setting frequency is 50 ~ 5000Hz, and the depth can be adjusted.
- Optimize friction compensation and disturbance observation algorithm.



6 S-type Acceleration and Deceleration Curve

- S-type acceleration and deceleration curve can effectively overcome the mechanical vibration caused by sudden speed change, making the motion softer and more stable.



7 Wide Power Coverage

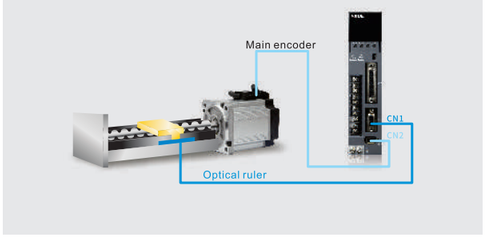
- New high-power models are added for small volume servo, and the power range is from 100W to 55kW.



*Note: Please refer to the model list for the product that have been put into operation, and some models are under development.

8 Full Closed-Loop Input DS5F Series

- Reduce mechanical disturbance and determine the positioning of mechanical load terminal to ensure positioning accuracy.



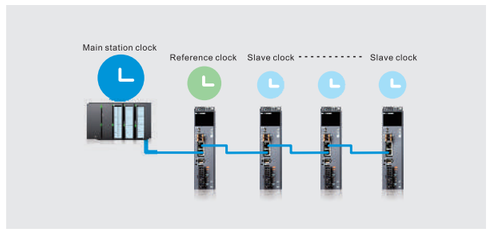
EtherCAT Bus

100 megabytes full duplex Ethernet reduces the networking cost and makes the system structure more flexible



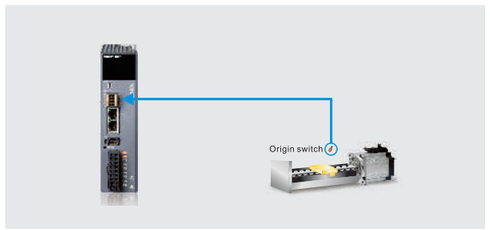
1 Synchronous Clock

- Through the precise adjustment of EtherCAT distributed clock, the distance of 300 nodes 120m, 15ns synchronization error and ±20ns synchronization jitter are realized.
- Transmission rate: 2×100Mbps (full duplex)



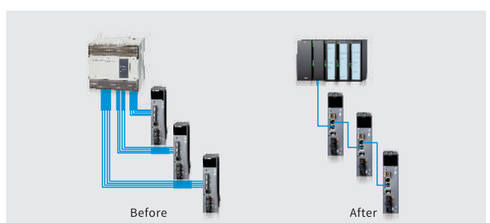
2 High Speed Response

- Support 2-channel high speed touch probe function.
- Response time can up to 1ms.



3 Network Topology to Reduce Cabling Costs

- The standard RJ45 Industrial Ethernet fast interface is adopted to greatly reduce the labor cost and time consumption of wiring.



4 EtherCAT Networking Debugging

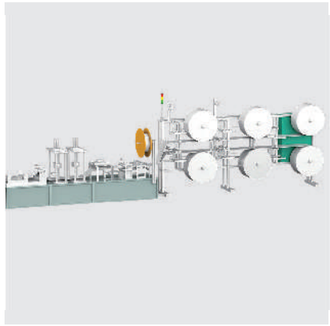
- For EtherCAT networking equipment, the user can read or write all servo axes parameters at one time through the servo software, and can save the complete equipment recipe.



Typical Application

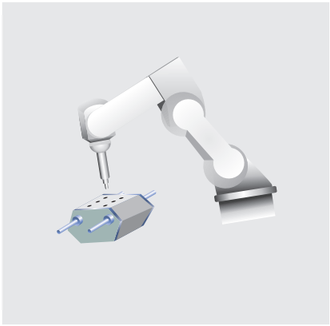
One to one high-speed plane mask machine

The mask machine is to manufacture various masks with certain filtering performance by hot pressing, folding and forming, ultrasonic welding, waste cutting, ear belt and nose beam welding and other processes of multi-layer non-woven fabrics. The mask equipment is not a single machine, but needs the cooperation of multiple machines to complete various different processes. The system of one to one mask machine is composed of constant tension feeding mechanism, sheet feeding mechanism and ear welding mechanism.



Mechanical arm

Manipulator is the most widely used automatic mechanical device in the field of robotics. It can be seen in industrial manufacturing, medical treatment, entertainment services, military, semiconductor manufacturing and space exploration. Although their shapes are different, they all have a common feature, that is, they can accept instructions and accurately locate a point in 3D (or 2D) space for operation.



High speed cutting machine

The high-speed cutting machine combines the ultrasonic welding technology with the traditional cutting. When the ultrasonic generator works, the ultrasonic energy is transmitted to the welding head through the ultrasonic transducer and generates violent vibration and friction with the cutter, so as to achieve the cutting effect, so that the cutting products have the advantages of more beauty, firmness, more efficient and fast production efficiency.



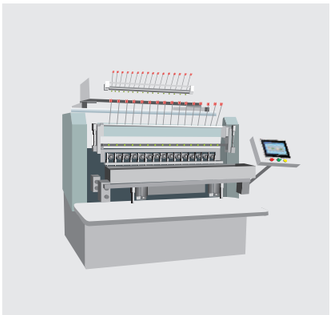
Circular die cutting machine

Circular die cutting machine is one of the most efficient cutting machines, which rotates continuously in the form of hob for cutting. Round knife cutting achieves the purpose of die cutting by extruding materials through the blade and backing roller. On the one hand, it improves the speed and accuracy of die cutting. On the other hand, it can form one-time products through multi-shaft sleeve position die cutting, which makes up for the disadvantage of traditional multiple die cutting.



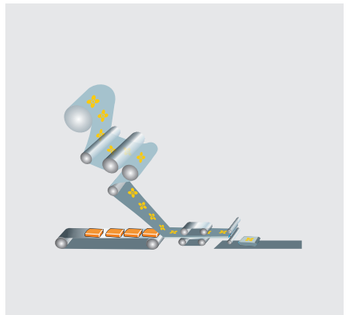
16 axes high speed winding machine

High speed winding machine is a device that winds linear objects to a specific workpiece. It is usually used for copper wire winding. In the past, it used to realize high-speed winding through variable-frequency motor combined with tension control system. With the increasing demand for benefits in modern industry, it can replace the original variable-frequency motor with servo to realize high-speed and high-efficiency production.



Three-servo packaging machine

Packaging machinery refers to the machinery that can complete the packaging process of all or part of products and commodities. The packaging process includes filling, wrapping, sealing and other main processes, as well as related before and after processes, such as cleaning, stacking and disassembly. In addition, packaging also includes measuring or stamping on the package. The use of mechanical packaging products can improve productivity, reduce labor intensity, meet the needs of large-scale production and meet the requirements of cleanliness and hygiene.



XINJE SERVO Software

Help users better understand the operation of the equipment



1 Servo Communication Interface

Efficient and fast communication identification

XINJE servo software can do Modbus-RTU communication with servo driver through RS232, and can automatically read motor parameters without viewing motor code.



2 Parameter Setting Interface

Intuitive and understandable parameter setting

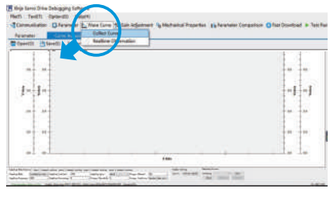
XINJE servo software has the functions of reading, modifying, saving and downloading, and is equipped with detailed parameter description. The parameter list directly indicates the effective time of parameters with different colors, which makes the distinction more eye-catching.



3 Curve Acquisition Interface

Convenient and practical curve acquisition

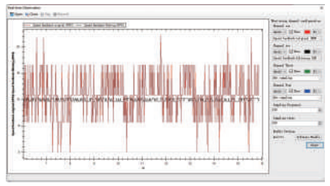
XINJE servo software has powerful servo data acquisition function, including speed, position, current, bus voltage and other basic information acquisition. Help you have a deeper and comprehensive understanding of servo operation and improve the control scheme.



4 Real Time Observation Interface

Real time dynamic curve observation

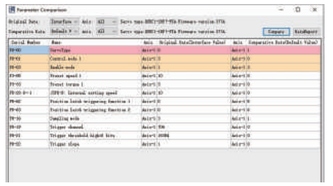
XINJE servo software can collect basic information such as speed, torque, position and bus voltage to help you understand the servo operation in real time and adjust the control scheme efficiently and timely.



5 Parameter Comparison Interface

Simple and clear parameter comparison

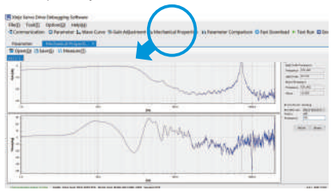
The parameter comparison function of XINJE servo software allows customers to easily compare preset values, current driver values, file values, and pairwise comparison of the current upper computer interface.



6 Mechanical Property Measurement Interface

Precise resonance recognition

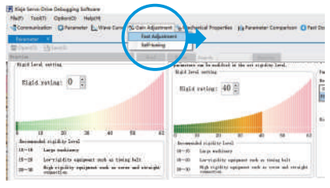
XINJE software has the function of mechanical characteristic measurement, which can automatically measure the resonance frequency according to the operation of mechanical load. It is equipped with five notch filters to ensure the stable and reliable operation of the equipment and sweep away the load vibration.



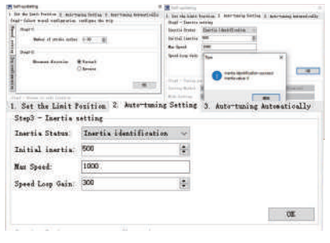
7 Gain Adjustment Interface

Fast adjustment

The fast adjustment / self-tuning mode can identify the inertia. The user can configure the appropriate mode, method, load type, foundation and other parameters according to the equipment operation status for the upper computer to set the best gain parameters, or adjust the rigidity level according to the equipment operation status.



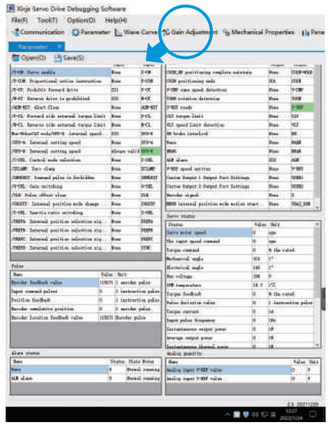
Self-tuning interface



5 Monitor Interface

Rich and comprehensive real-time monitoring

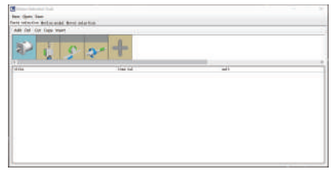
XINJE servo software has real-time status, alarm monitor and servo operation status, which are all under your control.



6 Tool Interface

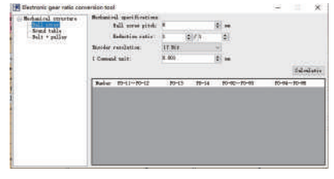
Motor selection tool

XINJE servo software has its own motor selection tool, which automatically matches the best motor model through the selection of equipment components and the establishment of motion model.



Electronic gear ratio conversion

XINJE servo software can accurately calculate the number of pulses per revolution and electronic gear ratio of screw, disc and pulley mechanical structures according to the mechanical specifications.



Naming Rule

MS6 motor naming rule

MS6S - 60 C S 30 B Z 1 - 2 0P4
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Inertia type

Sign	Inertia
MS6S	Low inertia motor
MS6G	Medium inertia motor
MS6H	High inertia motor

② Base number

Sign	Base number
40	Base40
60	Base60
80	Base80
100	Base100
130	Base130
180	Base180

③ Encoder construction

Sign	Type
C	Magnetic encoder
T	Photoelectricity encoder

④ Encoder specification

Sign	Specification
S	Single turn 17-bit
M	Multi-turn 17-bit
L	Multi-turn 23-bit

⑤ Rated speed

Sign	Rated speed (rpm)
15	1500
20	2000
25	2500
30	3000

⑥ Motor shaft specification

Sign	Shaft specification
A	With key, no oil seal, with threaded hole
B	With key, with oil seal, with threaded hole
C	No key, no oil seal, with threaded hole
D	No key, with oil seal, with threaded hole
E	Special shaft specification (length, shaft diameter, etc.)

⑦ Power-off brake

Sign	Power-off brake
Z	With brake
Vacant	Without brake

⑧ Motor connector type

Sign	Connector type
1	AMP plug
2	Aviation plug
3	Connector

⑨ Power supply voltage

Sign	Power supply voltage
2	220V
4	380V

⑩ Rated power

Sign	Rated power (kW)
0P1	0.1
0P2	0.2
0P4	0.4
0P7	0.75
0P8	0.85
1P0	1
1P3	1.3
1P5	1.5
1P8	1.8
2P0	2.0
2P3	2.3
3P0	3.0
4P4	4.4
5P5	5.5
7P5	7.5
22P0	22
30P0	30
37P0	37
45P0	45
55P0	55

*Note: The description provided is only an example. Refer to the detailed parameters of the motor for the specific model.
Our company provides combined models of CS, CM and TL.

MS5 motor naming rule

MS5G – 130 ST E – C S 11515 B Z – 2 1P8 – S01
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

① Inertia type

Sign	Inertia
MS5S	Low inertia motor
MS5G	Medium inertia motor

② Base number

Sign	Base number
110	Base 110
130	Base 130
220	Base 220

③ Name

Sign	Type
ST	Sine wave drive motor

④ Motor structure

Sign	Oil seal
Vacant	No oil seal
E	With oil seal

⑤ Encoder construction

Sign	Type
C	Magnetic encoder
T	Photoelectricity encoder

⑥ Encoder specification

Sign	Specification
S	Single turn 17-bit
M	Multi-turn 17-bit
L	Multi-turn 23-bit

⑧ Motor construction

Sign	Shaft key
B	With key

⑨ Power-off brake

Sign	Connector type
Vacant	Without brake
Z	With brake

⑩ Power supply voltage

Sign	Power supply voltage
2	220V
4	380V

⑪ Rated power

Sign	Rated power (kW)
1P0	1.0
1P5	1.5
1P8	1.8
2P3	2.3
22P0	22

⑦ Motor specification

Sign	Rated torque (Nm)	Rated speed (rpm)
04830	0.48	3000
11515	11.5	1500

⑫ Design number

Sign	Meaning
S	Standard
01	Design number

*Note: The description provided is only an example. Refer to the detailed parameters of the motor for the specific model.
Our company provides combined models of CS, CM, TL and T.

DS5 servo drive naming rule

DS 5□ – □ □P□ -PTA-H
① ② ③ ④ ⑤ ⑥

① Name

Sign	Product name
DS	Servo drive

② Type

Sign	Product series
5C	EtherCAT bus type
5E	X-NET bus type
5F	Full function type
5K	Standard type
5L	Pulse type
5C1	Small size bus type
5L1	Small size pulse type
5K1	Small size standard type
5N1	Small size CANopen type

③ Voltage specification

Sign	Rated input voltage
2	AC220V
4	AC380V

④ Drive power

Sign	Rated output power (kW)
0P1	0.1
0P2	0.2
0P4	0.4
0P7	0.75
1P0	1.0
1P5	1.5
2P3	2.3
2P6	2.6
3P0	3.0
4P5	4.5
5P5	5.5
7P5	7.5
11P0	11
15P0	15
22P0	22

④ Drive power

Sign	Rated output power (kW)
32P0	32
37P0	37
45P0	45
55P0	55

⑤ Encoder specification

Sign	Encoder specification
T	Communication type encoder

⑥ Product type

Sign	Product type
H	Enhanced type drive

Motor and drive specifications

MS6/MS5 Motor

Item	100W	200W	400W	750W	850W	1.0kW	1.3kW	1.5kW	1.8kW	2.3kW	2.4kW	2.6kW	3.0kW	4.4kW	5.5kW	7.5kW	22kW	30kW	37kW	45kW	55kW
Low inertia MS6S			60	80		80															
Medium inertia MS6G						130		130		130											
High inertia MS6H	40	60	60	80	130	80	130	130	130	130			180	180	180	180		265	265	265	265
Low inertia MS5S								110	110												
Medium inertia MS5G					130			130	130	130	130	130					220				

*Note: 40/60/80/110/130/180/220/265 indicates the motor flange.
The motor marked with * is still under development. Please look forward to it.

Provide models with voltage grade of 220V.
Provide models with voltage grade of 380V.
Provide models with voltage grade of 220V/380V.

DS5 drive specification

Function	Control mode				Control mode								
	Position control	Speed control	Torque control	Bus control	Pulse	Line driver	Analog input	External displacement sensor	ABZ differential feedback	RS232	RS485	SI input	SO output
Pulse type DS5L series	●	●	●		●					●		4	4
EtherCAT type DS5C series	●	●	●	●	●					●		4	4
Xnet bus type DS5E series	●	●	●	●	●					●	●	4	4
Full function type DS5F series	●	●	●		●	●	●	●	●	●	●	10	8
Standard type DS5K series	●	●	●		●				●	●	●	5	4
Pulse type DS5L1 series	●	●	●		●					●	●	3	3
EtherCAT type DS5C1 series	●	●	●	●						●		3	3
Standard type DS5K1 series	●	●	●		●		●		●	●	●	5	4
CANopen type DS5N1 series	●	●	●	●						●		3	3

*Note: DS5E, DS5L, DS5C series 750W and below power models are 3 inputs and 3 outputs.

Drive and Motor Model List

MS6 series motor model list

Power (kW)	Motor model	Flange (mm)	Rated speed (rpm)	Rated torque (Nm)	Inertia type	Encoder bits
0.1	MS6H-40CS/CM/TL30B(Z)1/2/3-20P1	40	3000	0.32	High inertia	17/23
0.2	MS6H-60CS/CM/TL30B(Z)1/2/3-20P2	60	3000	0.64	High inertia	17/23
0.4	MS6S-60CS/CM/TL30B(Z)1/2/3-20P4	60	3000	1.27	Low inertia	17/23
	MS6H-60CS/CM/TL30B(Z)1/2/3-20P4		3000	1.27	High inertia	17/23
0.75	MS6S-80CS/CM/TL30B(Z)1/2/3-20P7	80	3000	2.39	Low inertia	17/23
	MS6H-80CS/CM/TL30B(Z)1/2/3-20P7		3000	2.39	High inertia	17/23
	MS6S-80CS/CM20B(Z)1/2-20P7		2000	3.50	High inertia	17/23
	MS6H-80CS/CM20B(Z)1/2-20P7		2000	3.50	High inertia	17/23
0.85	MS6H-130CS/CM/TL15B(Z)2-20P8	130	1500	5.41	High inertia	17/23
	MS6H-130CS/CM/TL15B(Z)2-40P8		1500	5.41	High inertia	17/23
1	MS6S-80CS/CM/TL30B(Z)3-21P0	80	3000	3.18	Low inertia	17/23
	MS6H-80CS/CM/TL30B(Z)3-21P0		3000	3.18	High inertia	17/23
	MS6G-130CS/CM/TL25B(Z)2-41P0*	130	2500	4.0	Medium inertia	17/23
1.3	MS6H-130CS/CM/TL15B(Z)2-41P3	130	1500	8.30	High inertia	17/23
1.5	MS6S-100CS/CM/TL30B(Z)2-21P5	100	3000	4.8	Low inertia	17/23
	MS6H-130CS/CM/TL20B(Z)2-21P5	130	2000	7.16	High inertia	17/23
	MS6G-130CS/CM/TL20B(Z)2-41P5*		2000	7.16	Medium inertia	17/23
	MS6G-130CS/CM/TL15B(Z)2-41P5*		1500	10.0	Medium inertia	17/23
1.8	MS6H-130CS/CM/TL15B(Z)2-21P8	130	1500	11.46	High inertia	17/23
	MS6H-130CS/CM/TL15B(Z)2-41P8	130	1500	11.46	High inertia	17/23
2.3	MS6H-130CS/CM/TL15B(Z)2-22P3	130	1500	14.64	High inertia	17/23
	MS6G-130CS/CM/TL15B(Z)2-42P3*		1500	14.64	High inertia	17/23
3.0	MS6H-180CS/CM15B(Z)2-43P0	180	1500	19.0	High inertia	17/23
4.4	MS6H-180CS/CM/TL15B/E(Z)2-44P4		1500	28.0	High inertia	17/23
5.5	MS6H-180CS/CM/TL15B/E(Z)2-45P5		1500	35.0	High inertia	17/23
7.5	MS6H-180CS/CM/TL15B/E(Z)2-47P5		1500	47.8	High inertia	17/23
30	MS6H-265TL15B2-430P0 *	265	1500	191.0	High inertia	23
37	MS6H-265TL15B2-437P0 *	265	1500	236.0	High inertia	23
45	MS6H-265TL15B2-445P0 *	265	1500	286.0	High inertia	23
55	MS6H-265TL15B2-455P0 *	265	1500	350.0	High inertia	23

*Note: 1. B(Z) indicates brake model can be selected, non-brake model code is B, brake model code is BZ.
2. The servo driver marked with * is still under development. Please look forward to it.
3. Please select engineering aviation plug for motors below 60/80.

MS5 series motor model list

Power (kW)	Motor model	Flange (mm)	Rated speed (rpm)	Rated torque (Nm)	Inertia type	Encoder bits
0.85	MS5G-130STE-CS/CM05415B-20P8-S01	130	1500	5.4	Medium inertia	17
	MS5G-130STE-CS/CM05415BZ-20P8-S01		1500	5.4	Medium inertia	17
	MS5G-130STE-TL05415B-20P8-S01		1500	5.4	Medium inertia	23
	MS5G-130STE-TL05415BZ-20P8-S01		1500	5.4	Medium inertia	23
1.0	MS5S-110STE-CS/CM03230B□-21P0-S01	110	3000	3.18	Low inertia	17
	MS5S-110STE-TL03230B□-21P0		3000	3.18	Low inertia	23
1.5	MS-110STE-T05030B□-21P5		3000	5	/	17
	MS5S-110STE-CS/CM04830B□-21P5-S01		3000	4.77	Low inertia	17
	MS5S-110STE-TL04830B□-21P5-S01		3000	4.77	Low inertia	23
	MS5G-130STE-CS/CM06025B□-21P5-S01	130	2500	6	Medium inertia	17
	MS5G-130STE-CS/CM/TL07220B□-21P5-S01		2000	7.2	Medium inertia	17/23
	MS5G-130STE-CS/CM/TL07220B□-41P5-S01		2000	7.2	Medium inertia	17/23
	MS5G-130STE-CS/CM10015B□-21P5-S01		1500	10	Medium inertia	17
1.8	MS5G-130STE-CS/CM11515B□-21P8-S01		1500	11.5	Medium inertia	17
	MS5G-130STE-TL11515B□-21P8-S01		1500	11.5	Medium inertia	23
	MS5G-130STE-CS/CM11515B□-41P8-S01		1500	11.5	Medium inertia	17
	MS5G-130STE-TL11515B□-41P8-S01		1500	11.5	Medium inertia	23
	MS5S-110STE-TL06030B□-21P8-S01	110	3000	6	Low inertia	23
	MS5S-110STE-CS/CM06030B□-21P8-S01		3000	6	Low inertia	17
2.3	MS5G-130STE-CS/CM14615B□-22P3-S01	130	1500	14.6	Medium inertia	17
	MS5G-130STE-TL14615B□-22P3-S01		1500	14.6	Medium inertia	23
	MS5G-130STE-CS/CM14615B□-42P3-S01		1500	14.6	Medium inertia	17
	MS5G-130STE-TL14615B□-42P3-S01		1500	14.6	Medium inertia	23
2.4	MS5G-130STE-CS/CM/TL07730B□-22P4-S01		3000	7.7	Medium inertia	17/23
2.6	MS5G-130STE-CS/CM/TL10025B□-22P6-S01		2500	10	Medium inertia	17/23
3.0	MS-130ST-TL10030B□-43P0		3000	10	/	23
11	MS-220STE-TL70015B-411P0-XJ	220	1500	70	/	23
15	MS-220STE-TL96015B-415P0-XJ		1500	96	/	23
22	MS5G-220STE-CS/CM/TL140015B-422P0-S01		1500	140	Medium inertia	17/23

*Note: 1.B□ indicates brake model can be selected, brake model code is BZ, non-brake model code is B.
2. CS/CM indicates signle turn magnetic encoder CS or multi-turn magnetic encoder CM can be selected.
3. Flange 110 and up code S01 motors are aviation plug.
4. For other detailed motor characteristic parameters, please refer to the electrical parameters and dimensions on the next page.

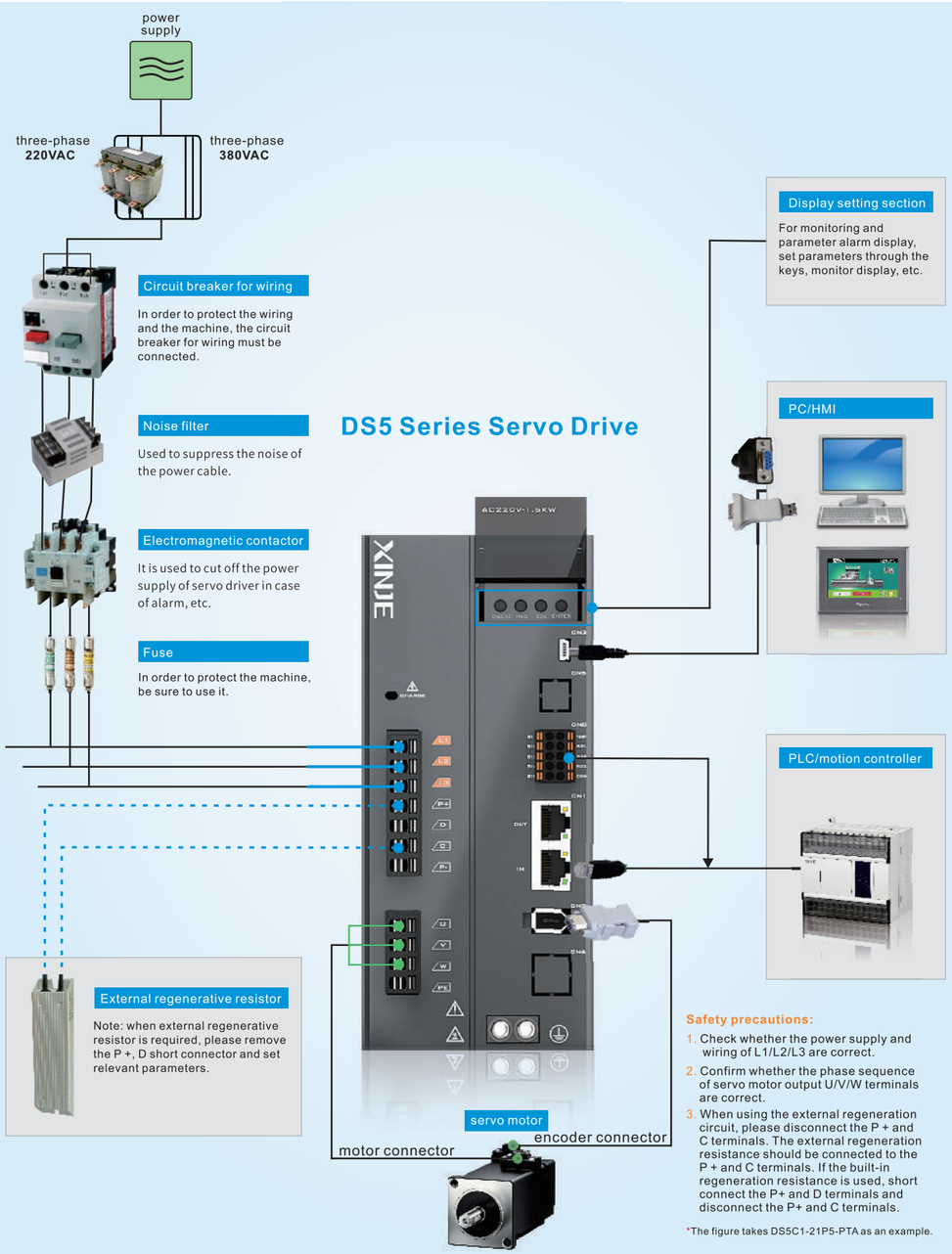
DS5 series drive model list

Series / Power (kW)	DS5E series X-NET bus type	DS5C series EtherCAT bus type	DS5F series full function type	DS5K series standard type	DS5L series pulse type	DS5L1 series small size pulse type	DS5C1series small size bus type	DS5N1 series small size bus type	DS5K1 series small size standard type
0.1	DS5E-20P1-PTA	DS5C-20P1-PTA	DS5F-20P1-PTA	DS5K-20P1-PTA	DS5L-20P1-PTA	DS5L1-20P1-PTA	DS5C1-20P1-PTA	DS5N1-20P1-PTA	DS5K1-20P1-PTA*
0.2	DS5E-20P2-PTA	DS5C-20P2-PTA	DS5F-20P2-PTA	DS5K-20P2-PTA	DS5L-20P2-PTA	DS5L1-20P2-PTA	DS5C1-20P2-PTA	DS5N1-20P2-PTA	DS5K1-20P2-PTA*
0.4	DS5E-20P4-PTA	DS5C-20P4-PTA	DS5F-20P4-PTA	DS5K-20P4-PTA	DS5L-20P4-PTA	DS5L1-20P4-PTA	DS5C1-20P4-PTA	DS5N1-20P4-PTA	DS5K1-20P4-PTA*
0.75	DS5E-20P7-PTA	DS5C-20P7-PTA	DS5F-20P7-PTA	DS5K-20P7-PTA	DS5L-20P7-PTA	DS5L1-20P7-PTA	DS5C1-20P7-PTA	DS5N1-20P7-PTA	DS5K1-20P7-PTA*
1.0	DS5E-21P0-PTA	DS5C-21P0-PTA	DS5F-21P0-PTA	DS5K-21P0-PTA	DS5L-21P0-PTA	DS5L1-21P0-PTA*	DS5C1-21P0-PTA*	/	/
1.5	DS5E-21P5-PTA	DS5C-21P5-PTA	DS5F-21P5-PTA	DS5K-21P5-PTA	DS5L-21P5-PTA	DS5L1-21P5-PTA*	DS5C1-21P5-PTA*	/	/
2.3	DS5E-22P3-PTA	DS5C-22P3-PTA	DS5F-22P3-PTA	DS5K-22P3-PTA	DS5L-22P3-PTA	DS5L1-22P3-PTA*	DS5C1-22P3-PTA*	/	/
2.6	DS5E-22P6-PTA	DS5C-22P6-PTA	DS5F-22P6-PTA	DS5K-22P6-PTA	DS5L-22P6-PTA	DS5L1-22P6-PTA*	/	/	/
1	DS5E-41P0-PTA	DS5C-41P0-PTA	DS5F-41P0-PTA	DS5K-41P0-PTA	/	/	DS5C1-41P0-PTA*	/	/
1.5	DS5E-41P5-PTA	DS5C-41P5-PTA	DS5F-41P5-PTA	DS5K-41P5-PTA	/	/	DS5C1-41P5-PTA*	/	/
2.3	/	/	/	/	/	/	DS5C1-42P3-PTA*		
3	DS5E-43P0-PTA DS5E-43P0-PTA-H	DS5C-43P0-PTA DS5C-43P0-PTA-H	DS5F-43P0-PTA DS5F-43P0-PTA-H	DS5K-43P0-PTA	/	/	DS5C1-43P0-PTA*	/	/
5.5	DS5E-45P5-PTA DS5E-45P5-PTA-H	DS5C-45P5-PTA DS5C-45P5-PTA-H	DS5F-45P5-PTA DS5F-45P5-PTA-H	/	/	/	DS5C1-45P5-PTA*	/	/
7.5	DS5E-47P5-PTA DS5E-47P5-PTA-H	DS5C-47P5-PTA DS5C-47P5-PTA-H	DS5F-47P5-PTA DS5F-47P5-PTA-H	/	/	/	DS5C1-47P5-PTA*	/	/
11	DS5E-411P0-PTA	DS5C-411P0-PTA	/	/	/	/	DS5C1-411P0-PTA	/	DS5K1-411P0-PTA
15	DS5E-415P0-PTA	DS5C-415P0-PTA	/	/	/	/	DS5C1-415P0-PTA	/	DS5K1-415P0-PTA
22	DS5E-422P0-PTA	DS5C-422P0-PTA	/	/	/	/	DS5C1-422P0-PTA*	/	/
32	/	DS5C-432P0-PTA	/	/	/	/	DS5C1-432P0-PTA*	/	/
37	/	/	/	/	/	/	DS5C1-437P0-PTA*	/	/
45	/	/	/	/	/	/	DS5C1-445P0-PTA*	/	/
55	/	/	/	/	/	/	DS5C1-455P0-PTA*	/	/

*Note: The servo driver marked with * is still under development. Please look forward to it.

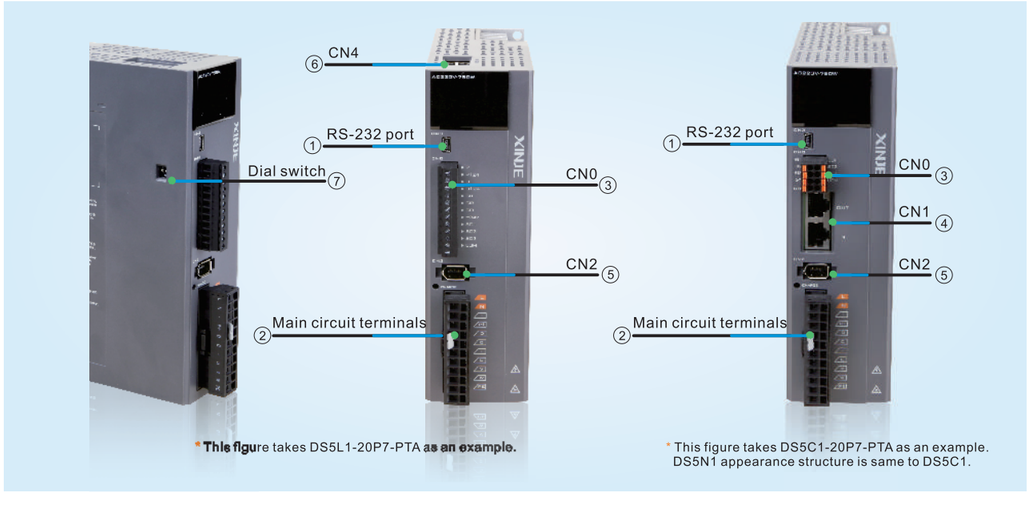
Peripheral Connection

DS5 series



Terminal Definition

DS5L1/DS5C1/DS5N1 series



① RS-232 port DS5L1/5C1/5N1

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 send
3	GND	RS232 signal ground

② Main circuit terminal definition DS5L1/DS5C1/DS5N1

400W and below

Terminal	Function	Explanation
L/N	Main circuit power supply input terminal	single phase AC200~240V, 50/60Hz
•	Vacant terminal	/
P+/C	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and C, P0-25 = power value, P0-26 = resistance value
U/V/W/PE	Motor connection terminal	Connect to the motor

750W

Terminal	Function	Explanation
L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz
•	Vacant terminal	/
P+/D/C	Use built-in regenerative resistor	Short connect P+ and D terminals, disconnect P+ and C terminals
	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and C, disconnect P+ and D, P0-25 = power value, P0-26 = resistance value
•	Vacant terminal	/
U/V/W/PE	Motor connection terminal	Connect to the motor

③ CN0 port DS5L1

Pin	Name
P-	Pulse input PUL-
P+24	Pulse input external power supply
D-	Direction input DIR-
D+24	Direction input external power supply
SI1	Input terminal 1
SI2	Input terminal 2
SI3	Input terminal 3
+24V	Input terminal +24V
SO1	Output terminal 1
SO2	Output terminal 2
SO3	Output terminal 3
COM	Output terminal ground

④ CN1 port DS5C1

Pin	Name	Explanation
1	TX A+	TRANSMIT A+
2	TX A-	TRANSMIT A-
3	RX A+	RECEIVE A+
4	/	/
5	/	/
6	RX A-	RECEIVE A-
7	/	/
8	/	/
9	X B+	TRANSMIT B+
10	TX B-	TRANSMIT B-
11	RX B+	RECEIVE B+
12	/	/
13	/	/
14	RX B-	RECEIVE B-
15	/	/
16	/	/

CN0 port DS5C1/DS5N1

Pin	Name
SI1	High speed input terminal 1
SI2	High speed input terminal 2
SI3	Normal input terminal 3
+24V	Input terminal +24V
SO1	Output terminal 1
SO2	Output terminal 2
SO3	Output terminal 3
COM	Output terminal ground

CN1 port DS5N1

No.	Name	No.	Name
1	CAN_H	9	CAN_H
2	CAN_L	10	CAN_L
3	CAN_GND	11	CAN_GND
4	/	12	/
5	/	13	/
6	/	14	/
7	/	15	/
8	/	16	/

⑤ CN2 port DS5L1/5C1/5N1

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

⑥ CN4 RS485 port DS5L1

Pin	Name
4	485-A
5	485-B
6	485-GND
Others	Reserved

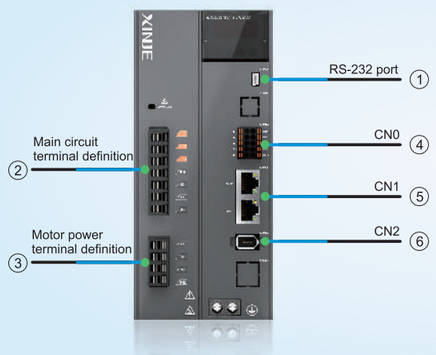
⑦ Dial switch DS5L1

Switch1	Switch1	State
ON	ON	Pulse input differential 5V
OFF	OFF	Pulse input collector 24V

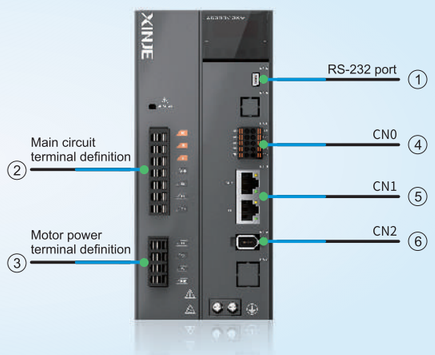
*Note: The directions of the two dialing codes must be consistent. If they are inconsistent, the pulse terminal of the driver will be burned once the power is supplied.

Terminal Definition

DS5C1 series 1.0~3kW



* This figure takes DS5C1-21P5-PTA as an example.



* This figure takes DS5C1-43P0-PTA as an example.

① RS-232 port

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

④ CN0 port

Pin	Name
SI1	High speed input terminal 1
SI2	High speed input terminal 2
SI3	Normal input terminal 3
+24V	Input terminal +24V
SO1	Output terminal 1
SO2	Output terminal 2
SO3	Output terminal 3
COM	Output terminal ground

⑥ CN2口

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

⑤ CN1 port

Pin	Name	Explanation
1	TX A+	TRANSMIT A+
2	TX A-	TRANSMIT A-
3	RX A+	RECEIVE A+
4	/	/
5	/	/
6	RX A-	RECEIVE A-
7	/	/
8	/	/
9	X B+	TRANSMIT B+
10	TX B-	TRANSMIT B-
11	RX B+	RECEIVE B+
12	/	/
13	/	/
14	RX B-	RECEIVE B-
15	/	/
16	/	/

② Main circuit terminal definition

DS5C1-21P0/21P5/22P3-PTA

Terminal	Function	Explanation
L1/L2/L3	Main circuit power supply input terminal	Single/three phase AC200~240V, 50/60Hz
P+/D/C	Use built-in regenerative resistor	Short connect P+ and D terminals, disconnect P+ and C
	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and C, disconnect P+ and D, P0-25 = power value, P0-26 = resistance value
P+/P-	Bus terminal	The real-time voltage of the bus can be measured. Please pay attention to the danger
U/V/W	Motor connection terminal	Connect to the motor *Note: The ground wire is on the heat sink. Please check it before power on.
⏚	Ground terminal	Connect with the motor grounding terminal for grounding

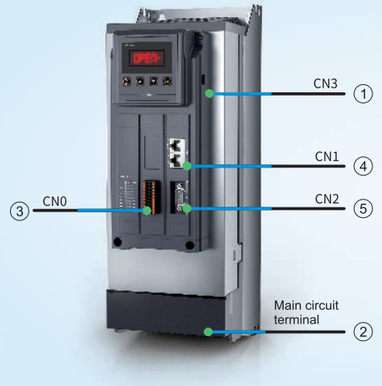
DS5C1-41P0/41P5/42P3/43P0-PTA

Terminal	Function	Explanation
R/S/T	Main circuit power supply input terminal	Three-phase AC380~440V, 50/60Hz
P+/D/C	Use built-in regenerative resistor	Short connect P+ and D terminals, disconnect P+ and C
	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and C, disconnect P+ and D, P0-25 = power value, P0-26 = resistance value
P+/P-	Bus terminal	The real-time voltage of the bus can be measured. Please pay attention to the danger
U/V/W	Motor connection terminal	Connect to the motor *Note: The ground wire is on the heat sink. Please check it before power on.
⏚	Ground terminal	Connect with the motor grounding terminal for grounding

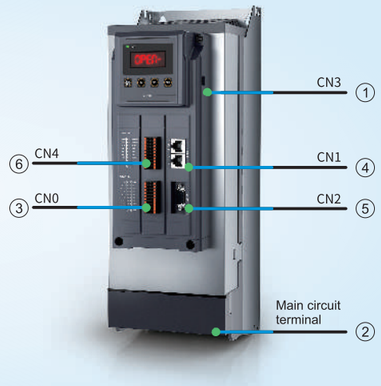
③ Motor power terminal definition

Pin	Name
1	U
2	V
3	W
4	PE

DS5C1/DS5K1 series 11~15kW



*This figure takes DS5C1-411P0/415P0-PTA as an example.



*This figure takes DS5K1-411P0/415P0-PTA as an example.

① CN3 RS232 port DS5C1/DS5K1

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

② Main circuit terminal definition DS5C1/DS5K1

Terminal	Function	Explanation
R/S/T	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz
•	Vacant terminal	/
U/V/W	Motor connection terminal	Connect to the motor *Note: The ground wire is on the heat sink. Please check it before power on.
P+/PB	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and PB, P0-25 = power value, P0-26 = resistance value
P+/P-	Bus terminal	The real-time voltage of the bus can be measured. Please pay attention to the danger.
PE/PE	Ground terminal	Only the 11 and 15kW supported

④ CN1 EtherCAT port DS5C1

Pin	Name	Explanation
1	TX A+	TRANSMIT A+
2	TX A-	TRANSMIT A-
3	RX A+	RECEIVE A+
4	/	/
5	/	/
6	RX A-	RECEIVE A-
7	/	/
8	/	/
9	X B+	TRANSMIT B+
10	TX B-	TRANSMIT B-
11	RX B+	RECEIVE B+
12	/	/
13	/	/
14	RX B-	RECEIVE B-
15	/	/
16	/	/

③ CN0 port DS5C1/DS5K1

No.	Name	Explanation	No.	Name	Explanation
1	P-	Pulse-	11	+24V	Input common terminal
2	P+5	Pulse +5V	12	SI1	Input terminal
3	P+24	Pulse +24V	13	SI2	Input terminal
4	D-	Direction –	14	SI3	Input terminal
5	D+5	Direction +5V	15	SI4	Input terminal (high speed)
6	D+24	Direction +24V	16	SI5	Input terminal (high speed)
7	SO1+	Output terminal +	17	SO1-	Output terminal -
8	SO2+	Output terminal +	18	SO2-	Output terminal -
9	SO3+	Output terminal +	19	SO3-	Output terminal -
10	SO4+	Output terminal +	20	SO4-	Output terminal -

CN1 RS485 port

DS5K1

Pin	Name
4	485-A
5	485-B
6	485-GND
Others	Reserved

⑤ CN2 port

DS5C1/DS5K1

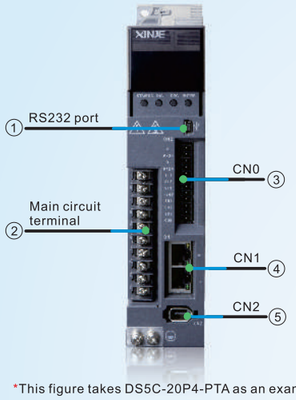
No.	Definition
1	Temperature-
2	Temperature+
3	485-B
4	485-A
5	PE
6	GND
7	GND
8	5V
9	5V

⑥ CN4 port DS5K1

No.	Name	Explanation	No.	Name	Explanation
1	VREF+	External speed analog differential input +	11	VREF-	External speed analog differential input -
2	TREF+	External torque analog differential input +	12	TREF-	External torque analog differential input -
3	GND	Analog input ground	13	GND	Analog input ground
4	OA+	Encoder frequency division output OA+	14	OA-	Encoder frequency division output OA-
5	OB+	Encoder frequency division output OB+	15	OB-	Encoder frequency division output OB-
6	OZ+	Encoder frequency division output OZ+	16	OZ-	Encoder frequency division output OZ-
7	OZ	Encoder frequency division output OZ	17	GND	Communication terminal ground
8	/	Vacant terminal	18	/	Vacant terminal
9	/	Vacant terminal	19	/	Vacant terminal
10	/	Vacant terminal	20	/	Vacant terminal

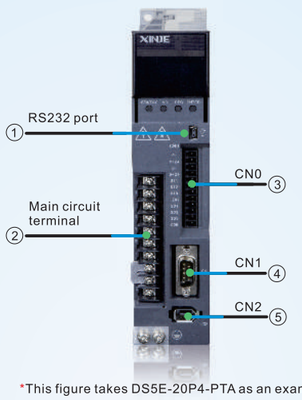
Terminal Definition

DS5C series



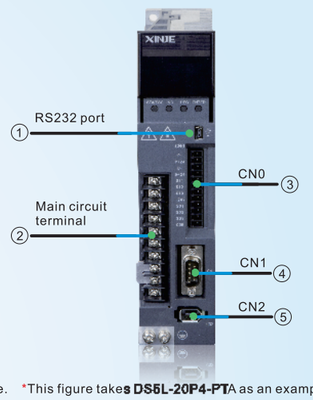
*This figure takes DS5C-20P4-PTA as an example.

DS5E series



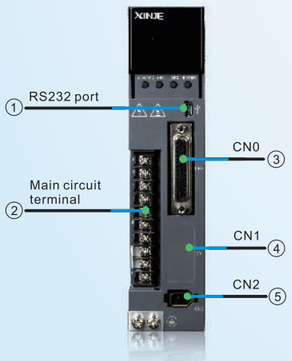
*This figure takes DS5E-20P4-PTA as an example.

DS5L series



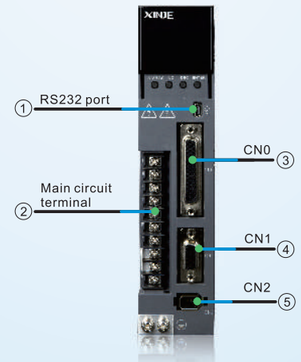
*This figure takes **DS5L-20P4-PT**A as an example.

DS5K series



*This figure takes DS5K-20P4-PTA as an example.

DS5F series



*This figure takes DS5F-20P4-PTA as an example.

DS5C series

① RS232 port DS5C/DS5E/DS5L/DS5K/DS5F

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

② Main circuit terminal definition DS5C/DS5E/DS5L/DS5K/DS5F

Terminal	Function	Explanation
L/N R/S/T	Main circuit power supply input terminal	Single/three phase AC200~240V, 50/60Hz Three-phase AC380~440V, 50/60Hz
•	Vacant terminal	/
U/V/ W/PE	Motor connection terminal	Connect to the motor Note: The ground wire is on the heat sink. Please check it before power on.
P+/D/C	Use built-in regenerative resistor	Short connect P+ and D terminals, disconnect P+ and C
	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and C, disconnect P+ and D, P0-25 = power value, P0-26 = resistance value

③ CN0 port

750W and below

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI3	Input terminal 3
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	COM	Output terminal ground

1.5kW and up

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI4	Input terminal 4
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	SO4	Output terminal 4
SI3	Input terminal 3	COM	Output terminal ground

④ CN1 port

Pin	Name	Explanation	Pin	Name	Explanation
1	TX A+	TRANSMIT A+	9	TX B+	TRANSMIT B+
2	TX A-	TRANSMIT A-	10	TX B-	TRANSMIT B-
3	RX A+	RECEIVE A+	11	RX B+	RECEIVE B+
4	/	/	12	/	/
5	/	/	13	/	/
6	RX A-	RECEIVE A-	14	RX B-	RECEIVE B-
7	/	/	15	/	/
8	/	/	16	/	/

⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

General/small-sized servo system

Terminal definition

DS5E series

③ CN0 port

750W and below

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI3	Input terminal 3
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	COM	Output terminal ground

1.5kW and up

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI4	Input terminal 4
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	SO4	Output terminal 4
SI3	Input terminal 3	COM	Output terminal ground

④ CN1 port

Pin	Name	Explanation
1	GND	GND-485
2	A1	RS485+
3	B1	RS485-
4	A2	RS485+
5	B2	RS485-
6	GND	GND-485
7	NC	Reserved
8		
9		

⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

DS5L series

③ CN0 port

750W and below

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI3	Input terminal 3
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	COM	Output terminal ground

1.5kW and up

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI4	Input terminal 4
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	SO4	Output terminal 4
SI3	Input terminal 3	COM	Output terminal ground

④ CN1 port

Pin	Name	Explanation
1	NC	Reserved
2		
3		
4		
5		
6		
7		
8		
9		

⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

DS5K series

③ CN0 port

Pin	Name	Explanation	Pin	Name	Explanation
1	P-	Pulse input PUL-	23	SI4	Input terminal
2	P+5	Pulse input external power supply +5V	24	NC	Vacant terminal
			25		
3	P+24	Pulse input external power supply +24V	26		
			27		
4	D-	Direction input DIR-	28		
5	D+5	Direction input external power supply +5V	29	SI5	High speed input terminal
6	D+24	Direction input external power supply +24V	30	+24V	Input terminal +24V
			31	NC	Vacant terminal
7	SO1	Output terminal	32		
8	SO2		33		
9	SO3		34		
10	SO4		35	OA+	Encoder frequency division output OA+
11	NC	Vacant terminal			
12			36	OA-	Encoder frequency division output OA-
13					
14			37	OB+	Encoder frequency division output OB+
15	COM	Output terminal ground			
16	485+	Communication terminal +	38	OB-	Encoder frequency division output OB-
17	485-	Communication terminal –	39	OZ+	Encoder frequency division output OZ+
18	GND	Communication terminal ground	40	OZ-	Encoder frequency division output OZ-
19	NC	Vacant terminal	41	NC	Vacant terminal
20	SI1	Input terminal	42		
21	SI2		43		
22	SI3		44		

④ CN1 port (no function)

⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

DS5F series

③ CN0 port

Pin	Name	Explanation	Pin	Name	Explanation
1	P-	Pulse input PUL-	27	SI8	Input terminal
2	P+5	Pulse input external power supply +5V	28	SI9	
3	P+24	Pulse input external power supply +24V	29	SI10	High speed input terminal
4	D-	Direction input DIR-	30	+24V	Input terminal +24V
5	D+5	Direction input external power supply +5V	31	T-REF+	External torque analog differential input +
6	D+24	Direction input external power supply +24V	32	T-REF-	External torque analog differential input +
7	SO1	Output terminal	33	V-REF+	External torque analog differential input +
8	SO2		34	V-REF-	External torque analog differential input +
9	SO3		35	OA+	Encoder frequency division output OA+
10	SO4				
11	SO5		36	OA-	Encoder frequency division output OA-
12	SO6				
13	SO7		37	OB+	Encoder frequency division output OB+
14	SO8				
15	COM	Output terminal ground	38	OB-	Encoder frequency division output OB-
16	485+	Communication terminal +	39	OZ+	Encoder frequency division output OZ+
17	485-	Communication terminal –	40	OZ-	Encoder frequency division output OZ-
18	GND	Communication terminal ground	41	HPUL+	Line driver high speed pulse +
19	GND	Analog input ground	42	HPUL-	Line driver high speed pulse -
20	SI1	Input terminal	43	HDIR+	Line driver high speed direction +
21	SI2		44	HDIR-	Line driver high speed direction -
22	SI3				
23	SI4				
24	SI5				
25	SI6				
26	SI7				

④ CN1 port

Pin	Name	Explanation	Pin	Name	Explanation
1	Z-	Full closed loop input Z-	9	Z+	Full closed loop input Z+
2	B-	Full closed loop input B-	10	/	Vacant terminal
3	B+	Full closed loop input B+	11		
4	A+	Full closed loop input A+	12		
5	A-	Full closed loop input A-	13		
6	GND	Grating ruler power supply GND	14		
7	GND		15		
8	5V	Grating ruler power supply 5V			

⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

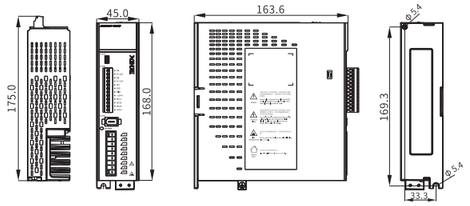
Drive Specification

Specification \ Model			Pulse type		EtherCAT bus type		CANopen bus type	X-NET bus type	Full function type	Standard type	
			DS5L1 series	DS5L series	DS5C1 series	DS5C series	DS5N1 series	DS5E series	DS5F series	DS5K1 series	DS5K series
Basic specification	Power range (kW)		0.1~0.75	0.1~2.6	0.1~15	0.1~32	0.1~0.75	0.1~22	0.1~7.5	11~15	0.1~3.0
	Input power supply		Single/three phase AC200~240V, 50/60Hz. Three-phase AC380V~440V, 50/60Hz								
	Encoder feedback		17-bit/23-bit communication encoder								
	Control mode		Three-phase full wave rectifier IPM, PWM control, sine wave current drive mode								
	Use environment	Ambient temperature	Operation: -10ºC~40ºC (no condensation)/storage: -20ºC~60ºC (no condensation)								
		Ambient humidity	Operation/storage: 90%RH and below (no condensation)								
		Vibration/shock resistance	4.9m/s² / 19.6m/s²								
	Function	Electronic CAM	No								
		Protection function	Overvoltage, undervoltage, overheating, overcurrent, overload, overspeed, analog input abnormality, excessive position deviation, output short circuit, encoder abnormality, regeneration abnormality protection, overtravel protection, oscillation protection, phase loss protection, etc								
		Dynamic brake	No								
		Communication function	RS232: standard ModbusRTU protocol RS485: standard ModbusRTU protocol	RS232: standard ModbusRTU protocol	RS232: standard ModbusRTU protocol EtherCAT: support EtherCAT bus communication (max 32 axes)		RS232: standard ModbusRTU protocol CANopen: support CANopen bus communication (max 64 axes)	RS232: standard ModbusRTU protocol RS485: standard ModbusRTU protocol Support X-NET bus communication (max 20 axes)	RS232: standard ModbusRTU protocol RS485: standard ModbusRTU protocol		
		Brake resistor	Built-in brake resistor, external brake resistor can be connected								
		Display and operate	5-bit LED indicator light, power indicator light, 4 buttons								
	Position output	Output form	No						ABZ differential feedback output		
		Frequency division function	No						Yes		
		Collector Z phase output	Yes								
	Analog input		No						2 channels input	No	
I/O signal	Digital input (SI)		3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	10 channels	5 channels	
			Servo enable, alarm clear, no forward rotation, no reverse rotation, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, zero speed locking, position deviation clear, internal position step change signal, internal control mode direction switching								
	Digital output (SO)		3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	8 channels	4 channels	
			Positioning completion, servo ready, alarm output, torque limit output, same speed detection, rotation detection, speed arrival, brake release output and warning output								
Position control mode	Max input pulse frequency		Collector open: 200kpps (5C1/5N1 not support pulse)						Collector open: 200kpps [Optocoupler] Differential input: 500kpps [Optocoupler] Long line reception: 2Mpps [only DS5F series support]		
	Pulse command mode		3.3V~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal	18~24V pulse+direction, AB phase pulse, CW/CCW signal (5C cannot support CW/CCW, 5C1/5N1 not support external pulse)					3.3V~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal		
	Control mode		External pulse/ built-in position		Built-in position/ EtherCAT motion bus	External pulse/ built-in position/ EtherCAT motion bus	Built-in position/ CANopen motion bus	External pulse/ built-in position/ X-NET motion bus	External pulse/built-in position		
	Feedforward compensation		0~100% (set the resolution to 1%)								
	Positioning complete width		1~65535 command unit (set the resolution to 1 command unit)								
	Electronic gear ratio		1/10000≤B/A≤10000								
Speed control mode	Control mode		Analog speed control (only DS5F support), internal three segments of speed, external speed mode								
	Command smoothing mode		Low pass filter, smooth filter								
	Analog input	Voltage range	No						-10V~+10V (resolution 12-bit)	No	
		Input impedance	No						72KΩ	No	
	Torque limit		Internal parameter						Internal parameter/external analog	Internal parameter	
	Speed change rate		External load rated change 0~100%: below ±0.01% (at rated speed)								
			Rated voltage ±10%: 0.01% (at rated speed)								
			Ambient temperature 20±25ºC: below ±0.01% (at rated speed)								
Torque control mode	Control mode		Analog speed control (only DS5F support), internal torque								
	Analog input	Voltage range	No						-10V~+10V (resolution 12-bit)	No	
		Input impedance	No						72KΩ	No	
	Speed limit		Internal parameter						Internal parameter/external analog	Internal parameter	
Bus control mode	Control axis number		No		32 axes		64 axes	20 axes	No		
	Communication protocol		No		EtherCAT protocol		CANopen protocol	X-NET protocol	No		

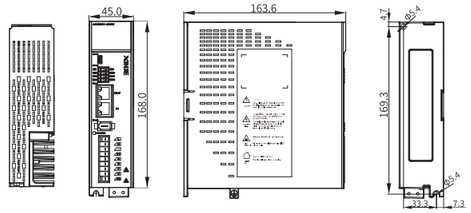
Drive Dimension Diagram

(Unit: mm)

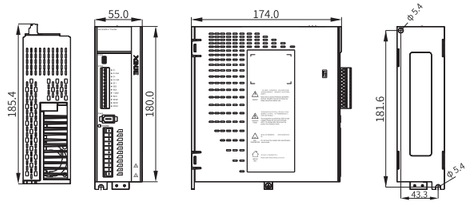
DS5L1-20P1/2/4-PTA



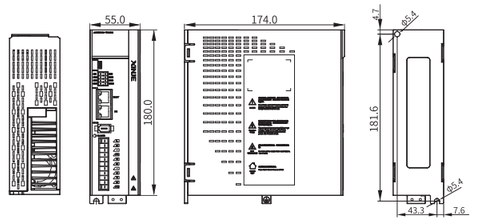
DS5C1/DS5N1-20P1/2/4-PTA



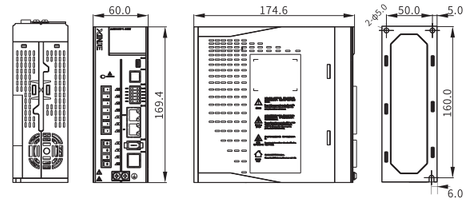
DS5L1-20P7-PTA



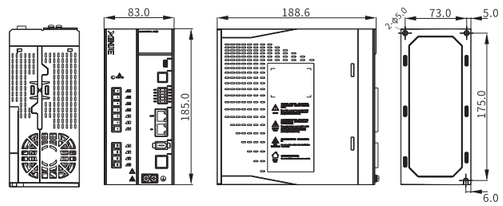
DS5C1/DS5N1-20P7-PTA



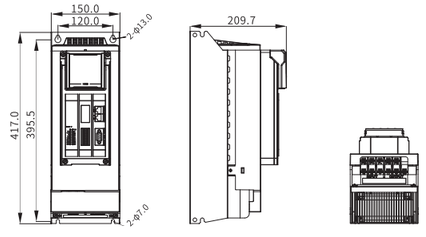
DS5C1-21P0/41P0/41P5-PTA



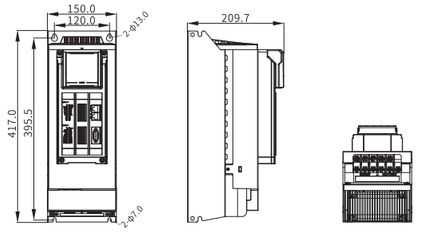
DS5C1-21P5/22P3/42P3/43P0-PTA



DS5C1-411P0/415P0-PTA



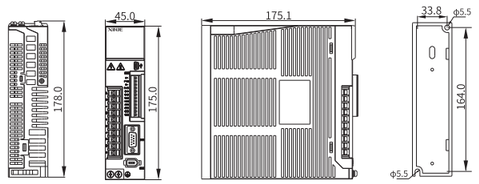
DS5K1-411P0/415P0-PTA



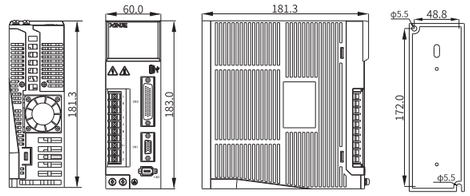
Drive dimension diagram

(Unit: mm)

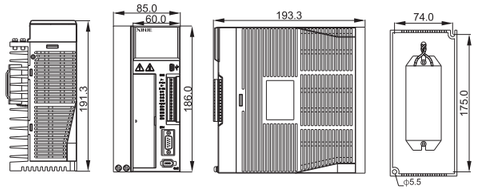
DS5E-20P1/20P2/20P4-PTA DS5F-20P1/20P2/20P4-PTA
DS5L-20P1/20P2/20P4-PTA DS5K-20P1/20P2/20P4-PTA
DS5C-20P1/20P2/20P4-PTA



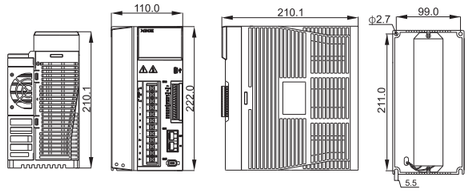
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DS5L-20P7-PTA DS5F-20P7-PTA



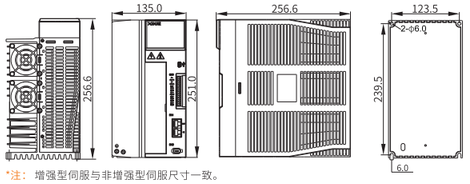
DS5E-21P0/21P5/22P3/22P6/41P0-PTA
DS5L-21P0/21P5/22P3/22P6-PTA
DS5C-21P0/21P5/22P3/22P6/41P0/41P5-PTA
DS5F-21P0/21P5/22P3/22P6-PTA
DS5K-21P0/21P5/22P3/22P6/41P5-PTA



DS5E-43P0-PTA-H DS5C-43P0-PTA-H
DS5K-43P0-PTA-H DS5F-43P0-PTA-H

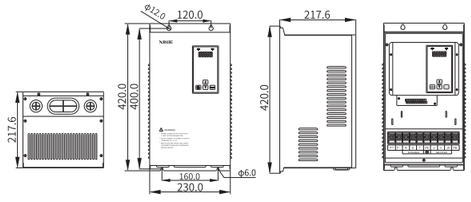


DS5E-45P5/47P5-PTA-H DS5C-45P5/47P5-PTA-H
DS5F-45P5/47P5-PTA-H

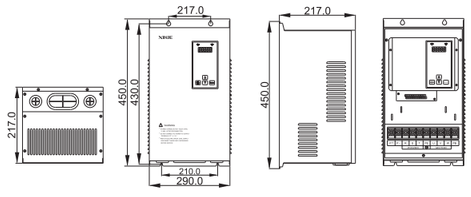


*注： 增强型伺服与非增强型伺服尺寸一致。

DS5E-411P0/415P0-PTA DS5C-411P0/415P0-PTA



DS5C-422P0-PTA DS5C-432P0-PTA



MS series motor parameters

MS6 series

Voltage level		AC 220V															
Motor model		MS6H-40		MS6H-60		MS6S-60		MS6H-60		MS6S-80		MS6H-80		MS6S-80	MS6H-80	MS6S-80	MS6H-80
		CS/CM30B(Z)1/2	CS/CM/TL30B(Z)3	CS/CM30B(Z)1/2	CS/CM/TL30B(Z)3	CS/CM30B(Z)1/2	CS/CM/TL30B3	CS/CM30B(Z)1/2	CS/CM/TL30B3	CS/CM30B(Z)1/2	CS/CM/TL30B(Z)3	CS/CM30B(Z)1/2	CS/CM/TL30B(Z)3	CS/CM20B(Z)1/2	CS/CM30B(Z)3	CS/CM30B(Z)3	CS/CM30B(Z)3
		20P1		20P2		20P4		20P4		20P7		20P7		20P7		21P0	
Rated power (kW)		0.1		0.2		0.4		0.4		0.75		0.75		0.75		1	
Rated speed (rpm)		3000		3000		3000		3000		3000		3000		2000		3000	
Max speed (rpm)		6500		6500		6500		6000		5200		5200		3500		4000	
Rated torque (N·m)		0.32		0.64		1.27		1.27		2.39		2.39		3.5		3.18	
Max torque (N·m)		0.96		2.24		4.45		4.45		7.17		7.17		10.5		9.54	
Rated current (mA)		850	950	1800	1900	2700		2600	2800	4000	4100	4100		4100		4100	
Rotor inertia (10^{-7}kg·m^2)		86(93)	70	277(295)	271(275)	273(262)	285	520(590)	520	980(1030)	980	1670(1691)	1550	1208(1261)	2445(2553)	1182	2391
Inertia type		High inertia		High inertia		Low inertia		High inertia		Low inertia		High inertia		Low inertia	High inertia	Low inertia	High inertia
Recommended rotor inertia ratio		30															
Electrical constant te(ms)		0.702	1.04	1.91	1.64	2.95	2.96	2.09	1.63	5.184	5.53	4.567	4.58	5.55	4.865	5.89	4.97
Mechanical constant te(ms)		1.635(1.768)	1.26	1.74(1.86)	1.26(1.28)	0.603(0.623)	0.57	0.929(1.054)	0.93	0.705(0.741)	0.69	0.925(0.937)	1	0.55(0.574)	0.55(0.574)	0.53	0.93
EMF constant Ke (mV/rpm)		38	33	24.03	31.25	44	44.25	49	43.98	56	55	54	56	120	115.5	75	73
Torque constant Kt (Nm/A)		0.376	0.34	0.36	0.34	0.47	0.47	0.47	0.45	0.598	0.58	0.598	0.58	0.875		0.78	
Pole of pairs		5															
Encoder bit		17	17/23	17	17/23	17	17/23	17	17/23	17	17/23	17	17/23	17		17/23	
Encoder type		magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism		magnetism (photoelectricity)	
Motor insulation grade		ClassF(155°C)															
Protection level		Ip65	Ip67	Ip66	Ip67	Ip66	Ip67	Ip66	Ip67	Ip66	Ip67	Ip66	Ip67	Ip66		Ip67	
Use envorin-ment	Ambient temperature	-15ºC~+40ºC (no freezing)															
	Ambient humidity	Relative humidity <90% (no condensation)															

Voltage level		AC 220V					AC 380V							AC 220V		
Motor model		MS6S-100	MS6H-130													
		CS/CM30B2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM20B2	TL20B2	CS/CM20BZ2
		21P5	20P8		20P8		40P8		40P8		41P3		41P3		21P5		21P5
Rated power (kW)		1.5	0.85		0.85		0.85		0.85		1.3		1.3		1.5		1.5
Rated speed (rpm)		3000	1500		1500		1500		1500		1500		1500		2000		2000
Max speed (rpm)		4500	3000		3000		3000		3000		3000		3000		3000		3000
Rated torque (N·m)		4.8	5.41		5.41		5.41		5.41		8.3		8.3		7.16		7.16
Max torque (N·m)		12	16.23		16.23		16.23		16.23		24.9		24.9		18		18
Rated current (mA)		8000	6000		6000		3500		3500		6000		6000		8000		8000
Rotor inertia (10^{-7}kg·m^2)		2812	13860	15340	13860	15340	13860	15340	13860	15340	20000	21440	20000	21440	20000		21440
Inertia type		Low inertia	High inertia		High inertia		High inertia		High inertia		High inertia		High inertia		High inertia		High inertia
Recommended rotor inertia ratio		15	10		10		10		10		10		10		10		10
Electrical constant te(ms)		10.791	6.944		6.944		6.722		6.722		9.229		9.229		8.409		8.409
Mechanical constant te(ms)		0.61	1.823	2.017	1.823	2.017	1.844	2.041	1.844	2.041	1.496	1.603	1.496	1.603	1.523		1.633
EMF constant Ke (mV/rpm)		57	89		89		149		149		127		127		86		86
Torque constant Kt (Nm/A)		0.6	0.902		0.902		1.546		1.546		1.383		1.383		0.895		0.895
Pole of pairs		5															
Encoder bit		17	23	17	23		17		23		17		23		17	23	17
Encoder type		magnetism	photoelectricity	magnetism	photoelectricity		magnetism		photoelectricity		magnetism		photoelectricity		magnetism	photoelectricity	magnetism
Motor insulation grade		ClassF(155°C)															
Protection level		Ip65															
Use envorin-ment	Ambient temperature	-15ºC~+40ºC (no freezing)															
	Ambient humidity	Relative humidity <90% (no condensation)															

Voltage level		AC 220V							AC 380V						
Motor model		TL20BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2
		21P5	21P8		21P8		22P3		22P3		41P8		41P8		42P3		42P3
Rated power (kW)		1.5	1.8		1.8		2.3		2.3		1.8		1.8		2.3		2.3
Rated speed (rpm)		2000	1500		1500		1500		1500		1500		1500		1500		1500
Max speed (rpm)		3000	2500		2500		2500		2500		3000		3000		3000		3000
Rated torque (N·m)		7.16	11.5		11.5		14.6		14.6		11.5		11.5		14.6		14.6
Max torque (N·m)		18	34.5		34.5		36.5		36.5		28.75		28.75		36.5		36.5
Rated current (mA)		8000	10000		10000		11800		11800		7400		7400		8500		8500
Rotor inertia (10^{-7}kg·m^2)		21440	28500	29940	28500	29940	35240	36260	35240	36260	28500	29940	28500	29940	35240	36260	35240
Inertia type		High inertia	High inertia		High inertia		High inertia		High inertia		High inertia		High inertia		High inertia		High inertia
Recommended rotor inertia ratio		10	10		10		10		10		10		10		10		10
Electrical constant te(ms)		8.409	8.37		8.37		9.893		9.893		9.973		9.973		9.887		9.887
Mechanical constant te(ms)		1.633	1.414	1.486	1.414	1.486	1.234	1.27	1.234	1.27	1.252	1.316	1.252	1.316	1.249	1.285	1.249
EMF constant Ke (mV/rpm)		86	106		106		115		115		144		144		155		155
Torque constant Kt (Nm/A)		0.895	1.15		1.15		1.237		1.237		1.554		1.554		1.718		1.718
Pole of pairs		5															
Encoder bit		23	17		23		17		23		17		23		17		17
Encoder type		photoelectricity	magnetism		photoelectricity		magnetism		photoelectricity		magnetism		photoelectricity		magnetism		magnetism
Motor insulation grade		ClassF(155°C)															
Protection level		Ip65															
Use envorin-ment	Ambient temperature	-15ºC~+40ºC (no freezing)															
	Ambient humidity	Relative humidity <90% (no condensation)															

MS Series Motor Parameters

MS6 series

Voltage level		AC 380V																			
Motor model		MS6H-130	MS6H-180																		
		TL15BZ2	CS/CM15BZ2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2			
		42P3	43P0		43P0		44P4		44P4		45P5		45P5		47P5		47P5				
Rated power (kW)		2.3	3		3		4.4		4.4		5.5		5.5		7.5		7.5				
Rated speed (rpm)		1500	1500		1500		1500		1500		1500		1500		1500		1500				
Max speed (rpm)		3000	3000		3000		3000		3000		3000		3000		3000		3000				
Rated torque (N·m)		14.6	19		19		28		28		35		35		48		48				
Max torque (N·m)		36.5	51.3		51.3		84		84		87.5		87.5		120		120				
Rated current (mA)		8500	11000		11000	29700	16500		16500		19700		19700		25000		25000				
Rotor inertia (10^{-4}·kg·m^2)		36260	51000	55490	51000	55490	73280	78040	73280	78040	90250	95200	90250	95200	132000	134690	132000	134690			
Inertia type		High inertia	High inertia		High inertia		High inertia		High inertia		High inertia		High inertia		High inertia		High inertia				
Recommended rotor inertia ratio		10	10		10		10		10		10		10		10		10				
Electrical constant τe(ms)		9.887	22.539		22.539		25.547		25.547		26.195		26.195		25.176		25.176				
Mechanical constant τe(ms)		1.285	1.251	1.361	1.251	1.361	1.023	1.09	1.023	1.09	0.957	1.01	0.957	1.01	0.907	0.925	0.907	0.925			
EMF constant Ke (mV/rpm)		155	160		160		160		160		160		160		172		172				
Torque constant Kt (Nm/A)		1.718	1.727		1.727		1.636		1.636		1.777		1.777		1.92		1.92				
Pole of pairs		5																			
Encoder bit		23	17		23		17/23		17/23		17/23		17/23		17/23		17/23				
Encoder type		photoelectricity	magnetism		photoelectricity		magnetism (photoelectricity)		magnetism (photoelectricity)		magnetism (photoelectricity)		magnetism (photoelectricity)		magnetism (photoelectricity)		magnetism (photoelectricity)				
Motor insulation grade		ClassF(155°C)																			
Protection level		Ip65																			
Use envorin -ment	Ambient temperature	-15ºC~+40ºC (no freezing)																			
	Ambient humidity	Relative humidity <90% (no condensation)																			

MS5 series

Voltage level		AC 220V											
Motor model		MS5S-110STE						MS5G-130STE					
		CS/CM00320B	TL03230B□	CS/CM04830B□	TL04830B□	CS/CM06030B□	TL06030B□	CS/CM05415B	CS/CM05415BZ	TL05415B	TL05415BZ	CS/CM06025B	CS/CM06025BZ
		21P0-S01	21P0-S01	21P5-S01	21P5-S01	21P8-S01	21P8-S01	20P8-S01	20P8-S01	20P8-S01	20P8-S01	21P5-S01	21P5-S01
Rated power (kW)		1	1	1.5	1.5	1.8	1.8	0.85	0.85	0.85	0.85	1.5	1.5
Rated speed (rpm)		3000	3000	2000	2000	3000	3000	1500	1500	1500	1500	2500	2500
Max speed (rpm)		6000	6000	4500	4500	4500	4500	2000	2000	2000	2000	3000	3000
Rated torque (N·m)		3.18	3.18	4.77	4.77	6	6	5.41	5.41	5.41	5.41	6	6
Max torque (N·m)		7.95	7.95	9.54	9.54	12	12	15.15	15.15	15.15	15.15	15	15
Rated current (mA)		7500	7500	7500	7500	9500	7500	4200	4200	4200	4200	7500	7500
Rotor inertia (10^{-4}·kg·m^2)		2869	2869	3360	3360	4170	4170	8480	9717	8480	9717	9440	9440
Inertia type		Low inertia	Low inertia	Low inertia	Low inertia	Low inertia	Low inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia
Recommended rotor inertia ratio		15	15	15	15	10	10	10	10	10	10	10	10
Electrical constant τe(ms)		18.363	18.363	20.606	20.606	20.863	20.863	7.79	7.79	7.79	7.79	9.368	9.368
Mechanical constant τe(ms)		0.984	0.984	0.727	0.727	0.583	0.583	1.293	1.482	1.293	1.482	1.113	1.32
EMF constant Ke (mV/rpm)		51	51	64	64	62	62	123	123	123	123	76	76
Torque constant Kt (Nm/A)		0.424	0.424	0.636	0.636	0.632	0.632	1.286	1.286	1.286	1.286	0.8	0.8
Pole of pairs		5											
Encoder bit		17	23	17	23	17	23	17	17	23	23	17	17
Encoder type		magnetism	photoelectricity	magnetism	photoelectricity	magnetism	photoelectricity	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	magnetism
Motor insulation grade		ClassF(155°C)											
Protection level		Ip65											
Use envorin -ment	Ambient temperature	-15ºC~+40ºC (no freezing)											
	Ambient humidity	Relative humidity <90% (no condensation)											

Voltage level		AC 220V						AC 380V				AC 220V	
Motor model		MS5G-130STE											
		CS/CM10015B	CS/CM10015BZ	CS07220B	CS07220BZ	TL07220B	TL07220BZ	CS/CM07220B	CS/CM07220BZ	TL07220B	TL07220BZ	CS/CM11515B	CS/CM11515BZ
		21P5-S01	21P5-S01	21P5-S01	21P5-S01	21P5-S01	21P5-S01	41P5-S01	41P5-S01	41P5-S01	41P5-S01	21P8-S01	21P8-S01
Rated power (kW)		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.8	1.8
Rated speed (rpm)		1500	1500	2000	2000	2000	2000	2000	2000	2000	2000	1500	1500
Max speed (rpm)		2500	2500	3000	3000	3000	3000	3000	3000	3000	3000	2000	2000
Rated torque (N·m)		10	10	7.16	7.16	7.16	7.16	7.16	7.16	7.16	7.16	11.5	11.5
Max torque (N·m)		25	25	17.9	17.9	17.9	17.9	25.06	25.06	25.06	25.06	23	23
Rated current (mA)		7500	7500	7500	7500	7500	7500	5000	5000	5000	5000	9000	9000
Rotor inertia (10^{-4}·kg·m^2)		14400	14400	11780	13130	11780	13130	11780	13130	11780	13130	17710	19060
Inertia type		Medium inertia											
Recommended rotor inertia ratio		10	10	10	10	10	10	10	10	10	10	10	10
Electrical constant τe(ms)		10.084	10.084	8.292	8.292	8.292	8.292	9.874	9.874	9.874	9.874	9.142	9.142
Mechanical constant τe(ms)		0.847	0.847	1.076	1.199	1.076	1.199	0.925	1.031	0.925	1.031	1.113	0.918
EMF constant Ke (mV/rpm)		122	122	88	88	88	88	132	132	132	132	116	116
Torque constant Kt (Nm/A)		1.333	1.333	0.955	0.955	0.955	0.955	1.432	1.432	1.432	1.432	1.278	1.278
Pole of pairs		5											
Encoder bit		17	17	17	17	23	23	17	17	23	23	17	17
Encoder type		magnetism	magnetism	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	magnetism
Motor insulation grade		ClassF(155°C)											
Protection level		Ip65											
Use envorin -ment	Ambient temperature	-15ºC~+40ºC (no freezing)											
	Ambient humidity	Relative humidity <90% (no condensation)											

MS5 / MS series

Voltage level		AC 220V		AC 380V				AC 220V				AC 380V	
Motor model		MS5G-130STE											
		TL11515B	TL11515BZ	CS/CM11515B	TL11515B	CS/CM11515BZ	TL11515BZ	CS/CM14615B	CS/CM14615BZ	TL14615B	TL14615BZ	CS/CM14615B	TL14615B
		21P8-S01	21P8-S01	41P8-S01	41P8-S01	41P8-S01	41P8-S01	22P3-S01	22P3-S01	22P3-S01	22P3-S01	42P3-S01	42P3-S01
Rated power (kW)		1.8	1.8	1.8	1.8	1.8	1.8	2.3	2.3	2.3	2.3	2.3	2.3
Rated speed (rpm)		1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max speed (rpm)		2000	2000	3000	3000	3000	3000	2000	2000	2000	2000	3000	3000
Rated torque (N·m)		11.5	11.5	11.5	11.5	11.5	11.5	14.6	14.6	14.6	14.6	14.6	14.6
Max torque (N·m)		23	23	28.75	28.75	28.75	28.75	29.2	29.2	29.2	29.2	36.5	36.5
Rated current (mA)		9000	9000	6800	6800	6800	6800	9000	9000	9000	9000	8500	8500
Rotor inertia (10^{-4}·kg·m^2)		17710	19060	17710	17710	18974	18974	22324	23560	22324	23560	22320	22320
Inertia type		Medium inertia											
Recommended rotor inertia ratio		10	10	10	10	10	10	10	10	10	10	10	10
Electrical constant τe(ms)		9.142	9.142	10.588	10.588	10.588	10.588	9.394	9.394	9.394	9.394	9.886	9.886
Mechanical constant τe(ms)		0.853	0.918	0.762	0.751	0.816	0.816	0.815	0.86	0.815	0.86	0.774	0.774
EMF constant Ke (mV/rpm)		116	116	155.54	155.54	155.54	155.54	148.536	148.536	148.536	148.536	156.487	156.487
Torque constant Kt (Nm/A)		1.278	1.278	1.691	1.716	1.691	1.691	1.622	1.622	1.622	1.622	1.718	1.718
Pole of pairs		5											
Encoder bit		23	23	17	23	17	23	17	17	23	23	17	23
Encoder type		photoelectricity	photoelectricity	magnetism	photoelectricity	magnetism	photoelectricity	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	photoelectricity
Motor insulation grade		ClassF(155°C)											
Protection level		Ip65											
Use envorin -ment	Ambient temperature	-15ºC~+40ºC (no freezing)											
	Ambient humidity	Relative humidity <90% (no condensation)											

Voltage level		AC 380V		AC 220V						
Motor model		MS5G-130STE								
		CS/CM14615BZ	TL14615BZ	CS/CM10025B	CS/CM10025BZ	TL10025B	CS/CM07730B	CS/CM07730BZ	TL07730B	TL07730BZ
		42P3-S01	42P3-S01	22P6-S01	22P6-S01	22P6-S01	22P4	22P4	22P4	22P4
Rated power (kW)		2.3	2.3	2.6	2.6	2.6	2.4	2.4	2.4	2.4
Rated speed (rpm)		1500	1500	2500	2500	2500	3000	3000	3000	3000
Max speed (rpm)		3000	3000	3000	3000	3000	4000	4000	4000	4000
Rated torque (N·m)		14.6	14.6	10	10	10	7.7	7.7	7.7	7.7
Max torque (N·m)		36.5	36.5	28.5	28.5	28.5	15.4	15.4	15.4	15.4
Rated current (mA)		8500	8500	10.5	10.5	10.5	10000	10000	10000	10000
Rotor inertia (10^{-4}·kg·m^2)		23560	23560	17710	19060	19060	11700	13130	11700	13130
Inertia type		Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Low inertia	Low inertia
Recommended rotor inertia ratio		10	10	10	10	10	10	10	15	15
Electrical constant τe(ms)		9.886	9.886	9.927	9.927	9.927	10.17	10.17	10.17	10.17
Mechanical constant τe(ms)		0.818	0.818	0.816	0.878	0.816	1.15	1.29	1.15	1.29
EMF constant Ke (mV/rpm)		156.48	156.48	83.8	83.8	83.8	72	72	72	72
Torque constant Kt (Nm/A)		1.718	1.718	0.952	0.952	0.952	0.77	0.77	0.77	0.77
Pole of pairs		5								
Encoder bit		17	23	17	17	17	17	17	23	23
Encoder type		magnetism	photoelectricity	magnetism	magnetism	magnetism	magnetism	magnetism	photoelectricity	photoelectricity
Motor insulation grade		ClassF(155°C)								
Protection level		Ip65								
Use envorin -ment	Ambient temperature	-15ºC~+40ºC (no freezing)								
	Ambient humidity	Relative humidity <90% (no condensation)								

Voltage level		AC 380V					AC 220V
Motor model		MS5G-220	MS-220STE				MS-110STE
		CS/CM/TL140015B	TL70015B	TL70015BZ	TL96015B	TL96015BZ	T04030B□
		422P0-S01	411P0-XJ	411P0-XJ	415P0-XJ	415P0	21P2
Rated power (kW)		22	11	11	15	15	1.2
Rated speed (rpm)		1500	1500	1500	1500	1500	3000
Max speed (rpm)		1900	2300	2300	2200	2200	3500
Rated torque (N·m)		140	70	70	96	96	4
Max torque (N·m)		280	175	175	240	240	12
Rated current (mA)		45000	25500	25500	35000	35000	5000
Rotor inertia (10^{-4}·kg·m^2)		208330	120270	142817	159500	190837	5400
Inertia type		Medium inertia	/	/	/	/	/
Recommended rotor inertia ratio		10	10	10	10	10	10
Electrical constant τe(ms)		18.65	17.498	17.498	20.576	20.576	/
Mechanical constant τe(ms)		0.64	1.089	1.089	0.822	0.822	/
EMF constant Ke (mV/rpm)		279	252	252	262	262	/
Torque constant Kt (Nm/A)		3.111	2.745	2.745	2.743	2.743	/
Pole of pairs		5	4	4	4	4	4
Encoder bit		17	23	23	23	23	23
Encoder type		magnetism	photoelectricity	photoelectricity	photoelectricity	photoelectricity	photoelectricity
Motor insulation grade		ClassF(155°C)					
Protection level		Ip65					
Use envorin -ment	Ambient temperature	-15ºC~+40ºC (no freezing)					
	Ambient humidity	Relative humidity <90% (no condensation)					

Brake Specification

Motor / Brake parameter	MS series				MS5 series							MS6 series					
	110 flange 04/05	130 flange 06/07	130 flange 10/15	220 flange	40 flange	60 flange	80 flange	110 flange	130 flange	180 flange 19/27	180 flange 35/48	40 flange	60 flange	80 flange	100 flange	130 flange	180 flange
Static friction torque(N·m)	≥8	≥8	≥15	⩾115	≥0.3	≥1.3	≥3.2	≥8	≥15	≥30	≥50	⩾0.32	≥1.3	≥2.5	≥8	≥15	⩾58
Rated power(W)	14.4	14.4	25	55	6	7.2	11.5	14.4	25	31	51	6.1	7.2	8	17.6	25	30
Attraction time(ms)	<80	<80	<100	<200	<50	<50	<60	< 80	< 100	< 110	< 110	<35	< 50	< 80	< 100	< 100	< 180
Release time(ms)	< 40	< 40	< 60	< 80	< 20	< 20	< 40	< 40	< 60	< 80	< 80	< 20	< 20	< 40	< 50	< 60	< 80
Excitation current DC(A)	0.6	0.6	1	2.3	0.25	0.3	0.47	0.6	1	1.3	2.1	0.25	0.3	0.233	0.73	1	1.25
Attraction voltage DC(V)	< 16.8	< 16.8	< 16.8	< 19.2	< 16.8	< 16.8	< 16.8	< 16.8	< 16.8	< 18	< 19	<16.8	< 18	< 16.8	<16.8	< 16.8	< 16.8
Release voltage DC(V)	> 1.5	> 1.5	> 1.5	> 1.5	> 0.5	> 1.5	> 1.5	> 1.5	> 1.5	> 4	> 5	> 1.5	> 1.5	> 1	> 1	> 1.5	> 1.5
Excitation voltage DC(V)	DC24±10%																

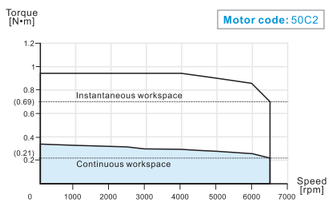
*Note: 04/05 below flange indicates the motor torque.

MS Motor Axial and Radial Force Specification

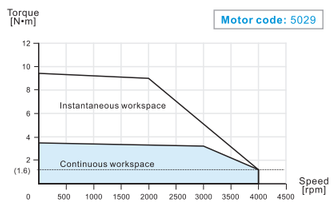
Base number (mm)	40 flange	60 flange	80 flange	100 flange	110 flange	130 flange	180 flange	220 flange
Axial force (N)	57	74	147	≤200	250	300	400	≤500
Radial force (N)	78	245	392	500	500	600	800	1000

MS6 Series T/N Curve

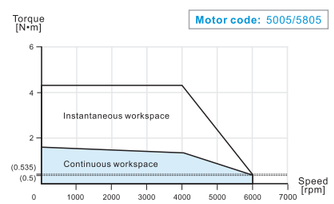
MS6H-40CS/CM30B3-20P1



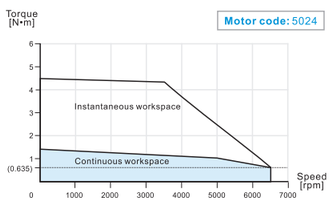
MS6S-80CS/CM30B3-21P0



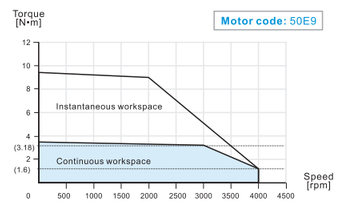
MS6S-60CS/CM30B(Z)□-20P4



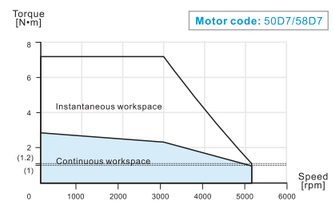
MS6S-60CS/CM30B3-20P4



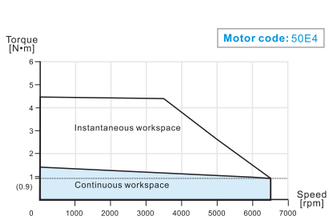
MS6H-80CS/CM30B3-21P0



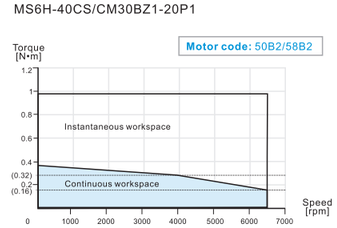
MS6H-80CS/CM30B(Z)□-20P7



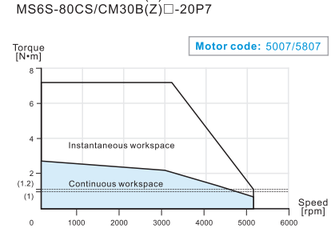
MS6H-60CS/CM30B3-20P4



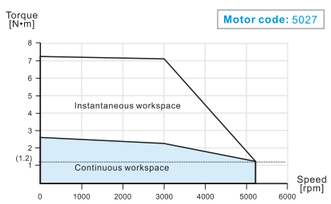
MS6H-40CS/CM30B1-20P1
MS6H-40CS/CM30BZ1-20P1



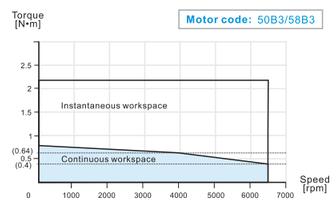
MS6S-80CS/CM30B(Z)□-20P7
MS6S-80CS/CM30B(Z)□-20P7



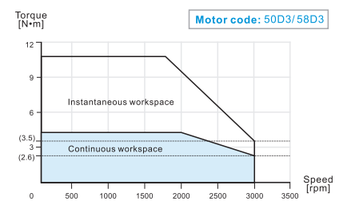
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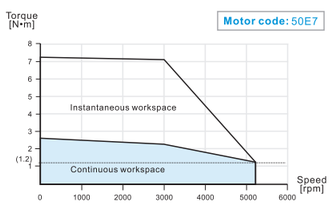
MS6H-60CS/CM30B1-20P2
MS6H-60CS/CM30BZ1-20P2



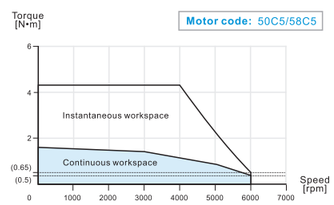
MS6H-80CS/CM20B□-20P7



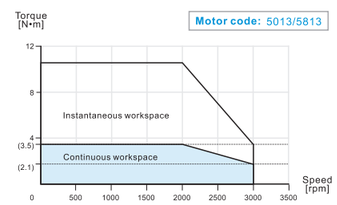
MS6H-80CS/CM30B3-20P7



MS6H-60CS/CM30B(Z)□-20P4

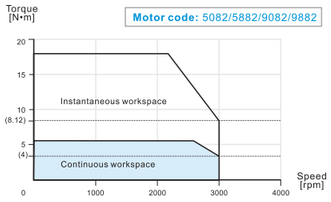


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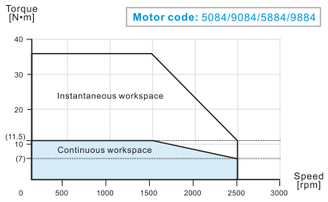


MS6 Series T/N Curve

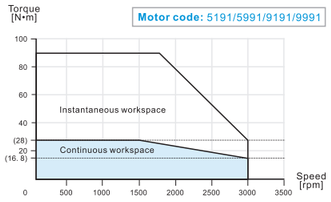
MS6H-130CS/CM15B(Z)2-20P8
MS6H-130TL15B(Z)2-20P8



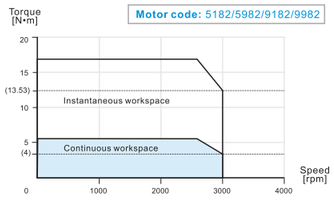
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MS6H-130TL15B(Z)2-21P8



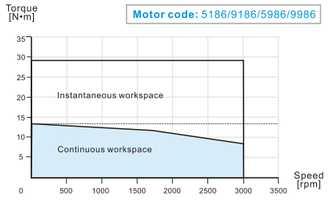
MS6H-180CS/CM15B2-44P4
MS6H-180TL15B2-44P4



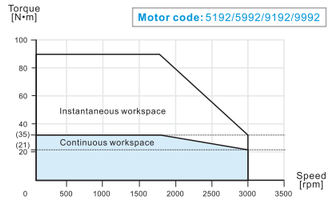
MS6H-130CS/CM15B(Z)2-40P8
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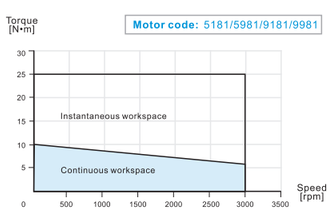
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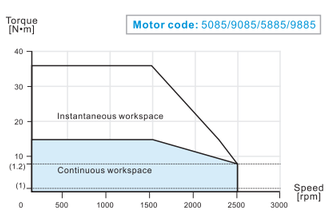
MS6H-180CS/CM15B(Z)2-45P5
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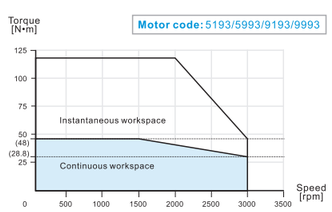
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MS6H-130TL15B(Z)2-41P3



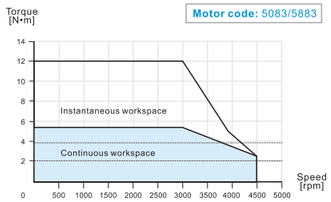
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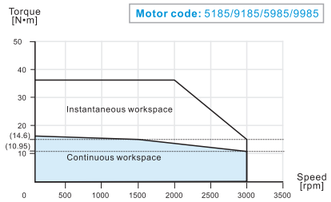
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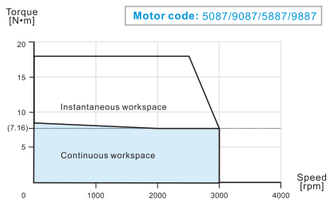
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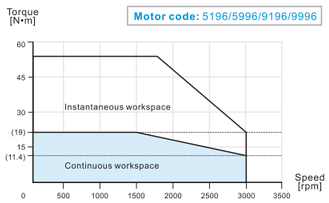
MS6H-130CS/CM15B(Z)2-42P3
MS6H-130TL15B(Z)2-42P3



MS6H-130CS/CM20B(Z)2-21P5
MS6H-130TL20B(Z)2-21P5

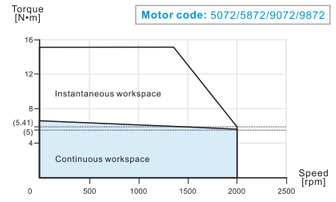


MS6H-180CS/CM15B(Z)2-43P0
MS6H-180TL15B(Z)2-43P0

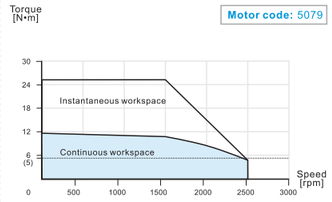


MS5 Series T/N Curve

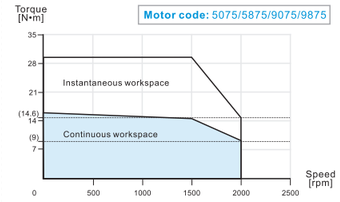
MS5G-130STE-CS/CM05415B/BZ-20P8-S01
MS5G-130STE-TL05415B/BZ-20P8-S01



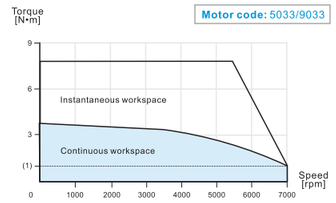
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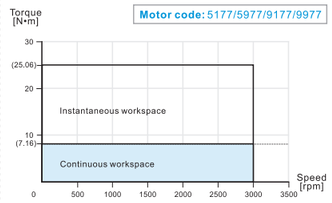
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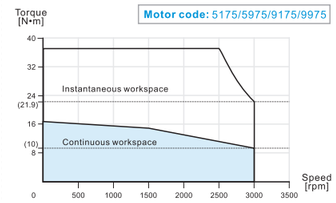
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MS5S-110STE-TL03230B/BZ-21P0-S01



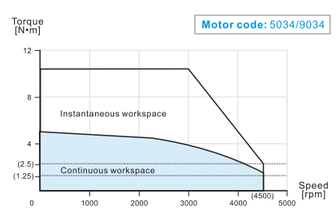
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MS5G-130STE-TL07220B/BZ-41P5-S01



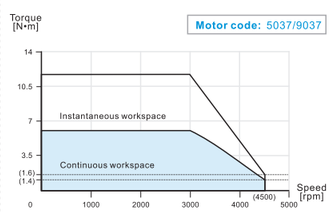
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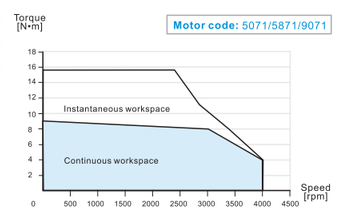
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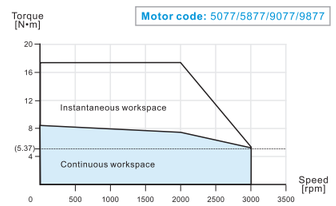
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MS5S-110STE-TL06030B/BZ-21P8



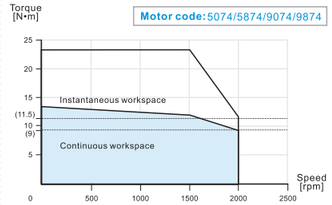
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MS5G-130STE-TL07730B(Z) -22P4-S01



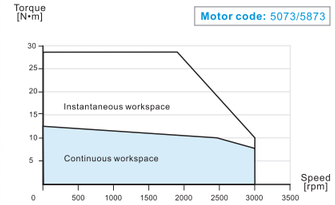
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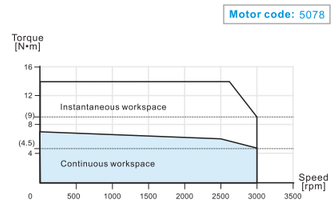
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MS5G-130STE-TL11515B/BZ-21P8-S01



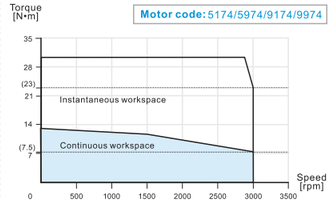
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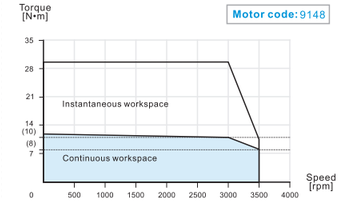
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MS5G-130STE-CS/CM11515B/BZ-41P8-S01
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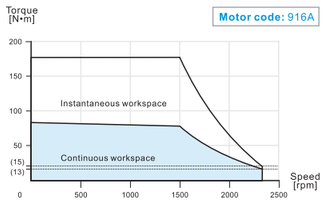


MS-130ST-TL10030B/BZ-43P0

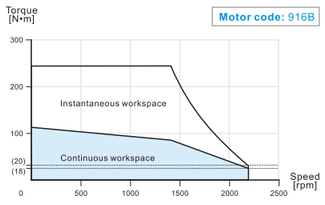


MS Series T/N Curve

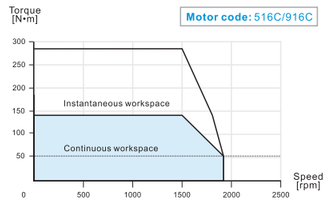
MS-220STE-TL70015B/BZ-411P0-XJ



MS-220STE-TL96015B/BZ-415P0-XJ



MS5G-220STE-CS/CM140015B-422P0-S01
MS5G-220STE-TL140015B-422P0-S01



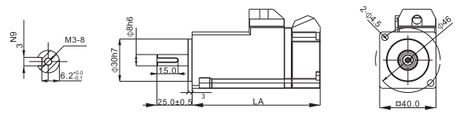
Motor Dimension

(Unit: mm)

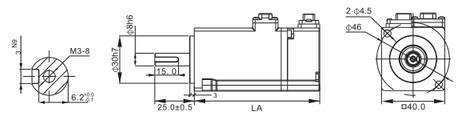
MS6 series

40 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-40C□30B□1-20P1	91	122.9	High inertia

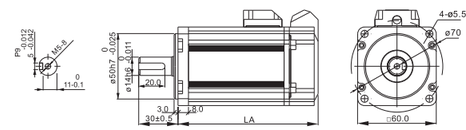


Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-40□□30B□3-20P1	79.4	112.9	High inertia

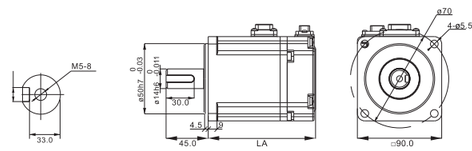


60 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-60C□30B□1-20P2	90	121	High inertia
MS6S-60C□30B□□-20P4	107	139	Low inertia
MS6H-60C□30B□□-20P4	119	151	High inertia

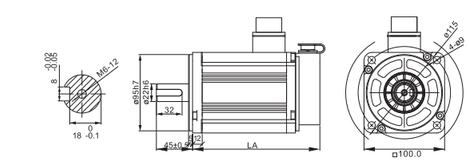


Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-60□□30B□3-20P2	76.4	99.15	High inertia
MS6S-60□□30B□3-20P4	98.4	121.15	Low inertia
MS6H-60□□30B□3-20P4	98.4	121.15	High inertia



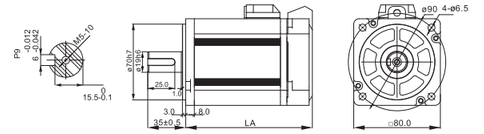
100 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS6S-100□30B2-21P5	158.5	202.4	Low inertia

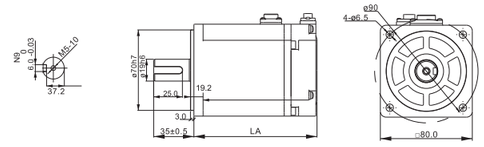


80 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS6S-80C□30B□□-20P7	117	150	Low inertia
MS6H-80C□30B□□-20P7	124	157	High inertia
MS6S-80C□20B□□-20P7	127	160	Low inertia
MS6H-80C□20B□□-20P7	149	182	High inertia

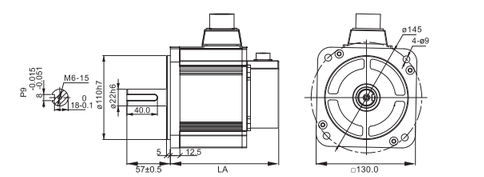


Motor model	LA±1		Inertia level
	Normal	With brake	
MS6S-80□□30B□3-20P7	107.1	132.1	Low inertia
MS6H-80□□30B□3-20P7	107.1	132.1	High inertia
MS6S-80□□30B□3-21P0	117.6	142.6	Low inertia
MS6H-80□□30B□3-21P0	134	159	High inertia



130 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-130C□15B□2-20P8	126	156	High inertia
MS6H-130TL15B□2-20P8	142	172	
MS6H-130C□15B□2-40P8	126	156	
MS6H-130TL15B□2-40P8	142	172	
MS6H-130C□15B□2-41P3	148	178	
MS6H-130TL15B□2-41P3	164	194	
MS6H-130C□20B□2-21P5	148	178	
MS6H-130TL20B□2-21P5	164	194	
MS6H-130C□15B□2-21P8	175	205	
MS6H-130TL15B□2-21P8	191	221	
MS6H-130C□15B□2-41P8	175	205	
MS6H-130TL15B□2-41P8	191	221	
MS6H-130C□15B□2-22P3	195.6	225.6	
MS6H-130TL15B□2-22P3	211.6	241.6	
MS6H-130C□15B□2-42P3	195.6	225.6	
MS6H-130TL15B□2-42P3	211.6	241.6	



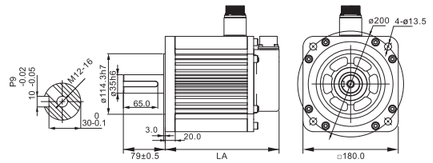
Motor Dimension

(Unit: mm)

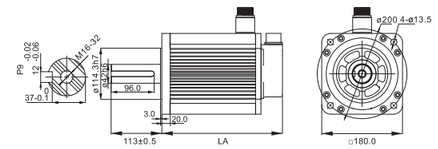
MS6 series

180 flange

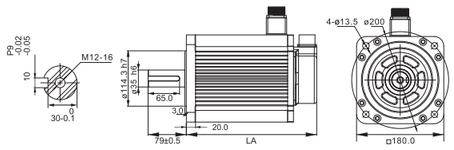
Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-180C□15B2-43P0	215	255	High inertia
MS6H-180TL15B2-43P0	215	255	
MS6H-180C□15B2-44P4	247	287	
MS6H-180TL15B2-44P4	247	287	



Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-180C□15B2-45P5	269	309	High inertia
MS6H-180TL15B2-45P5	269	309	
MS6H-180C□15B2-47P5	325	365	
MS6H-180TL15B2-47P5	325	365	



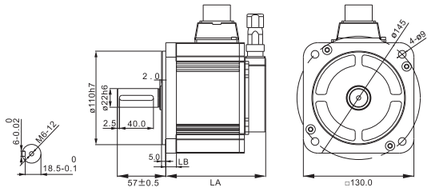
Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-180C□15E2-45P5	269	309	High inertia
MS6H-180C□15E2-47P5	325	365	



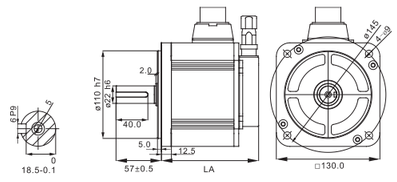
MS5/MS series

130 flange

Motor model	LA±1		LB	Inertia level
	Normal	With brake		
MS5G-130STE-C□05415B□-20P8-S01	117.5	147	12.5	Medium inertia
MS5G-130STE-C□07220B□-21P5-S01	132.5	162.5		
MS5G-130STE-C□07220B□-41P5-S01	132.5	162.5		
MS5G-130STE-C□11515B□-21P8-S01	159.5	189.5		
MS5G-130STE-C□11515B□-41P8-S01	159.5	189.5		
MS5G-130STE-C□14615B□-22P3-S01	180.5	210.5		
MS5G-130STE-C□14615B□-42P3-S01	180.5	210.5		
MS5G-130STE-C□07730B□-22P4-S01	132.5	162.5		
MS5G-130STE-C□10025B□-22P6-S01	159.5	189.5		
MS5G-130STE-TL05415B□-20P8-S01	134.5	164.5		
MS5G-130STE-TL07220B□-21P5-S01	149.5	179.5		
MS5G-130STE-TL07220B□-41P5-S01	149.5	179.5		
MS5G-130STE-TL11515B□-21P8-S01	176.5	206.5		
MS5G-130STE-TL11515B□-41P8-S01	176.5	206.5		
MS5G-130STE-TL14615B□-22P3-S01	197.5	227.5		
MS5G-130STE-TL14615B□-42P3-S01	197.5	227.5		
MS5G-130STE-TL07730B□-22P4-S01	149.5	179.5		



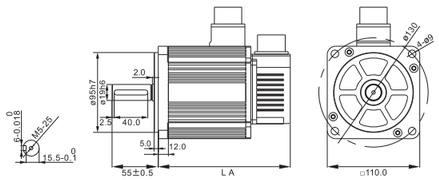
Motor model	LA±1		Inertia level
	Normal	With brake	
MS5G-130STE-C□06025B-21P5-S01	122	153.5	Medium inertia
MS5G-130STE-C□10015B-21P5-S01	145	176.5	



MS5/MS series

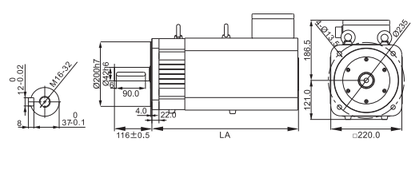
110 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS5S-110STE-C□03230B□-21P0-S01	157	205	Low inertia
MS5S-110STE-C□04830B□-21P5-S01	166	214	
MS5S-110STE-C□06030B□-21P8-S01	181	229	
MS5S-110STE-TL03230B□-21P0-S01	157	205	
MS5S-110STE-TL04830B□-21P5-S01	166	214	



220 flange

Motor model	LA±1		Inertia level
	Normal	With brake	
MS-220STE-TL70015B□-411P0-XJ	454	549	–
MS-220STE-TL96015B□-415P0-XJ	507	602	
MS5G-220STE-□□140015B-422P0-S01	535	–	Medium inertia



Model Selection List

DS5L1/5C1/5N1/5L/5C/5E/5K/5F match MS6-B3 series motor

80 flange and below motors

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Front outgoing cable		Rear outgoing cable		Transfer cable
					Encoder cable	Power cable	Encoder cable	Power cable	Only support front outgoing cable
0.1	High inertia	MS6H-40CS30B3-20P1	DS5L1/C1/N1-20P1-PTA DS5L/E/C/F/K-20P1-PTA	AC 220V	CP(T)-SE-M-Length	CM(T)-E03A-Length	CP(T)-SF-M-Length	CM(T)-F03A-Length	CPT-PE CMT-PE03 CMBT-PE03
		MS6H-40CM30B3-20P1			CP(T)-SE-BM-Length	CM(T)-E03A-Length	CP(T)-SF-BM-Length	CM(T)-F03A-Length	
		MS6H-40CS30BZ3-20P1			CP(T)-SE-M-Length	CMB(T)-E03A-Length	CP(T)-SF-M-Length	CMB(T)-F03A-Length	
		MS6H-40CM30BZ3-20P1			CP(T)-SE-BM-Length	CMB(T)-E03A-Length	CP(T)-SF-BM-Length	CMB(T)-F03A-Length	
0.2	High inertia	MS6H-60CS30B3-20P2	DS5L1/C1/N1-20P2-PTA DS5L/E/C/F/K-20P2-PTA		CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE CMT-PE05 CMBT-PE05
		MS6H-60CM30B3-20P2			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6H-60CS30BZ3-20P2			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6H-60CM30BZ3-20P2			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	
0.4	Low inertia	MS6S-60CS30B3-20P4	DS5L1/C1/N1-20P4-PTA DS5L/E/C/F/K-20P4-PTA		CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	
		MS6S-60CM30B3-20P4			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6S-60CS30BZ3-20P4			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6S-60CM30BZ3-20P4			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	
	High inertia	MS6H-60CS30B3-20P4			CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	
		MS6H-60CM30B3-20P4			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6H-60CS30BZ3-20P4			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6H-60CM30BZ3-20P4			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	
0.75	Low inertia	MS6S-80CS30B3-20P7	DS5L1/C1/N1-20P7-PTA DS5L/E/C/F/K-20P7-PTA		CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	
		MS6S-80CM30B3-20P7			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6S-80CS30BZ3-20P7			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6S-80CM30BZ3-20P7			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	
	High inertia	MS6H-80CS30B3-20P7			CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	
		MS6H-80CM30B3-20P7			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6H-80CS30BZ3-20P7			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6H-80CM30BZ3-20P7			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	
1	Low inertia	MS6S-80CS30B3-21P0			CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	
		MS6S-80CM30B3-21P0			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6S-80CS30BZ3-21P0			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6S-80CM30BZ3-21P0			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	
	High inertia	MS6H-80CS30B3-21P0			CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	
		MS6H-80CM30B3-21P0			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	
		MS6H-80CS30BZ3-21P0			CP(T)-SE-M-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	
		MS6H-80CM30BZ3-21P0			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	

* Note: 1. Please select one between front outgoing cable and rear outgoing cable.
2. The connection cable please select one between CMT and CMBT, non-brake model please select CMT, brake model please select CMBT.

General/small-sized servo system

Model Selection List

MS6 series

DS5L/5C/5E/5K/5F

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories package
0.1	High inertia	MS6H-40CS30B1-20P1	DS5L/E/C/F/K-20P1-PTA	AC 220V	CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-40CM30B1-20P1			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-40CS30BZ1-20P1			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-40CM30BZ1-20P1			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.2	High inertia	MS6H-60CS30B1-20P2	DS5L/E/C/F/K-20P2-PTA		CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-60CM30B1-20P2			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-60CS30BZ1-20P2			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-60CM30BZ1-20P2			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.4	Low inertia	MS6S-60CS30B1-20P4	DS5L/E/C/F/K-20P4-PTA		CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6S-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6S-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6S-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	High inertia	MS6H-60CS30B1-20P4			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.75	Low inertia	MS6S-80CS20B1-20P7	DS5L/E/C/F/K-20P7-PTA		CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6S-80CM20B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6S-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6S-80CM20BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	High inertia	MS6H-80CS20B1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-80CM20B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-80CM20BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	Low inertia	MS6S-80CS30B1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6S-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6S-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6S-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	High inertia	MS6H-80CS30B1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
		MS6H-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.85	High inertia	MS6H-130CS15B2-20P8	DS5L/E/C/K/F-21P0-PTA		CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-20P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-20P8			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-20P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-20P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-20P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CS15B2-40P8	DS5E/C/F-41P0-PTA	AC 380V	CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-40P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-40P8			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-40P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-40P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-40P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.3	High inertia	MS6H-130CS15B2-41P3	DS5C/E/K/F-41P5-PTA	AC 380V	CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-41P3			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-41P3			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-41P3			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-41P3			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-41P3			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.5	Low inertia	MS6S-100CS30B2-21P5	DS5E/L/C/F/K-21P5-PTA	AC 220V	CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6S-100CM30B2-21P5			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6S-100CS30BZ2-21P5			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6S-100CM30BZ2-21P5			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
	High inertia	MS6H-130CS20B2-21P5			CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM20B2-21P5			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS20BZ2-21P5			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM20BZ2-21P5			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL20B2-21P5			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL20BZ2-21P5			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.8	High inertia	MS6H-130CS15B2-21P8	DS5E/L/C/F/K-22P6-PTA		CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-21P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-21P8			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-21P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-21P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-21P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CS15B2-41P8	DS5E/C/K/F-41P5-PTA	AC 380V	CP(T)-SC-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-41P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-41P8			CP(T)-SC-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-41P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-41P8			CP(T)-SC-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-41P8			CP(T)-SC-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7

DS5L/5C/5E/5K/5F

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Cable accessories package
2.3	High inertia	MS6H-130CS15B2-22P3	DS5E/L/C/F/K-22P6-PTA	AC 220V	CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS6H-130CM15B2-22P3			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS6H-130CS15BZ2-22P3			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS6H-130CM15BZ2-22P3			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS6H-130TL15B2-22P3			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS6H-130TL15BZ2-22P3			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS6H-130CS15B2-42P3	DS5E/C/F/K-43P0-PTA	AC 380V	CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS6H-130CM15B2-42P3			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS6H-130CS15BZ2-42P3			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS6H-130CM15BZ2-42P3			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS6H-130TL15B2-42P3			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS6H-130TL15BZ2-42P3			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
3.0	High inertia	MS6H-180CS15B2-43P0	DS5E/C-43P0-PTA-H		CP(T)-SL-M-Length	CM(T)-XL25-Length	JAM-L15-XL4
		MS6H-180CM15B2-43P0			CP(T)-SL-B-Length	CM(T)-XL25-Length	JAM-L15-XL4
		MS6H-180CS15BZ2-43P0			CP(T)-SL-M-Length	CMB(T)-XL25-Length	JAM-L15-XL6
		MS6H-180CM15BZ2-43P0			CP(T)-SL-B-Length	CMB(T)-XL25-Length	JAM-L15-XL6
		MS6H-180TL15B2-43P0			CP(T)-SL-B-Length	CM(T)-XL25-Length	JAM-L15-XL4
		MS6H-180TL15BZ2-43P0			CP(T)-SL-B-Length	CMB(T)-XL25-Length	JAM-L15-XL6
4.4	High inertia	MS6H-180CS15B2-44P4	DS5E/C-45P5-PTA-H		CP(T)-SL-M-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CM15B2-44P4			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CS15BZ2-44P4			CP(T)-SL-M-Length	CMB(T)-XL60-Length	JAM-L15-XL6
		MS6H-180CM15BZ2-44P4			CP(T)-SL-B-Length	CMB(T)-XL60-Length	JAM-L15-XL6
		MS6H-180TL15B2-44P4			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180TL15BZ2-44P4			CP(T)-SL-B-Length	CMB(T)-XL60-Length	JAM-L15-XL6
5.5	High inertia	MS6H-180CS15B2-45P5	DS5E/C-45P5-PTA-H		CP(T)-SL-M-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CM15B2-45P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CS15BZ2-45P5			CP(T)-SL-M-Length	CMB(T)-XL60-Length	JAM-L15-XL6
		MS6H-180CM15BZ2-45P5			CP(T)-SL-B-Length	CMB(T)-XL60-Length	JAM-L15-XL6
		MS6H-180CS15E2-45P5			CP(T)-SL-M-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CM15E2-45P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180TL15BZ2-45P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180TL15BZ2-45P5			CP(T)-SL-B-Length	CMB(T)-XL60-Length	JAM-L15-XL6
7.5	High inertia	MS6H-180CS15B2-47P5	DS5E/C-47P5-PTA-H		CP(T)-SL-M-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CM15B2-47P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CS15BZ2-47P5			CP(T)-SL-M-Length	CMB(T)-XL60-Length	JAM-L15-XL6
		MS6H-180CM15BZ2-47P5			CP(T)-SL-B-Length	CMB(T)-XL60-Length	JAM-L15-XL6
		MS6H-180CS15E2-47P5			CP(T)-SL-M-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180CM15E2-47P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180TL15B2-47P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	JAM-L15-XL4
		MS6H-180TL15BZ2-47P5			CP(T)-SL-B-Length	CMB(T)-XL60-Length	JAM-L15-XL6

80 flange and below small aviation plug matching list

0.4	Low inertia	MS6S-60CS30B2-20P4	DS5L/E/C/F/K-20P4-PTA	AC 220V	CP(T)-SV-M-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6S-60CM30B2-20P4			CP(T)-SV-BM-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6S-60CS30BZ2-20P4			CP(T)-SV-M-Length	CMBT-V07-M-Length	JAM-V7-V6
		MS6S-60CM30BZ2-20P4			CP(T)-SV-BM-Length	CMBT-V07-M-Length	JAM-V7-V6
	High inertia	MS6H-60CS30B2-20P4			CP(T)-SV-M-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6H-60CM30B2-20P4			CP(T)-SV-BM-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6H-60CS30BZ2-20P4			CP(T)-SV-M-Length	CMBT-V07-M-Length	JAM-V7-V6
		MS6H-60CM30BZ2-20P4			CP(T)-SV-BM-Length	CMBT-V07-M-Length	JAM-V7-V6
0.75	Low inertia	MS6S-80CS20B2-20P7	DS5L/E/C/F/K-20P7-PTA		CP(T)-SV-M-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6S-80CM20B2-20P7			CP(T)-SV-BM-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6S-80CS20BZ2-20P7			CP(T)-SV-M-Length	CMBT-V07-M-Length	JAM-V7-V6
		MS6S-80CM20BZ2-20P7			CP(T)-SV-BM-Length	CMBT-V07-M-Length	JAM-V7-V6
	High inertia	MS6H-80CS20B2-20P7			CP(T)-SV-M-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6H-80CM20B2-20P7			CP(T)-SV-BM-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6H-80CS20BZ2-20P7			CP(T)-SV-M-Length	CMBT-V07-M-Length	JAM-V7-V6
		MS6H-80CM20BZ2-20P7			CP(T)-SV-BM-Length	CMBT-V07-M-Length	JAM-V7-V6
	Low inertia	MS6S-80CS30B2-20P7			CP(T)-SV-M-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6S-80CM30B2-20P7			CP(T)-SV-BM-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6S-80CS30BZ2-20P7			CP(T)-SV-M-Length	CMBT-V07-M-Length	JAM-V7-V6
		MS6S-80CM30BZ2-20P7			CP(T)-SV-BM-Length	CMBT-V07-M-Length	JAM-V7-V6
	High inertia	MS6H-80CS30B2-20P7			CP(T)-SV-M-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6H-80CM30B2-20P7			CP(T)-SV-BM-Length	CMT-V07-M-Length	JAM-V7-V4
		MS6H-80CS30BZ2-20P7			CP(T)-SV-M-Length	CMBT-V07-M-Length	JAM-V7-V6
		MS6H-80CM30BZ2-20P7			CP(T)-SV-BM-Length	CMBT-V07-M-Length	JAM-V7-V6

Model Selection List

DS5L1/5C1/5N1

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories package
0.1	High inertia	MS6H-40CS30B1-20P1	DS5L1/C1/N1-20P1-PTA	AC 220V	CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-40CM30B1-20P1			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-40CS30BZ1-20P1			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-40CM30BZ1-20P1			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.2	High inertia	MS6H-60CS30B1-20P2	DS5L1/C1/N1-20P2-PTA		CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-60CM30B1-20P2			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-60CS30BZ1-20P2			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-60CM30BZ1-20P2			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.4	High inertia	MS6S-60CS30B1-20P4	DS5L1/C1/N1-20P4-PTA		CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6S-60CM30B1-20P4			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6S-60CS30BZ1-20P4			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6S-60CM30BZ1-20P4			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	High inertia	MS6H-60CS30B1-20P4			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-60CM30B1-20P4			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-60CS30BZ1-20P4			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-60CM30BZ1-20P4			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
0.75	Low inertia	MS6S-80CS20B1-20P7	DS5L1/C1/N1-20P7-PTA		CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6S-80CM20B1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6S-80CS20BZ1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6S-80CM20BZ1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	High inertia	MS6H-80CS20B1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-80CM20B1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-80CS20BZ1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-80CM20BZ1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	Low inertia	MS6S-80CS30B1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6S-80CM30B1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6S-80CS30BZ1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6S-80CM30BZ1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
	High inertia	MS6H-80CS30B1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-80CM30B1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
		MS6H-80CS30BZ1-20P7			CP(T)-SP-M -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
		MS6H-80CM30BZ1-20P7			CP(T)-SP-BM -Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-P2
80 flange and below small aviation plug matching list								
0.4	Low inertia	MS6S-60CS30B2-20P4	DS5L1/C1/N1-20P4-PTA	AC 220V	CP(T)-SV-M -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6S-60CM30B2-20P4			CP(T)-SV-BM -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6S-60CS30BZ2-20P4			CP(T)-SV-M -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6S-60CM30BZ2-20P4			CP(T)-SV-BM -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
	High inertia	MS6H-60CS30B2-20P4			CP(T)-SV-M -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6H-60CM30B2-20P4			CP(T)-SV-BM -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6H-60CS30BZ2-20P4			CP(T)-SV-M -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6H-60CM30BZ2-20P4			CP(T)-SV-BM -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
0.75	Low inertia	MS6S-80CS20B2-20P7	DS5L1/C1/N1-20P7-PTA		CP(T)-SV-M -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6S-80CM20B2-20P7			CP(T)-SV-BM -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6S-80CS20BZ2-20P7			CP(T)-SV-M -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6S-80CM20BZ2-20P7			CP(T)-SV-BM -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
	High inertia	MS6H-80CS20B2-20P7			CP(T)-SV-M -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6H-80CM20B2-20P7			CP(T)-SV-BM -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6H-80CS20BZ2-20P7			CP(T)-SV-M -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6H-80CM20BZ2-20P7			CP(T)-SV-BM -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
	Low inertia	MS6S-80CS30B2-20P7			CP(T)-SV-M -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6S-80CM30B2-20P7			CP(T)-SV-BM -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6S-80CS30BZ2-20P7			CP(T)-SV-M -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6S-80CM30BZ2-20P7			CP(T)-SV-BM -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
	High inertia	MS6H-80CS30B2-20P7			CP(T)-SV-M -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6H-80CM30B2-20P7			CP(T)-SV-BM -Length	CMT-V07A-M-Length	/	JAM-V7-V4
		MS6H-80CS30BZ2-20P7			CP(T)-SV-M -Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6H-80CM30BZ2-20P7			CP(T)-SV-BM -Length	CMBT-V07A-M-Length	/	JAM-V7-V6

MS5/MS Series

DS5L/5C/5E/5K/5F

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Cable accessories package
0.85	Medium inertia	MS5G-130STE-CS05415B-20P8-S01	DS5E/L/C/F/K-20P7-PTA	AC 220V	CP(T)-SC-M-Length	CM(T)-L15A-Length	JAM-C10-L4
		MS5G-130STE-CM05415B-20P8-S01			CP(T)-SC-B-Length	CM(T)-L15A-Length	JAM-C10-L4
		MS5G-130STE-CS05415BZ-20P8-S01			CP(T)-SC-M-Length	CMB(T)-L15A-Length	JAM-C10-L7
		MS5G-130STE-CM05415BZ-20P8-S01			CP(T)-SC-B-Length	CMB(T)-L15A-Length	JAM-C10-L7
		MS5G-130STE-TL05415B-20P8-S01			CP(T)-SC-B-Length	CM(T)-L15A-Length	JAM-C10-L4
		MS5G-130STE-TL05415BZ-20P8-S01			CP(T)-SC-B-Length	CMB(T)-L15A-Length	JAM-C10-L7
1.0	Low inertia	MS5S-110STE-CS03230B□-21P0-S01	DS5E/L/C/F/K-21P5-PTA		CP(T)-SL-M-Length	CM(T)-L15-Length	JAM-L15-L4
		MS5S-110STE-CM03230B□-21P0-S01			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
		MS5S-110STE-TL03230B□-21P0			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
1.5	Low inertia	MS5S-110STE-CS04830B□-21P5			CP(T)-SL-M-Length	CM(T)-L15-Length	JAM-L15-L4
		MS5S-110STE-CM04830B□-21P5			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
		MS5S-110STE-TL04830B□-21P5			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
	Medium inertia	MS5G-130STE-CS06025B-21P5-S01			CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM06025B-21P5-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS06025BZ-21P5-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM06025BZ-21P5-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CS10015B-21P5-S01			CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM10015B-21P5-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS10015BZ-21P5-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM10015BZ-21P5-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CS07220B-21P5-S01			CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM07220B-21P5-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS07220BZ-21P5-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM07220BZ-21P5-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL07220B-21P5-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-TL07220BZ-21P5-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
1.8	Medium inertia	MS5G-130STE-CS11515B-21P8-S01		AC 220V	CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM11515B-21P8-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS11515BZ-21P8-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM11515BZ-21P8-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL11515B-21P8-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-TL11515BZ-21P8-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
	Low inertia	MS5S-110STE-TL06030B□-21P8			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
		MS5S-110STE-CS06030B□-21P8			CP(T)-SL-M-Length	CM(T)-L15-Length	JAM-L15-L4
		MS5S-110STE-CM06030B□-21P8			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
2.3	Medium inertia	MS5G-130STE-CS14615B-22P3-S01	DS5E/L/C/F/K-22P3-PTA		CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM14615B-22P3-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS14615BZ-22P3-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM14615BZ-22P3-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL14615B-22P3-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-TL14615BZ-22P3-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
2.4	Medium inertia	MS5G-130STE-CS07730B-22P4-S01			CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM07730B-22P4-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS07730BZ-22P4-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM07730BZ-22P4-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL07730B-22P4-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-TL07730BZ-22P4-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
2.6	Medium inertia	MS5G-130STE-CS10025B-22P6-S01			CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM10025B-22P6-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS10025BZ-22P6-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM10025BZ-22P6-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL10025-22P6-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
1.5	Medium inertia	MS5G-130STE-CS07220B-41P5-S01	DS5E/C/K-41P5-PTA	AC 380V	CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM07220B-41P5-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS07220BZ-41P5-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM07220BZ-41P5-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL07220B-41P5-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-TL07220BZ-41P5-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
1.8	Medium inertia	MS5G-130STE-CS11515B-41P8-S01			CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CM11515B-41P8-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-CS1515BZ-41P8-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-CM11515BZ-41P8-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130STE-TL11515B-41P8-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130STE-TL11515BZ-41P8-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7

Model Selection List

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Cable accessories package
2.3	Medium inertia	MS5G-130ST-CS14615B-42P3-S01	DS5E/C/F/K-43P0-PTA	AC 380V	CP(T)-SC-M-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130ST-CM14615B-42P3-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130ST-CS14615BZ-42P3-S01			CP(T)-SC-M-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130ST-CM14615BZ-42P3-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
		MS5G-130ST-TL14615B-42P3-S01			CP(T)-SC-B-Length	CM(T)-L15-Length	JAM-C10-L4
		MS5G-130ST-TL14615BZ-42P3-S01			CP(T)-SC-B-Length	CMB(T)-L15-Length	JAM-C10-L7
3	/	MS-130ST-TL10030B(Z)-43P0			CP(T)-SL-B-Length	CM(T)-L15-Length	JAM-L15-L4
11	/	MS-220STE-TL70015B□-411P0-XJ	DS5E/C/C1/K1-411P0-PTA		CPT-ZDL-B-Length	CM(T)-D60-Length	/
15	/	MS-220STE-TL96015B□-415P0-XJ	DS5E/C/C1/K1-415P0-PTA		CPT-ZDL-B-Length	CM(T)-D60-Length	
22	Medium inertia	MS5G-220STE-CS/CM140015B-422P0-S01	DS5E-422P0-PTA		CPT-ZDL-B-Length	CM-D100-Length	
		MS5G-220STE-TL140015B-422P0-S01			CPT-ZDL-B-Length	CM-D100-Length	

DS5L1/5C1/5N1

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable
0.85	High inertia	MS5G-130STE-CS05415B-20P8-S01	DS5L1/C1/N1-20P7-PTA	AC 220V	CP(T)-SC-M-Length	CM(T)-L15B-Length
		MS5G-130STE-CM05415B-20P8-S01			CP(T)-SC-B-Length	CM(T)-L15B-Length
		MS5G-130STE-CS05415BZ-20P8-S01			CP(T)-SC-M-Length	CMB(T)-L15B-Length
		MS5G-130STE-CM05415BZ-20P8-S01			CP(T)-SC-B-Length	CMB(T)-L15B-Length
		MS5G-130STE-TL05415B-20P8-S01			CP(T)-SC-B-Length	CM(T)-L15B-Length
		MS5G-130STE-TL05415BZ-20P8-S01			CP(T)-SC-B-Length	CMB(T)-L15B-Length

Product Accessories

Quick connector

- Provide convenient wiring terminals
- Used by 100W ~ 15kW drivers
- Suitable for DS5F, DS5K series 44 bits terminal: DTHDB44M-BK10



X-NET module

- Bus module: JA-NE-L
- Twisted pair shielded cable for bus module: JC-EA-Length



Battery box

- Battery box model: CP-B-BATT
- The battery cannot be charged



JC-CB bus wiring cable

- Special communication cable for EhterCAT motion bus
- Special communication cable for EhterCAT motion bus



B3 AMP convertion cable

- Power cable
- Encoder cable



DB9 side cable

- Cable specification is 1.5m
- Connect to the PC to control the servo



Power cable

- Cable specification: 2/3/5/8/10/12/16/20/25/30m
- The length can be customized
- Cable connectors can be purchased optionally (excluding cables)



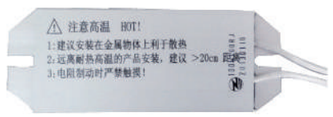
Encoder cable

- Cable specification: 2/3/5/8/10/12/16/20/25/30m
- The length can be customized
- Cable connectors can be purchased optionally (excluding cables)



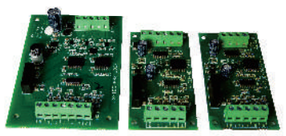
Regenerative resistor

- Release bus capacitor regeneration voltage
- Refer to the selection table of regenerative resistance in the user manual for specific selection



Differential module

- Realize the conversion of collector signal and differential signal
- Differential to differential isolation circuit board: JS-ID-AB
- Differential to collector circuit board: JS-IDC-AB(AB phase), JS-IDC-ABZ(ABZ phase)



Two in one servo system

More accurate positioning / Faster response
Support gantry synchronization

DM5F series

Flat appearance structure design, convenient wiring and saving installation space

Support gantry synchronization and realize double-axis accurate synchronization

Support Modbus RTU, EtherCAT and CANopen communication protocols

More accurate positioning and faster response

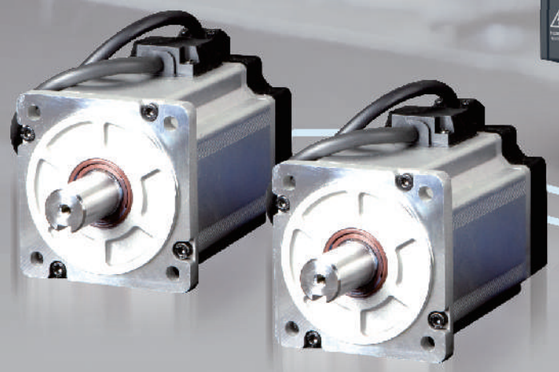
Support position, speed, torque mode, multi-mode seamless switching

Power: 0.1kW~1.0kW

Interface: pulse, RS232, RS485

Control mode: position control, speed control, torque control





*Note: Refer to the subsequent list for the models that have been put into operation. Some models have not been put into operation. Please look forward to it.

Naming Rule

DM ① 5□ ② – 2□ ③ P□ ④ – □ ⑤ A ⑥

①

Display	Product name
DM	Multi-axis servo driver

②

Display	Product series
5F	Full function type
5C	EtherCAT type

③

Display	Rated input voltage
1	DC24V~80V
2	AC220V
3	AC380V

④

Display	Power
0P4	400W
0P7	750W

⑤

Display	Axis quantity
2	2 axes
3	3 axes

⑥

Display	Design number
A	Design no. A

*Note: 750W driver can match the motor of 400W and 750W.

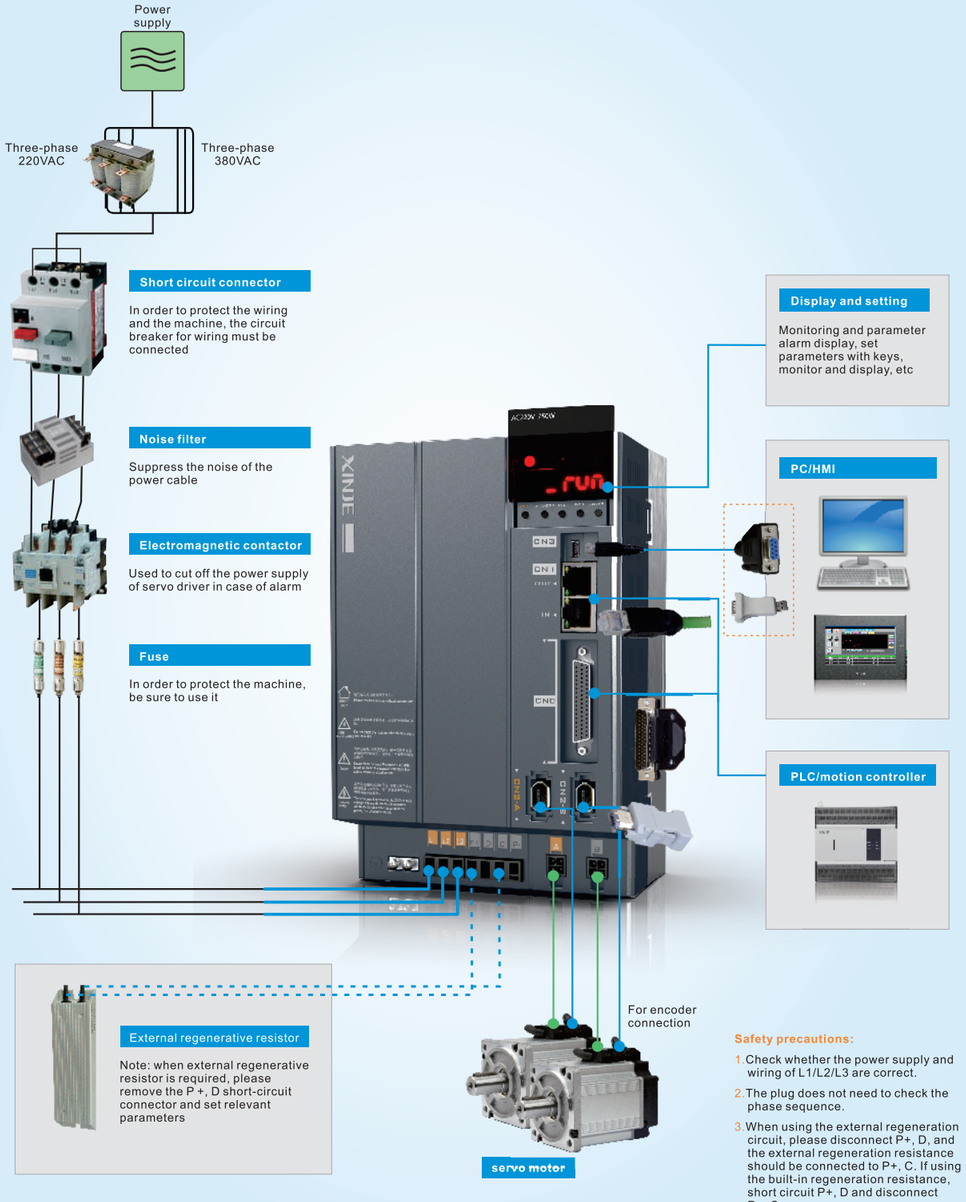
Driver Model List

Series	Driver name	Rated power (W)	DI quantity	DO quantity
DM5 series AC220V	DM5F-20P4-2A	400	6	6
	DM5F-20P7-2A	750	6	6

Driver Specification

Item			DM5F series general model
Basic specification		Power range	0.1kW~1kW
		Input power supply	Single phase/three-phase 200~240V, 50~60Hz
		Encoder feedback	17-bit/23-bit communication encoder
		Control mode	Three-phase full wave rectifier IPM, PWM control, sine wave current drive mode
	Using environment	Ambient temperature	Operation: -10ºC~40ºC (no condensation)/storage: -20ºC~60ºC (no condensation)
		Ambient humidity	Operation/storage: below 90% (no condensation)
		Vibration and impact resistance	4.9m/s² / 19.6m/s²
		Installation place	Places without dust, dry, vibration and corrosive substances
		Installation mode	Vertical or horizontal installation
	Function	Protection function	Overvoltage, undervoltage, overheating, overcurrent, overload, overspeed, analog input abnormality, excessive position deviation, output short circuit, encoder abnormality, regeneration abnormality protection, overtravel protection, oscillation protection, phase loss protection, etc
		Dynamic brake	No
		Communication	RS232: standard ModbusRTU protocol RS485: standard ModbusRTU protocol
		Brake resistor	Built-in brake resistor, can connect external brake resistor
		Display and operate	5 digits LED indicator light, power indicator, 2 operation indicators and 5 keys
	Position output	Output state	ABZ differential feedback output
		Frequency division funnction	Yes
		Collector Z phase output	Yes
IO signal		Digital input	6 channels digital input
			Servo enable, alarm clear, no forward rotation, no reverse rotation, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, position deviation clear, internal position step change signal
		Digital output	6 channels digital output
			Positioning completed, servo ready, alarm output, speed arrival, rotation detection, torque limit output, same speed detection, brake release output and frequency division output
		Pulse direction control	Support P+D, AB phase, CW/CCW
Position control mode		Max pulse frequency	Collector open: 200kpps, differential input 500kpps
		Pulse command mode	3.3~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal
		Control mode	External pulse, internal position
		Feedforward compensation	0~100% (set the resolution to 1%)
		Positioning completion width	0~65535 command unit (set the resolution to 1 command unit)
		Electronic gear ratio	1/10000≤B/A≤10000
Speed control mode		Control mode	Internal 3-segment speed, external speed mode
		Command smooth mode	Low pass filter, smoothing filter
		Analog input	No
		Torque limit	Internal parameter
		Speed change rate	When the external load rated change is 0~100% of load: below ±0.01% (at rated speed)
			Rated voltage ±10%: ±0.01% (at rated speed)
			Ambient temperature 20±25ºC: below ±0.01% (at rated speed)
Torque control mode		Control mode	Internal torque
		Analog input	No
		Speed limit	Internal parameter

Peripheral Wiring Diagram



Terminal definition



① CN3 port (RS232)

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

② Main circuit terminals

Terminal	Function	Explanation
L1/L2/L3	Main circuit power supply input terminal	Single/three phase AC 200~240V, 50/60Hz
P+/D/C	Use built-in regenerative resistor	Short circuit P+ and D, disconnect P+ and C
	Use external regenerative resistor	Connect the regeneration resistance to P+ and C, remove the short connectors of P+ and D, and set P0-25=power value, P0-26=resistor value
P+/P-	Bus terminal	The real-time voltage of the bus can be measured, please pay attention

③ CN0 port

Pin	Name	Explanation	Pin	Name	Explanation
1	P1-	Axis 1 pulse -	23	SI5	Input terminal
2	P1+5	Axis 1 pulse +5V	24	SI6	High speed input terminal
3	P1+24	Axis 1 pulse +24V	25	+24V	Common terminal of input
4	D1-	Axis 1 direction -	26	SO1-2	Axis 2 output terminal (500mA)
5	D1+5	Axis 1 direction +5V	27	SO2-2	Axis 2 output terminal (50mA)
6	D1+24	Axis 1 direction +24V	28	SO3-2	Axis 2 output terminal (50mA)
7	SI1	Input terminal	29	COM	Common terminal of output
8	SI2	Input terminal	30	NC	Vacant terminal
9	SI3	High speed input terminal	31	OA1+	Axis 1 encoder frequency division output OA+
10	+24V	Common terminal of input	32	OA1-	Axis 1 encoder frequency division output OA-
11	SO1-1	Axis 1 output terminal (500mA)	33	OB1+	Axis 1 encoder frequency division output OB+
12	SO2-1	Axis 1 output terminal (50mA)	34	OB1-	Axis 1 encoder frequency division output OB-
13	SO3-1	Axis 1 output terminal (50mA)	35	OZ1+	Axis 1 encoder frequency division output OZ1+
14	COM	Common terminal of output	36	OZ1-	Axis 1 encoder frequency division output OZ1-
15	NC	Vacant terminal	37	GND	Frequency division output ground
16	P2-	Axis 2 pulse –	38	OA2+	Axis 2 encoder frequency division output OA+
17	P2+5	Axis 2 pulse +5V	39	OA2-	Axis 2 encoder frequency division output OA-
18	P2+24	Axis 2 pulse +24V	40	OB2+	Axis 2 encoder frequency division output OB+
19	D2-	Axis 2 direction -	41	OB2-	Axis 2 encoder frequency division output OB-
20	D2+5	Axis 2 direction +5V	42	OZ2+	Axis 2 encoder frequency division output OZ+
21	D2+24	Axis 2 direction +24V	43	OZ2-	Axis 2 encoder frequency division output OZ-
22	SI4	Input terminal	44	GND	Frequency division output ground

④ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

⑤ CN1 port (from down to up)

Pin	Name	Pin	Name
1	/	7	/
2	/	8	/
3	/		
4	485-A		
5	485-B		
6	485-GND		

⑥ Motor power terminals

Pin	Name
1	V
2	U
3	W
4	PE

Driver Motor Matching List

DM5F matched MS6 motor

Power (kW)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories package
0.2	High inertia	MS6H-60CS30B1-20P2	DM5F-20P4-2A	AC 220V	CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-60CM30B1-20P2			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-60CS30BZ1-20P2			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-60CM30BZ1-20P2			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
0.4	Low inertia	MS6S-60CS30B1-20P4	DM5F-20P4/20P7-2A		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6S-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
	High inertia	MS6H-60CS30B1-20P4			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
0.75	Low inertia	MS6S-80CS20B1-20P7	DM5F-20P7-2A		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-80CM20B1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6S-80CM20BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
	High inertia	MS6H-80CS20B1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-80CM20B1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-80CM20BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
	Low inertia	MS6S-80CS30B1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6S-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
	High inertia	MS6H-80CS30B1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6H-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2

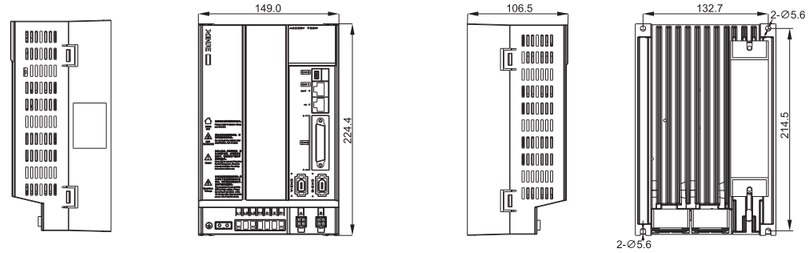
80 flange and below small aviation plug model matching list

0.2	High inertia	MS6H-60CS30B1-20P2	DM5F-20P4-2A	AC 220V	CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-60CM30B1-20P2			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-60CS30BZ1-20P2			/	/	/	JAM-V7-V6-P4
		MS6H-60CM30BZ1-20P2			/	/	/	JAM-V7-V6-P4
0.4	Low inertia	MS6S-60CS30B2-20P4	DM5F-20P4/20P7-2A		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-60CM30B2-20P4			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-60CS30BZ2-20P4			/	/	/	JAM-V7-V6-P4
		MS6S-60CM30BZ2-20P4			/	/	/	JAM-V7-V6-P4
	High inertia	MS6H-60CS30B2-20P4			CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-60CM30B2-20P4			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-60CS30BZ2-20P4			/	/	/	JAM-V7-V6-P4
		MS6H-60CM30BZ2-20P4			/	/	/	JAM-V7-V6-P4
0.75	Low inertia	MS6S-80CS20B2-20P7	DM5F-20P7-2A		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-80CM20B2-20P7			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-80CS20BZ2-20P7			/	/	/	JAM-V7-V6-P4
		MS6S-80CM20BZ2-20P7			/	/	/	JAM-V7-V6-P4
	High inertia	MS6H-80CS20B2-20P7			CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-80CM20B2-20P7			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-80CS20BZ2-20P7			/	/	/	JAM-V7-V6-P4
		MS6H-80CM20BZ2-20P7			/	/	/	JAM-V7-V6-P4
	Low inertia	MS6S-80CS30B2-20P7			CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-80CM30B2-20P7			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-80CS30BZ2-20P7			/	/	/	JAM-V7-V6-P4
		MS6S-80CM30BZ2-20P7			/	/	/	JAM-V7-V6-P4
	High inertia	MS6H-80CS30B2-20P7			CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-80CM30B2-20P7			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-80CS30BZ2-20P7			/	/	/	JAM-V7-V6-P4
		MS6H-80CM30BZ2-20P7			/	/	/	JAM-V7-V6-P4

Installation Dimension

(Unit: mm)

DM5F-20P4-2A、DM5F-20P7-2A



Low voltage servo system

Light and compact / Easy to install and debug

Xinje's low-voltage servo system, which can be used for AGV/RGV trolley, adopts low-voltage servo motor for its motion axis, which can provide different motor power options of 0.1kW~1.5kW according to the load size, so as to realize rapid response, high stability and high-precision control in the whole motion control process. Through the cooperative movement between motors, it can realize accurate walking and reversing, and provide a solid and reliable solution for the realization of intelligent logistics.



*Note: Refer to the model list for the models that have been put into operation. Some models have not been put into operation. Please look forward to it.

DF3E Driver

Interface: pulse, RS232, RJ45
Input output: 4 inputs 3 outputs (non-brake model), 3 inputs 3 outputs (brake model)
Control mode: position control, speed control, torque control, bus control



1 Appearance innovation

The new appearance design, rich interfaces, small volume and light body meet the equipment installation requirements of AGV industry

2 Powerful function

Support a variety of control modes, with 24V brake output, alarm synchronous braking and other functions to meet customer requirements

3 Diverse communication

Support EtherCAT, CANopen, MODBUS and other communication protocols to meet different communication function requirements of users

4 Convenient debugging

The gain adjustment only needs three steps, which greatly reduces the equipment debugging time and greatly improves the on-site debugging efficiency

MF3S Low Inertia Motor

Power: 0.4~0.75kW
Using occasion: light load high speed positioning



1 Overload capacity

The whole series is equipped with 3 times overload as standard, and the start and stop in heavy load situations are faster and more stable

2 Accuracy assurance

The motor is equipped with self-developed 17-bit magnetic encoder, and the positioning accuracy is greatly improved

3 Excellent performance

The insulation level reaches the highest level F in the industry, which fully ensures the stability of field application

4 Protective ability

The protection grade reaches IP66, which can easily deal with the occasions with harsh environment such as oil, water vapor and dust, so as to ensure the reliability of the motor

Naming Rule

Low voltage servo driver

DF 3 E – 04 10 Z
① ② ③ ④ ⑤ ⑥

① Name

Display	Product name
DF	Low voltage servo driver

② Series no.

Display	Specification
3	Series no.

③ Control function

Display	Function
E	Pulse, RS485, CANopen
C	EtherCAT type

④ Driver power

Display	Rated output power
01	100W
02	200W
04	400W
07	750W
15	1.5kW

⑤ Rated current

Display	Rated output current
03	3A
05	5A
10	10A
20	20A
40	40A

⑥ Driver function

Display	Driver function
Z	Servo can drive the brake directly
Vacant	Cannot drive the brake directly

Low voltage servo motor

MF3S - 60 C S 30 B Z □ - 5 04
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Type

Display	Inertia
MF3S	Low inertia
MF3G	Medium inertia
MF3H	High inertia

② Base no.

Display	Base no.
40	40 flange
60	60 flange
80	80 flange
130	130 flange

③ Encoder type

Display	Type
C	Magnetic encoder
T	Photoelectric encoder

④ Encoder precision

Display	Specification
S	Single turn 17-bit
M	Multi-turn 17-bit
L	Multi-turn 23-bit

⑤ Rated speed

Display	Rated speed
15	1500rpm
20	2000rpm
30	3000rpm

⑥ Motor shaft specification

Display	Shaft key, oil seal
A	With key, no oil seal
B	With key, with oil seal
C	No key, no oil seal
D	No key, with oil seal

⑦ Power loss brake

Display	Specification
Z	With brake
Vacant	Without brake

⑧ Motor connector type

Display	Plug type
1	AMP plug
2	Aviation plug

⑨ Voltage level

Display	Plug type
2	24V
5	48V
6	60V

⑩ Rated power

Display	Power
01	100W
02	200W
04	400W
07	750W
15	1.5kW

Low voltage servo cable

CP – SP – M – Length
① ② ③ ④

① Cable type

Symbol	Cable specification
CP	Normal encoder cable
CPT	High flexibility encoder cable

② Plug type

Symbol	Plug specification
SP	9-core AMP plug
SV	7-core waterproof small aviation plug
SC	10-core small aviation plug

③ Battery box type

Symbol	Battery box type
M	Without battery box
BM	With battery box

④ Cable length

Symbol	Length (m)
02	2
03	3
05	5

Naming Rule

Low voltage servo cable

CM – P 15 – Length
① ② ③ ④

① Cable type

Symbol	Cable specification
CM	Normal power cable
CMT	High flexibility power cable
CMB	Normal brake power cable
CMBT	High flexibility brake power cable

② Plug type

Symbol	Plug specification
P	4-core AMP plug
V	4-core waterproof small aviation plug
XL	6-core aviation plug

③ Cable diameter type

Symbol	Cable diameter (mm^2)
07	0.75
15	1.5
20	2
60	6

④ Cable length

Symbol	Length (m)
02	2
03	3
05	5

Model List

Low voltage servo driver

Series	Driver name	Power (W)	Max continuous output current (A)	Peak current (A)	Control mode
DF3 series DC24~70V	DF3E-0103	100	3	10	RS485, pulse, CANopen
	DF3E-0205	200	5	15	RS485, pulse, CANopen
	DF3E-0410	400	10	30	RS485, pulse, CANopen
	DF3E-0720	750	20	60	RS485, pulse, CANopen
	DF3E-1540	1500	40	120	RS485, pulse, CANopen

Low voltage servo motor

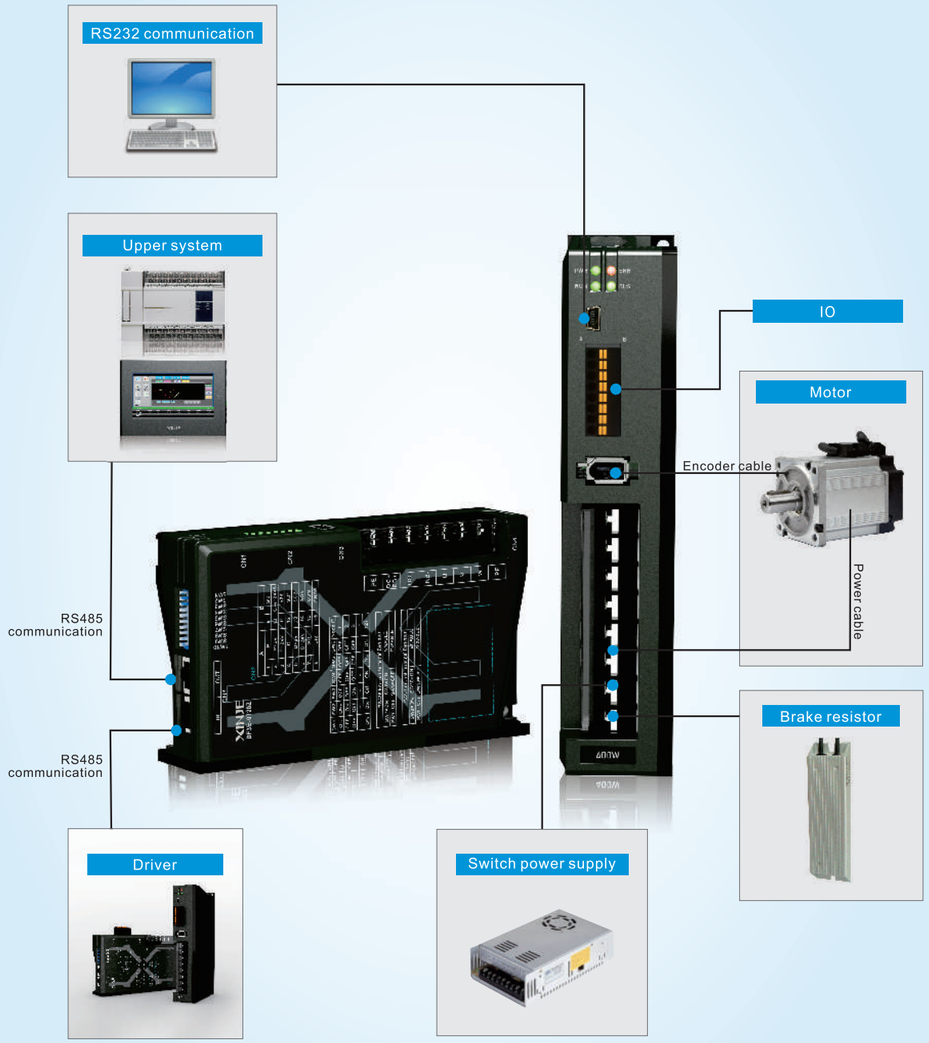
Series	Power supply voltage (V)	Model	Power (W)	Rated torque (N.m)	Rated speed (rpm)	Rated current (A)	Encoder type
MF3 series	DC24	MF3S-40CS/CM30B(Z)1-201	100	0.32	3000	3	Magnetic encoder 17-bit
	DC48	MF3S-60CS/CM30B(Z)1-502	200	0.64	3000	5	
		MF3S-60CS/CM30B(Z)1-504	400	1.27	3000	10	
		MF3S-80CS/CM30B(Z)2-507	750	2.39	3000	20	
		MF3S-130CS/CM30B(Z)2-515	1500	4.8	3000	40	

Low Voltage Servo Matching List

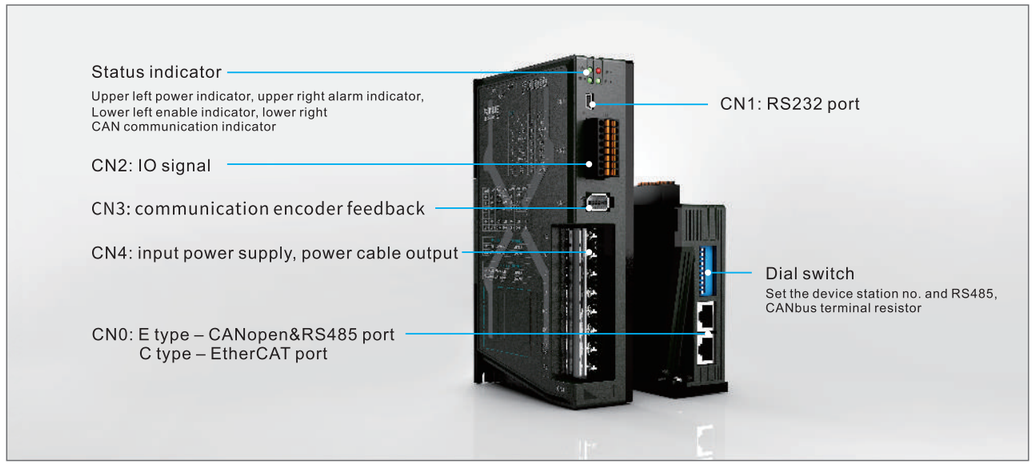
Series	Power (W)	Servo motor	Matched driver	Encoder cable	Power cable
Low inertia DC24V	100	MF3S-40CS30B(Z)1-201	DF3E-0103	CP(T)-SP-M-Length	CM(T)-P07-Length
		MF3S-40CM30B(Z)1-201		CP(T)-SP-BM-Length	
Low inertia DC48V	200	MF3S-60CS30B(Z)1-502	DF3E-0205	CP(T)-SP-M-Length	
		MF3S-60CM30B(Z)1-502		CP(T)-SP-BM-Length	
	400	MF3S-60CS30B(Z)1-504	DF3E-0410	CP(T)-SP-M-Length	CM(T)-P15-Length
		MF3S-60CM30B(Z)1-504		CP(T)-SP-BM-Length	
	750	MF3S-80CS30B(Z)2-507	DF3E-0720	CP(T)-SV-M-Length	CM(T)-V20-Length
		MF3S-80CM30B(Z)2-507		CP(T)-SV-BM-Length	
	1500	MF3S-130CS30B2-515	DF3E-1540	CP(T)-SC-M-Length	CM(T)-XL60-Length
		MF3S-130CS30BZ2-515		CP(T)-SC-M-Length	CMB(T)-XL60-Length
		MF3S-130CM30B2-515		CP(T)-SC-B-Length	CM(T)-XL60-Length
		MF3S-130CM30BZ2-515		CP(T)-SC-B-Length	CMB(T)-XL60-Length

*Note: 400W and 750W brake motor need extra brake cable CB(T)-P03-Length.

Peripheral Wiring Diagram



Terminal Definition



CN0 port (E type)

Pin	Definition
1	CAN_H
2	CAN_L
3	CGND
4	485+
5	485-
6	GND

CN1 port

Pin	Definition	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

CN2 port

Pin	Definition
1	P-
2	P+5V
3	P+24V
4	D-
5	D+5V
6	D+24V
7	SI1
8	SI2
9	SI3
10	SI4/+24VS
11	+24V
12	SO1
13	SO2
14	SO3
15	COM
16	-/GNDS

*Note: The terminal functions of CN2 are divided into two types. One is non-brake model. The function of terminal 10 is SI4 and terminal 16 is empty. The other is the brake model. The function of terminal 10 is +24VS and terminal 16 is GNDS, which can be used in braking control.

CN4 port (main circuit terminal)

Pin	Definition
1	PE
2	W
3	V
4	U
5	RB-
6	DC-
7	DC+/RB+
8	PE

*Note: RB+, RB- connect to external resistor.

CN3 port (communication encoder feedback)

Pin	Definition
1	5V
2	GND
3	/
4	/
5	485+
6	485-

Terminal Definition

Set the communication station number of low-voltage servo through the dial switch SW1~SW6

Station no.	SW1	SW2	SW3	SW4	SW5	SW6
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF
...	...	...	...	...	...	...
63	ON	ON	ON	ON	ON	ON
64	OFF	OFF	OFF	OFF	OFF	OFF

SW7, SW8 are used to control whether the internal terminal resistance of RS485 is turned on

RS485 internal terminal resistance	
SW7=ON SW8=ON	ON
SW7=OFF SW8=OFF	OFF

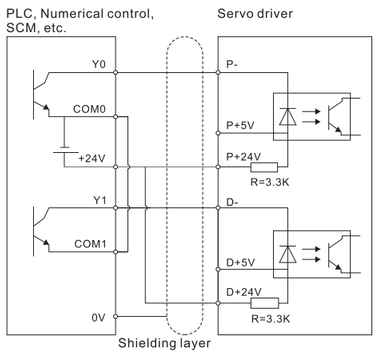
SW9, SW10 are used to control whether the internal terminal resistance of CANbus is turned on

CANbus internal terminal resistance	
SW9=ON SW10=ON	ON
SW9=OFF SW10=OFF	OFF

Typical Connection Diagram

P+ D, CW, CCW, AB phase interface circuit wiring diagram:

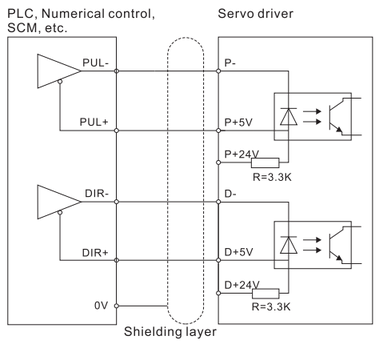
Collector open type (24V)



When the upper device adopts open collector output, this connection method is adopted. Please note that P+ 5V and D+ 5V are suspended.

*Note: ① The power supply range of P-/P+24V, D-/D+24V is 18V~25V. If it is lower than 18V, the pulse and direction maybe abnormal.
② For anti-interference, be sure to use twisted pair shielded cable.

Differential mode (5V)

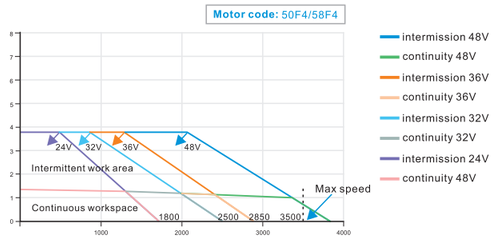


When the upper device adopts 5V differential output, this connection method is adopted. Please note that P+ 24V and D+ 24V are suspended.

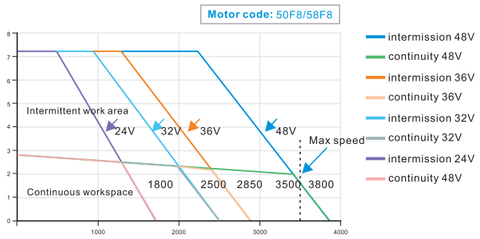
*Note: ① The power supply range of P-/P+5V, D-/D+5V is 3.3V~5V. If it is lower than 3.3V, the pulse and direction maybe abnormal.
② For anti-interference, be sure to use twisted pair shielded cable.
③ The servo pulse input port is turned on at 10mA.

Torque Frequency Characteristic Curve

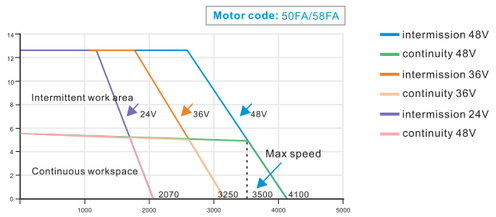
MF3S-60CS/CM30B1-504
MF3S-60CS/CM30BZ1-504



MF3S-80CS/CMB2-507
MF3S-80CS/CMBZ2-507



MF3S-130CS/CM30B2-515
MF3S-130CS/CM30BZ2-515



Specification Table

Driver specification

Item			DF3E-0103	DF3E-0205	DF3E-0410	DF3E-0720	DF3E-1540
Basic specification	Power		100W	200W	400W	750W	1500W
	Input power supply				DC24V-70V		
	Rated output current	Max continuous output current (Arms)	3	5	10	20	40
		Peak current (PEAK)	10	15	30	60	120
	Encoder feedback		17-bit communication encoder				
	Communication mode		RS232 / RS485 / CANopen				
	Using environ-ment	Ambient temperature	Operation: -10ºC~40ºC (no condensation) / storage: -20ºC~60ºC (no condensation)				
		Ambient humidity	Operation/storage: below 90%RH (no condensation)				
		Vibration and impact resistance	4.9m/s^2 / 19.6m/s^2				
		Installation location	Places without dust, dry, vibration and corrosive substances				
		Installation method	Vertical or horizontal installation				
	Energy consumption braking		Can connect external brake resistor				
	Protection function		Overvoltage, undervoltage, overheating, overcurrent, overload, overspeed, excessive position deviation, output short circuit, encoder abnormality, regeneration abnormality protection, overtravel protection, oscillation protection, operation disconnection protection, etc				
	Load change rate		0~100% load: below ±0.1% (at rated speed)				
	Voltage change rate		Rated voltage ±10%: 0.01% (at rated speed)				
	Temperature change rate		20±25ºC: below ±0.1% (at rated speed)				
IO signal	Digital input specification		4 channels digital input (3 channels digital input for brake models)				
			Servo enable, alarm clear, no forward rotation, no reverse rotation, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, position deviation clear, internal position step change signal				
	Digital output specification		3 channels digital output				
			Positioning completed, servo ready, alarm output, speed arrival, rotation detection, torque limit output, same speed detection, brake release output				
	Pulse direction		Support P+D, AB phase, CW/CCW				

Motor specification

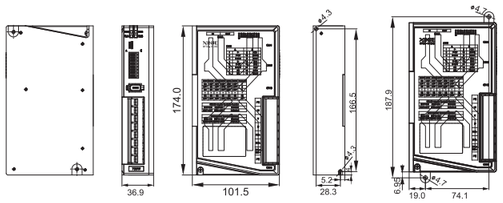
Voltage level		DC48V		
Motor model MF		3S-60	3S-80	3S-130
		CS/CM30B(Z)1	CS/CM30B(Z)2	130CS/CM30B(Z)2
		504	507	515
Rated power (W)		400	750	1500
Rated current (A)		10	19.2	40
Rated speed (rpm)		3000	3000	3000
Max speed (rpm)		3500	3500	3500
Rated torque (N.m)		1.27	2.39	4.8
Max torque (N.m)		3.81	7.17	14.4
Rotor inertia (10^-7kg.m^2)		358.4(374.9)	980(1030)	15018(15275)
Static friction torque (N.m)		≥1.3	≥2.5	≥15
Bearing axial force (N)		74	147	300
Bearing radial force (N)		245	392	600
Inertia type		Low inertia		
Pole-pair number		5		
Encoder bit		17		
Encoder type		Magnetism		
Cooling method		Natural cooling		
Motor insulation level		CLASSF(155ºC)		
Protection level		IP66		
Using environment	Ambient temperature	-15ºC~+40ºC (no freezing)		
	Ambient humidity	Relative humidity < 90% (no condensation)		

Installation Dimension Diagram

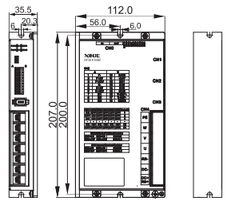
(Unit: mm)

Low voltage servo driver

DF3E-0720(Z)/ DF3E-0410(Z)

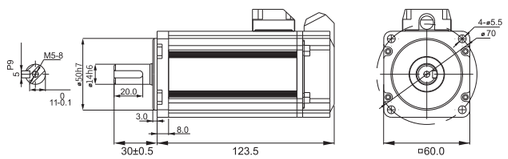


DF3E-1540(Z)

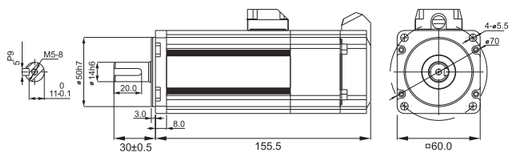


Low voltage servo motor

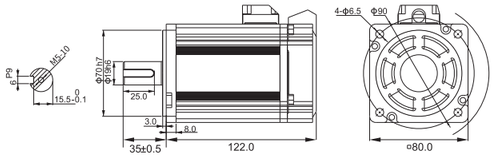
Motor model	Inertia type
MF3S-60CS/CM30B1-504	Low inertia



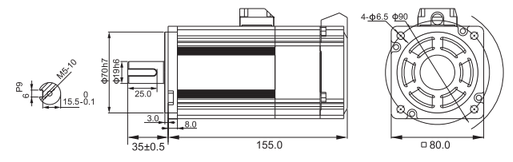
Motor model	Inertia type
MF3S-60CS/CM30BZ1-504	Low inertia



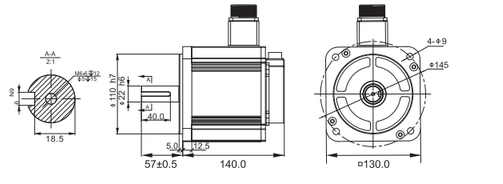
Motor model	Inertia type
MF3S-80CS/CM30B2-507	Low inertia



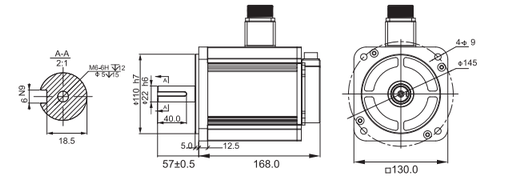
Motor model	Inertia type
MF3S-80CS/CM30BZ2-507	Low inertia



Motor model	Inertia type
MF3S-130CS/CM30B2-515	Low inertia



Motor model	Inertia type
MF3S-130CS/CM30BZ2-515	Low inertia



*Note: After the revision of 750W low-voltage servo motor, the body length is reduced.