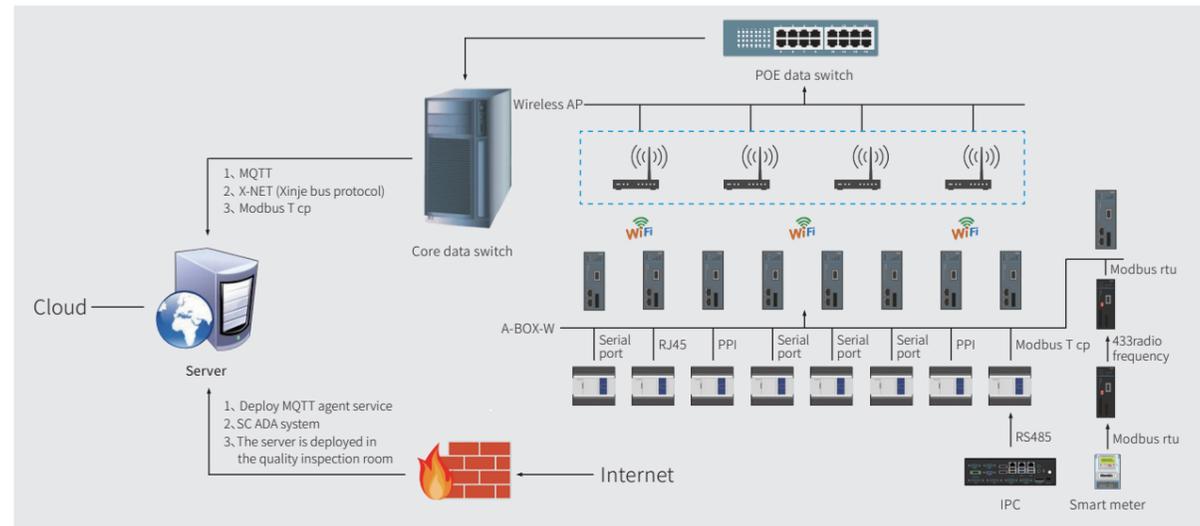


## Workshop multi-equipment centralized operation and maintenance management scheme

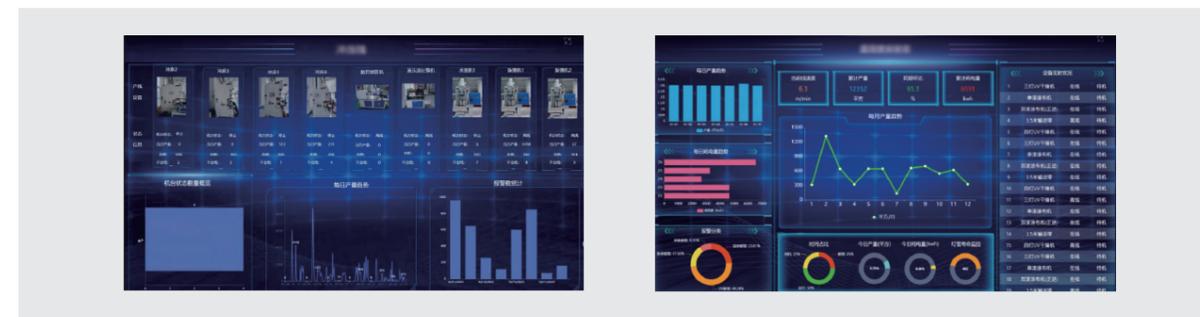
Precisely associate devices with specific production lines, and the system automatically counts device data per line. Accurately track and compare the output data of each line, integrate equipment and production performance, and identify high-efficiency, high-quality production lines to support lean management.



### IXinje Cloud application

- 
**Device management**  
 Precisely associate devices with specific production lines, and the system automatically counts device data per line. Accurately track and compare the output data of each line, integrate equipment and production performance, and identify high-efficiency, high-quality production lines to support lean management.
- 
**Production Capacity Analysis**  
 Create, edit, and save project tasks. Subsequently, based on custom distribution conditions, distribute the projects to machines and save key information.
- 
**Operation and Maintenance Management**  
 Create and maintain equipment maintenance plans. Generate repair work orders upon failure, track the entire handling process, forming a traceable closed loop.

- 
**Task Dispatch**  
 Support the creation, editing, and storage of project tasks. Users can preset dispatch rules, and the system automatically dispatches tasks as work orders to specified devices, recording key process data for later traceability.
- 
**Data monitoring**  
 Customize data dashboards, integrate with real-time video, achieving centralized monitoring and flexible presentation of various production line equipment status.
- 
**Alarm Records**  
 Immediate fault alarms, automatic data recording, in-depth analysis of downtime causes, precise bottleneck identification, building an improvement loop from passive response to active optimization.



# 04

## Servo System

DS6 High-performance Servo | DS5□2 General-purpose Servo  
 DM6C Multi-axis Servo Drive | DL6 Direct-drive Servo  
 iMF5N Integrated Low-voltage Servo Drive | MS6 Motor



# Servo system overview

## High-Performance Servo System



The compact servo system currently has 6 subseries of products, including pulse type and bus type. In addition to all the functions of the universal series, its outstanding advantage lies in integrating minimalist commissioning, a compact structure, and multiple safety protections to achieve high-precision, high-response, and high-reliability intelligent control. Suitable for fields such as 3C, lithium battery, photovoltaic, and semiconductor.

Compatible motor: MS6 series.

Bus type	DS6C	0.1kW~7.5kW	EtherCAT
	DS5C2	0.1kW~32kW	EtherCAT
	DS5P	0.1kW~7.5kW	PROFINET
Pulse type	DS6K	0.1kW~7.5kW	Modbus
	DS5L2	0.1kW~3kW	Modbus
	DS5K2	0.1kW~32kW	Modbus

## Linear drive servo system



The linear drive servo system currently has one subseries, equipped with long line drive, frequency division output, position comparison output, probe function, motor temperature sampling and other functions. It comes standard with multiple protection functions such as dynamic braking, STO safety torque off, overcurrent protection, etc. The introduction of a new gantry synchronization algorithm ensures the high synchronization of the two axes during operation. The new TYPE-C debugging port and positioning accuracy compensation function help achieve higher absolute positioning accuracy.

Suitable for applications such as lithium battery stacking, die bonder, optical inspection platforms, UV printing, etc.

Suitable motor: Linear motor.

Bus type	DL6	2.8A~6A	EtherCAT
----------	-----	---------	----------

## Multi-Machine Drive Servo System



DM6C 0.4kW~160kW

The multi-axis servo system currently has one subseries, which has multiple advantages such as high dynamic response, space saving, high efficiency and energy saving, flexible configuration, and high protection. It comes standard with STO function and independent supply of 24V control electricity, making it safer and more reliable.

Suitable for fields such as printing and packaging, forging machines, wire cutting, silicon semiconductor, laser cutting, etc.

Compatible motor: MS6 series.

Rectifier Unit	DM6	22kW~160kW	
Inverter Unit			
Bus type	DM6C	0.4kW~120kW	EtherCAT

## Low voltage servo system



The iMF5N series is a highly integrated low-voltage servo drive and motor unit, designed specifically for automation scenarios with stringent requirements on space, reliability, and integration convenience. It combines advanced servo control technology with a compact physical structure, delivering outstanding motion control performance under low-voltage DC power supply.

Bus type	iMF5N	0.1kW~0.75kW	CANopen
----------	-------	--------------	---------

\*Note: For currently produced models, refer to the subsequent model list. Some models are under development, stay tuned.

- PLC
- HMI
- Industrial Information
- Servo system
- Frequency Inverter
- Clamping system
- Vision system
- IoT Industrial Controller

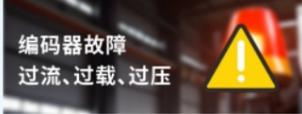
# High performance servo system

Excellent performance, safe and reliable, convenient and easy to use, compact size



# DS6 Series High-performance Servo Drive

## Analysis of Industry Pain Points

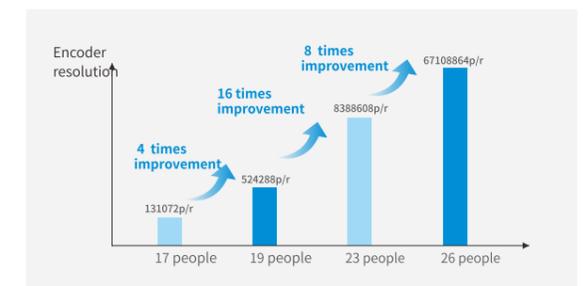
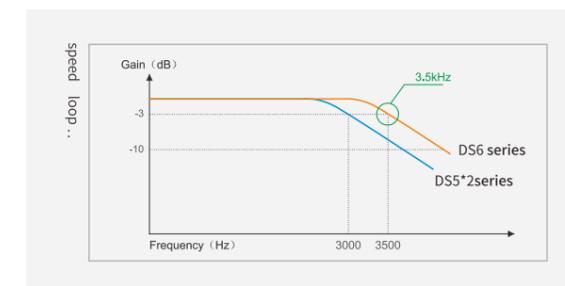
<p><b>Frequent Failures and Low Reliability</b></p> <p>Difficulty in troubleshooting failures impacts Overall Equipment Effectiveness (OEE) and production continuity, leading to significant economic losses.</p> 	<p><b>Limited Space Restricting Design</b></p> <p>Bulky electrical components often become a bottleneck in equipment structural design, limiting innovation in miniaturization and modularity.</p> 	<p><b>Complex Wiring and Low Efficiency</b></p> <p>This has become one of the main bottlenecks affecting production cycle time and installation reliability.</p> 
<p><b>Complex and Lengthy Commissioning</b></p> <p>Tight delivery schedules and high labor costs mean lengthy commissioning cycles directly impact equipment delivery and payment collection.</p> 	<p><b>Harsh Environment Poses Significant Challenges</b></p> <p>Standard drives are prone to failure due to dust and moisture ingress, reducing equipment reliability.</p> 	<p><b>Lack of Certification Hinders Export</b></p> <p>Equipment manufacturers targeting overseas high-end markets or specific industries (e.g., automotive, lithium battery) may fail to obtain whole-machine certification, losing market access.</p> 

## Product Features

### 👍 Outstanding Performance

**Ultra-fast Response, Precision That Shadows Your Every Move**  
 3.5kHz speed loop bandwidth and 125μs high-speed synchronization cycle enable precise multi-axis motion control.

Advanced control algorithms, paired with self-developed 23-bit/26-bit high-resolution absolute encoders, balance high-speed operation with positioning accuracy, delivering ultra-fast response and exceptionally smooth, jerk-free motion.



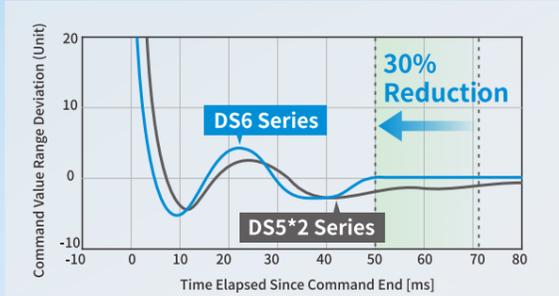
PLC  
HMI  
Industrial Information  
Servo system  
Frequency Inverter  
CNC system  
Vision system  
IoT Industrial Controller

# DS6 Series High-performance Servo Drive

## Simplified Operation and Maintenance

### One-touch Commissioning, Intelligent and Precise Control

Integrating advanced self-tuning, adaptive control, automatic inertia identification, and automatic vibration suppression functions, making commissioning smarter and more efficient.



## Human-centric Design

### Second-level Installation, Efficiency Revolutionized

Utilizing cage-clamp, tool-less terminals significantly improves wiring efficiency, saving time and effort during installation and maintenance.

Standard Type-C interface supports parameter reading/writing and firmware upgrade in USB power supply mode, offering convenience and peace of mind.



## Compact Structure

### Small Size, Saves More Space

The 750W model's volume is reduced by 20% (compared to the previous generation), saving equipment installation space and facilitating high-density production line integration.



## Full-feature Integration

### One Machine, Multiple Capabilities, Flexible Application

Bus Models: Feature frequency division output as standard.

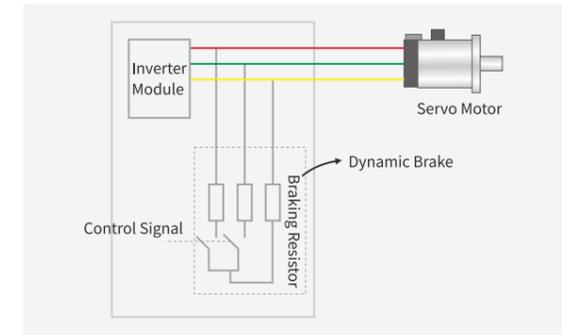
Pulse Models: Integrate long-line driver, frequency division output, full-closed loop, and analog interface to meet diverse requirements.



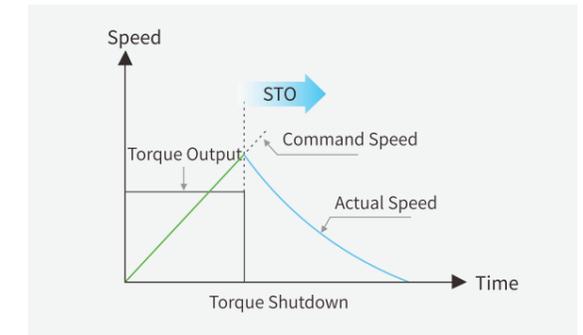
## Safety Guardian

### Multiple Protections, Worry-free Operation

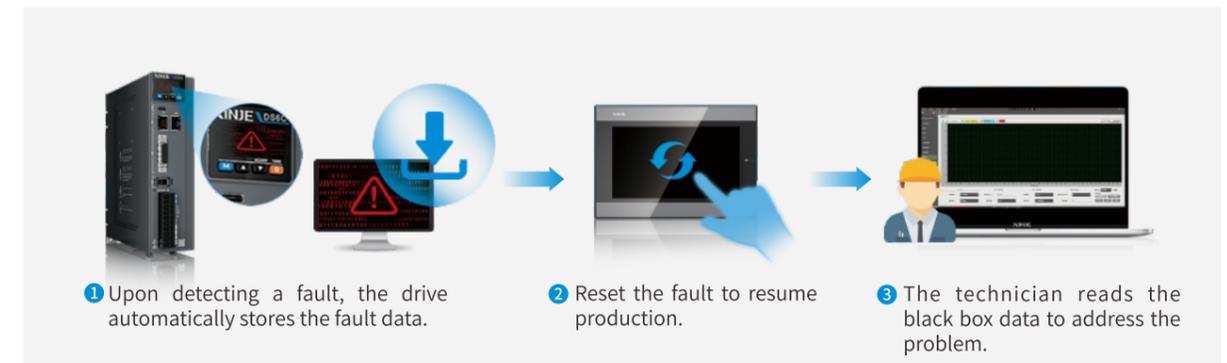
Equipped with dynamic braking as standard and optional STO (Safe Torque Off), reducing the risk associated with emergency stops.



Multiple protection mechanisms (overvoltage, overcurrent, overheating, etc.) and an ultra-low failure rate ensure continuous and stable equipment operation.

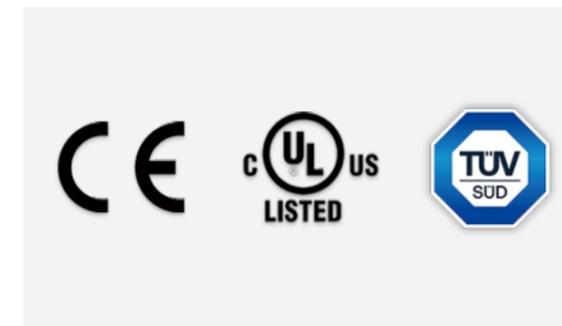


The Black Box Traceability System automatically captures operational data at the moment of failure, pinpoints issues, and assists technicians in rapid diagnosis.



## Comprehensive Certifications

The DS6 series servo drive standard model supports CE certification (for the EU) by default. Functional safety models additionally support UL certification (for the USA) and STO certification.



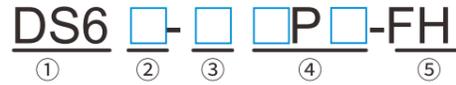
## Quality Assurance

### Three-year Warranty, Worry-free After-sales Service



# Naming rules

## DS6 Servo Drive Naming Convention



① Name		② Type		③ Voltage Specification		⑤ Product Type	
Symbol	Product Series	Symbol	Product Type	Symbol	Rated Input Voltage	Symbol	Optional Feature
DS6	DS6 Series Servo Drive	K	Standard Pulse Type	2	AC220V	Default	Standard Type
		C	EtherCAT Bus Type	4	AC380V	FH	High Protection Type
						FS	STO Functional Safety Type

④ Drive Power Rating			
Symbol	Rated Output Power (kW)	Symbol	Rated Output Power (kW)
0P1	0.1	2P3	2.3
0P4	0.4	2P6	2.6
0P7	0.75	3P0	3.0
1P0	1.0	5P5	5.5
1P5	1.5	7P5	7.5

## DS6 Series Drive Model Overview

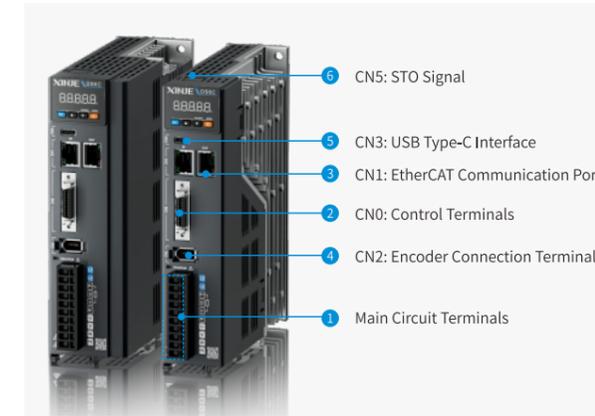
Power [kW]	Series	DS6K Series High-performance Edition	DS6K Series High-performance Edition *Under Development
0.1		DS6K-20P1	DS6K-20P1
0.4		DS6K-20P4	DS6K-20P4
0.75		DS6K-20P7	DS6K-20P7
1.0		DS6K-21P0	DS6K-21P0
1.5		DS6K-21P5	DS6K-21P5
2.3		DS6K-22P3	DS6K-22P3
2.6		DS6K-22P6	DS6K-22P6
1.0		DS6K-41P0	DS6K-41P0
1.5		DS6K-41P5	DS6K-41P5
2.3		DS6K-42P3	DS6K-42P3
3.0		DS6K-43P0	DS6K-43P0
5.5		DS6K-45P5	DS6K-45P5
7.5		DS6K-47P5	DS6K-47P5

## DS6 Series Drive Specifications Overview

DS6 Drive Specifications													
Function	Control Mode				Control Method								
	Position Control	Speed Control	Torque Control	Bus Control	Pulse	Long-line Driver	Analog Input	External Displacement Sensor	ABZ Differential Feedback	USB	RS485	SI Input	SO Output
EtherCAT Type DS6K Series	●	●	●	●				●	●	●		7	4
Standard Type DS6K Series	●	●	●		●	●	●	●	●	●	●	8	6

# Main Circuit Terminal Definitions

## DS6C Series



### ① Main Circuit Terminal Definitions

#### DS6C-20P1/20P4

Terminal	Function	Description
L1, L2	Main Circuit Power Input Terminals	Single-phase AC 200~240V, 50/60Hz
●	Empty Pin	/
P+, C	Use External Regenerative Resistor	Connect the regenerative resistor to terminals P+ and C; P0-25 = Power Value, P0-26 = Resistance Value
U, V, W, PE	Motor Connection Terminals	Connect to the motor

#### DS6C-20P7

Terminal	Function	Description
L1, L2	Main Circuit Power Input Terminals	Single-phase AC 200~240V, 50/60Hz
●	Empty Pin	/
P+, D, C	Use External Regenerative Resistor	Short-circuit terminals P+ and D, and disconnect P+ and C
	Use External Regenerative Resistor	Connect the regenerative resistor to terminals P+ and C, and remove the short-circuit wire between P+ and D; P0-25 = Power Value, P0-26 = Resistance Value
●	Empty Pin	/
U, V, W, PE	Motor Connection Terminals	Connect to the motor

#### DS6C-45P5/47P5

Terminal	Function	Description
R, S, T	Main Circuit Power Input Terminals	Three-phase AC 380~440V, 50/60Hz
P+, D, C	Use External Regenerative Resistor	Connect the regenerative resistor to terminals P+ and C, and remove the short-circuit wire between P+ and D; P0-25 = Power Value, P0-26 = Resistance Value
P+, N-	DC Bus Terminals	Measure the real-time voltage of the DC bus. Please be aware of the danger.
U, V, W	Motor Connection Terminals	Connect to the motor *OE: The ground wire is on the heatsink. Please check before powering on.
⊕	Grounding Terminal	Connect to the motor grounding terminal for grounding.

#### DS6C-21P0/21P5/22P3/22P6

Terminal	Function	Description
L1, L2, L3	Main Circuit Power Input Terminals	Three-phase AC 200~240V, 50/60Hz
	Use External Regenerative Resistor	Short-circuit terminals P+ and D, and disconnect P+ and C
P+, D, C	Use External Regenerative Resistor	Connect the regenerative resistor to terminals P+ and C, and remove the short-circuit wire between P+ and D; P0-25 = Power Value, P0-26 = Resistance Value
P+, N-	DC Bus Terminals	Measure the real-time voltage of the DC bus. Please be aware of the danger.
U, V, W	Motor Connection Terminals	Connect to the motor *OE: The ground wire is on the heatsink. Please check before powering on.
⊕	Grounding Terminal	Connect to the motor grounding terminal for grounding.

#### DS6C-41P0/41P5/42P3/43P0

Terminal	Function	Description
R, S, T	Main Circuit Power Input Terminals	Three-phase AC 380~440V, 50/60Hz
	Use External Regenerative Resistor	Short-circuit terminals P+ and D, and disconnect P+ and C
P+, D, C	Use External Regenerative Resistor	Connect the regenerative resistor to terminals P+ and C, and remove the short-circuit wire between P+ and D; P0-25 = Power Value, P0-26 = Resistance Value
P+, N-	DC Bus Terminals	Measure the real-time voltage of the DC bus. Please be aware of the danger.
U, V, W	Motor Connection Terminals	Connect to the motor *OE: The ground wire is on the heatsink. Please check before powering on.
⊕	Grounding Terminal	Connect to the motor grounding terminal for grounding.

### ② CN0 Port

Pin Number	Name	Description	Pin Number	Name	Description
1	SO1+	High Current Output Terminal1	14	+24V_OUT	Internal 24V external output, maximum 200mA
2	SO1-	High Current Output Terminal 1	15	+24V_COM	Internal 24V external output, maximum 200mA
3	SO2+	Output Terminal 2	16	GND	Frequency Division Ground
4	SO2-	Output Terminal 2	17	EXTA+	Shared Interface for Frequency Division and Full Closed Loop
5	/	/	18	EXTA-	
6	+24V_in	Input Terminal+24V	19	EXTB+	
7	SI1	Input Terminal1 (High Speed)	20	EXTB-	
8	SI2	Input Terminal2 (High Speed)	21	EXTZ+	
9	SI3	Input Terminal3	22	EXTZ-	
10	SI4	Input Terminal4	23	SO3+	
11	SI5	Input Terminal5	24	SO3-	Output Terminal3
12	SI6	Input Terminal6	25	SO4+	Output Terminal4
13	SI7	Input Terminal7	26	SO4-	Output Terminal4

### ③ CN1 Port

Pin Number	Name	Description
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	TX B+	TRANSMIT B+
10	TX B-	TRANSMIT B-
11	RX B+	RECEIVE B+
12	/	/
13	/	/
14	RX B-	RECEIVE B-
15	/	/
16	/	/

### ④ CN2 Port

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

### ⑤ CN3 (USB Type-C Interface)

Number	Name	Number	Name
A1	GND	B1	GND
A4	USB-VBUS	B4	USB-VBUS
A6	USB-D+	B6	USB-D+
A7	USB-D-	B7	USB-D-
A9	USB-VBUS	B9	USB-VBUS
A12	GND	B12	GND

### ⑥ CN5 (STO Signal)

Name	Description
1	EDM+
2	24V
3	STO1
4	EDM-
5	COM
6	STO2

# Technical Specifications

## DS6 Series Drive Technical Specifications

Item		DS6C Bus Type Servo	
Basic Specifications	Power Range	0.1kW-7.5kW	
	Input Power	Single-phase/Three-phase AC200-240V, 50Hz/60Hz: Three-phase AC380V-440V, 50Hz/60Hz	
	Encoder Feedback	23-bit/26-bit Communication-type Encoder	
	Control Method	Three-phase Full-wave Rectification IPM, PWM Control	
	Control Mode	Position Mode, Speed Mode, Torque Mode	
	Usage Environment	Operating Temperature	-10°C~55°C (When ambient temperature is between 45°C~55°C, average load factor must not exceed 80%)
		Storage Temperature	-20~65°C
		Operating/Storage Humidity	Below 90%RH (Non-condensing)
		Vibration Resistance	4.9m/s
		Shock Resistance	19.6m/s
		Altitude	Maximum altitude 2000m (Derate by 1% for every 100m above 1000m)
	Function	Installation Location	Indoors
		Installation Method	Vertical or Horizontal Installation
		Protection Functions	Overvoltage, Undervoltage, Overtemperature, Overcurrent, Overload, Overspeed, Analog Input Abnormal, Excessive Position Error, Output Short Circuit, Encoder Abnormal, Regeneration Abnormal Protection, Overtravel Protection, Oscillation Protection, Phase Loss Protection, etc.
Dynamic Braking		Standard	
I/O Signals	Communication Functions	Background Debugging: USB (Type-C); Multi-station Communication Protocol: EtherCAT	
	Display and Operation	5-digit LED Indicator, Power Indicator, Network Port Indicator, 4-key Operation	
	Digital Input Specifications	7 Digital Inputs (Including two high-speed inputs) Servo Enable, Alarm Clear, Forward Overtravel, Reverse Overtravel, Torque Limit Selection, Internal Speed Selection, Mode Switching, Probe, etc.	
	Digital Output Specifications	4 Digital Outputs Positioning Completed, Servo Ready, Alarm Output, Rotation Detection, Torque Limit Output, Brake Control	

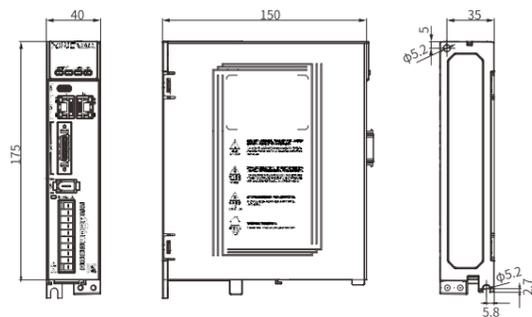
# ServoWpf PC Software (DS6/DL6)

## Simplify the Complex, One-stop Servo Commissioning Platform

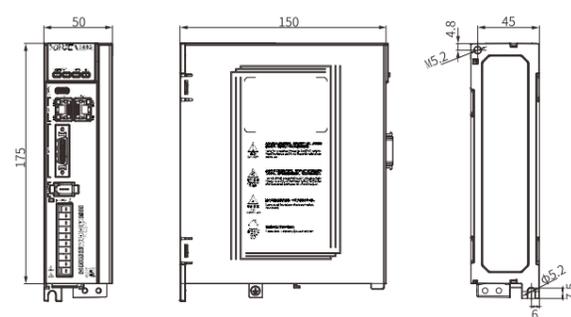


# Driver Dimensional Drawing (unit: mm)

DS6C-20P4



DS6C-20P7



### Configuration Interface

**Parameter Table**

Supports parameter read, modify, save, and download, covering all P-group parameters and U-group monitoring parameters with detailed descriptions. Parameters are categorized by function into Overview, Control Mode, and Gain Tuning for easy management.



### Drive, Motor Information

Supports motor parameter configuration and linear motor calibration to ensure precise system matching.



### Wizard Setup Interface

**Drive Motor Wizard**

Guides users through speed, torque limit, and motor direction settings.



### Simple Tuning

Guides inertia identification, rigidity selection, mechanical characteristic measurement, and filter configuration, simplifying the tuning process.



### Auto-Tuning Settings

Automatically optimizes gain configuration based on parameters such as device operating state matching method, mode, and load type.



### Application Settings

After the user selects pulse or bus mode, the system automatically filters and displays corresponding parameters for rapid location and configuration.

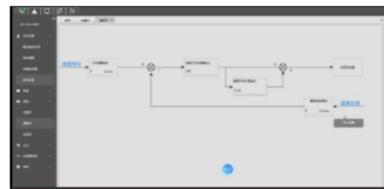


# ServoWpf PC Software (DS6/DL6)

## Control Interface

### Real-time Dynamic Curve Observation

Provides an intuitive gain tuning environment for speed loop, position loop, and current loop, assisting users in achieving precise control.



## Motion Interface

### Simple and Feasible Jogging Debugging

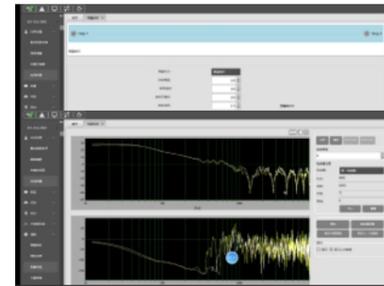
Supports position jogging and speed jogging operations, facilitating equipment debugging and operational verification.



## Tuning Interface

### Precise and Subtle Gain Identification

Integrates inertia identification, rigidity selection, mechanical characteristic measurement, and resonance suppression functions. Users can configure parameters based on actual equipment operating conditions to achieve optimal gain tuning and dynamic adjustment.



## Communication Interface

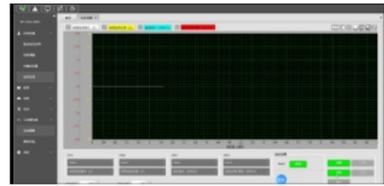
Supports quick communication with Xinje servo drives via Type-C interface, automatically identifying drive and motor information, compatible with rotary and direct-drive servos for convenient and efficient connection and data interaction.



## Oscilloscope Function Interface

### Real-time Observation

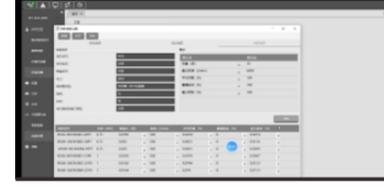
Real-time collection of key data such as speed, torque, position, and bus voltage, aiding dynamic monitoring and parameter optimization.



## Tools

### Motor Selection

Based on device component selection and motion model establishment, automatically recommends matching motor models.



## Monitoring

### Rich and Comprehensive Real-time Monitoring

Real-time display of servo operating status, alarm information, and I/O status, ensuring full visibility and control throughout system operation.



### Curve Acquisition

High-precision acquisition of data such as rotational speed, position, and current for comprehensive analysis of servo operating status.



### Black Box

Automatically records data at the moment of failure, pinpointing issues and improving diagnostic efficiency.



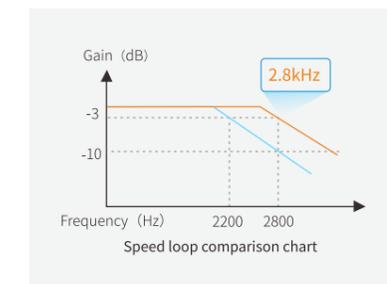
# DS5L2 series Basic Pulse-Type Servo Driver



## Excellent performance

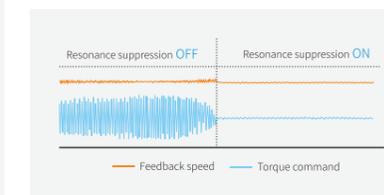
### High dynamic response

The speed loop response bandwidth of up to 2.8kHz can meet the requirements of devices with fast response speed and high accuracy.



### Resonance suppression

The resonance suppression control algorithm can effectively shorten the setting time, eliminate mechanical resonance, and make path tracking smooth and accurate. Resonance frequency automatic inspection, with stronger usability. Improved vibration frequency recognition accuracy by 50% (compared to DS5L1). 50% reduction in resonance frequency analysis time (compared to DS5L1).



### High precision positioning

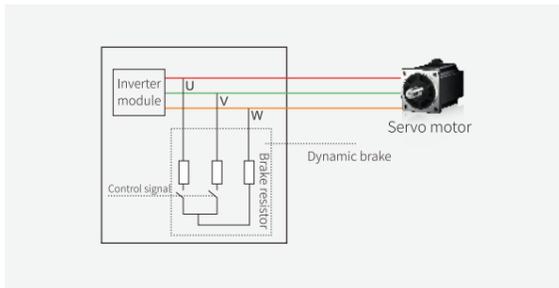
Equipped with 19-bit magnetic encoder and 23-bit optical encoder with high resolution, it can help servo motors improve low-speed vibration suppression ability, reduce speed fluctuations, and make the servo system run more smoothly and accurately.



### Safe and reliable

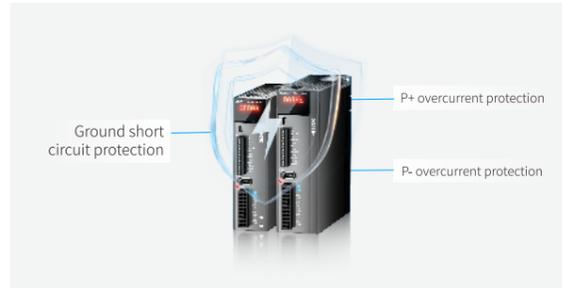
#### Standard dynamic braking

- When the motor is running, in the event of a power outage or alarm, the servo will be turned off and the three-phase circuit of the motor will be short circuited. The servo motor will quickly stop, ensuring the safety of operators and machine equipment.



#### Multiple protection functions

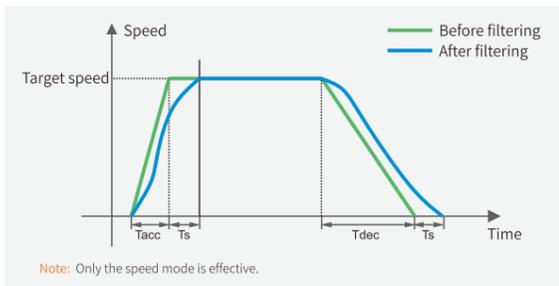
- Supports multiple protection functions, such as P+ overcurrent protection, ground short circuit protection, P- overcurrent protection, etc., with ultra-low failure rate, users can use it with peace of mind.



### Stable and easy to use

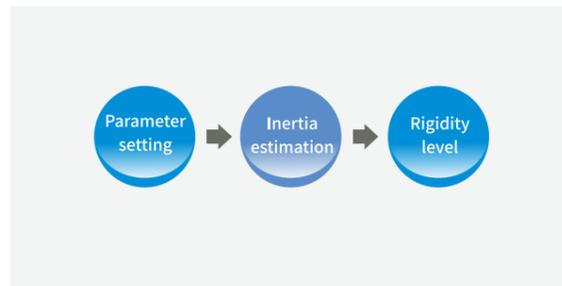
#### S-shaped acceleration and deceleration curve

- The S-shaped acceleration and deceleration curve can effectively overcome mechanical vibrations caused by sudden speed changes, making operation smoother and more stable.



#### Quick adjustment to shorten positioning time

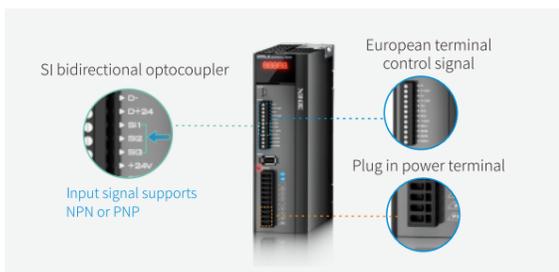
- Load inertia estimation, search for optimal gain, and complete positioning within 20ms.
- Driver panel offline adjustment.
- The rigidity level can reach up to level 41.



\*Note: DSSL2 covers 32 levels of rigidity.

#### Convenient and easy to use

- Easy to operate terminal design improves wiring efficiency and saves maintenance time.
- Gain adjustment free, strong parameter applicability. Users do not need complex gain tuning, debugging is simple and convenient, and can greatly shorten debugging time.



#### Perfectly compatible in size

- The DSSL2 series is fully compatible with the DSSL1 series (same power range), ensuring worry free replacement.



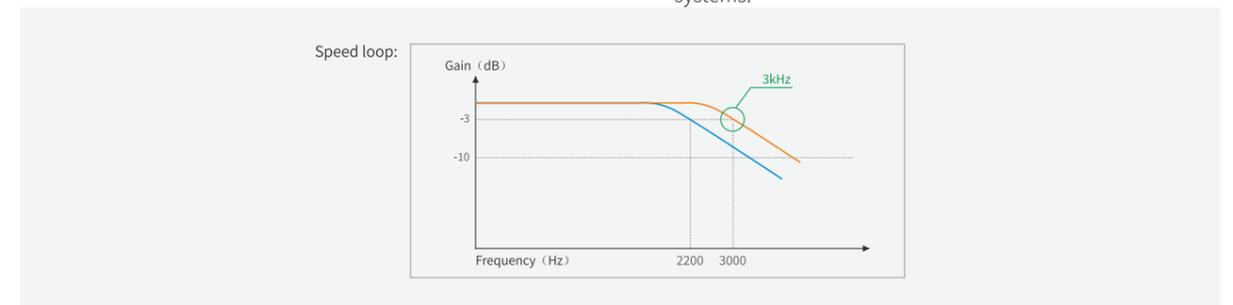
# DS5K2 Series Standard Pulse-Type Servo Driver



### Excellent performance

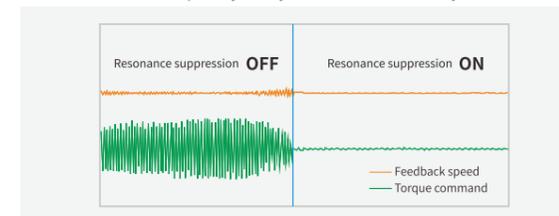
#### High dynamic response

- 3kHz speed loop response bandwidth. High dynamic response, improving production efficiency.
- Advanced control algorithms provide the optimal solution for achieving fast and flexible results in fast positioning systems.



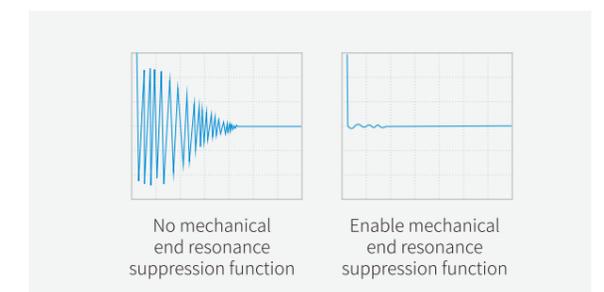
#### Resonance suppression

- The resonance suppression control algorithm can effectively shorten the setting time, eliminate mechanical resonance, and make path tracking smooth and accurate.
- Resonance frequency automatic inspection, with stronger usability.
- The accuracy of vibration frequency recognition has been improved by 50%.
- The resonance frequency analysis time is reduced by 50%.



#### Mechanical end resonance suppression

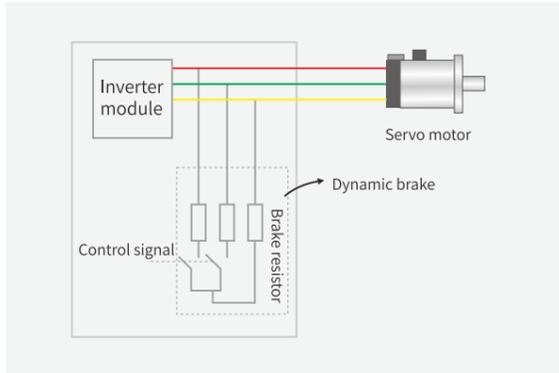
- By using advanced control algorithms, vibration and noise suppression of mechanical ends can be achieved. Effectively solve the vibration at the end of the cantilever mechanism, shorten the setting time, and improve product accuracy.



### Safe and reliable

#### Dynamic braking

- When the motor is running, in the event of a power outage or alarm, the servo will be turned off and the three-phase circuit of the motor will be short circuited. The servo motor will quickly stop, ensuring the safety of operators and machine equipment.



#### Multiple protection functions

- Supports multiple protection functions, such as ground short circuit protection, P- overcurrent protection, etc., with ultra-low failure rate, users can use it with peace of mind.



### Stable and easy to use

#### The system runs more smoothly and has higher positioning accuracy

- Equipped with high-resolution encoder, 19-bit magnetic encoder and 23-bit optical encoder, it can help servo motors improve low-speed vibration suppression ability, reduce speed fluctuations, and make the servo system run more smoothly and accurately.
- Suitable for MS6-B3/MS6G series high protection single/multi turn integrated motors, with simpler and more convenient selection.
- Lower speed and torque fluctuations assist in the smooth operation of torque control equipment.



### Fully functional

- The DS5K2 series has complete functions, including long line drive, frequency division output, analog, RS485 communication, and more.



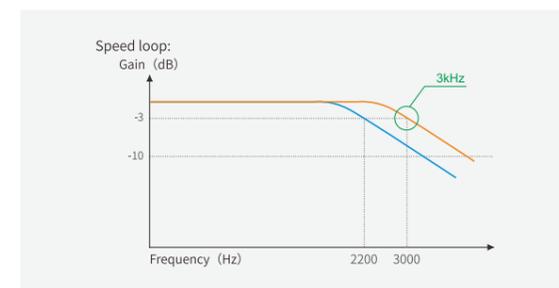
## DS5C2 series EtherCAT Bus-Type Servo Driver



### Excellent performance

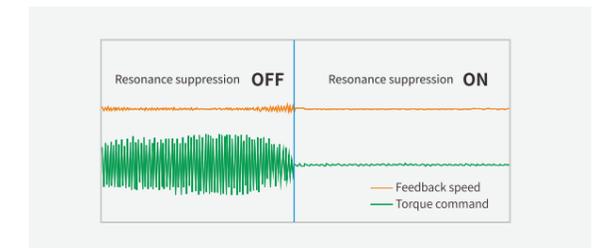
#### High dynamic response

- 3kHz speed loop response bandwidth, synchronization period 250us, high dynamic response, improve production efficiency.
- Advanced control algorithms provide the optimal solution for achieving fast and flexible results in fast positioning systems.



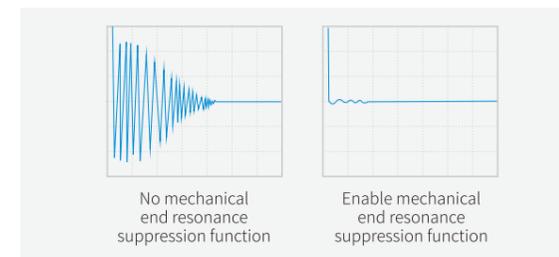
#### Resonance suppression

- The resonance suppression control algorithm can effectively shorten the setting time, eliminate mechanical resonance, and make path tracking smooth and accurate.
- Resonance frequency automatic inspection, with stronger usability.
- The accuracy of vibration frequency recognition has been improved by 50%.
- The resonance frequency analysis time is reduced by 50%.



#### Mechanical end resonance suppression

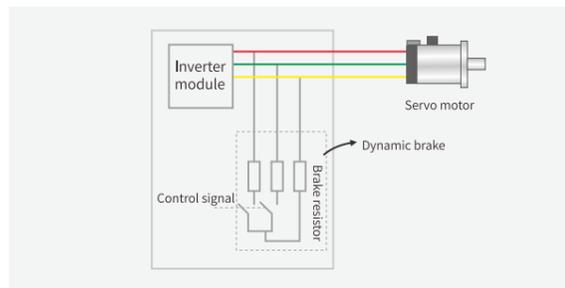
- By using advanced control algorithms, vibration and noise suppression of mechanical ends can be achieved. Effectively solve the vibration at the end of the cantilever mechanism, shorten the setting time, and improve product accuracy.



### Safe and reliable

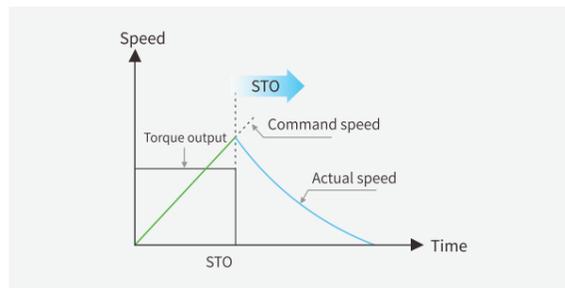
#### Dynamic braking

- When the motor is running, in the event of a power outage or alarm, the servo will be turned off and the three-phase circuit of the motor will be short circuited. The servo motor will quickly stop, ensuring the safety of operators and machine equipment.



#### Safe torque off (SIL3 level)

- Support STO. When the safe torque function is enabled, the internal hardware circuit of the driver will trigger, forcibly shutting down the power transistor of the driver, causing the motor to stop running and protecting personal and equipment safety.



#### Multiple protection functions

- Support multiple protection functions, such as P+ overcurrent protection, ground short circuit protection, P- overcurrent protection, etc., with ultra-low failure rate, users can use it with peace of mind.



### Stable and easy to use

#### Easy to wiring and quickly debug

- Easy to operate terminal design improves wiring efficiency and saves maintenance time.
- Adopting standard RJ45 industrial Ethernet fast interface, greatly improves wiring efficiency.
- Gain adjustment free, strong parameter applicability.
- Users do not need complex gain tuning, debugging is simple and convenient, and can greatly shorten debugging time.



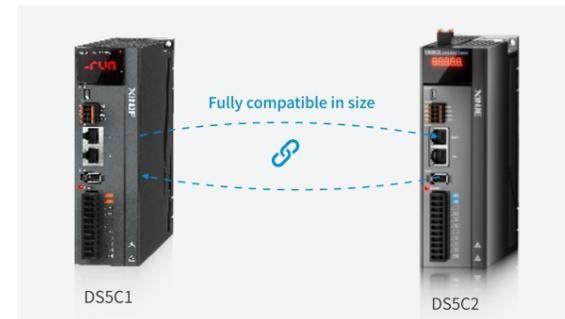
#### The system runs more smoothly and has higher positioning accuracy

- Suitable for MS6-B3 series high protection single/multi turn integrated motors, with simpler and more convenient selection.
- Lower speed and torque fluctuations assist in the smooth operation of torque control equipment.



#### Compatible in size and accessible for machine replacement

- The DS5C2 series is fully compatible with the DS5C1 series (same power range), ensuring worry free replacement.



# MS1 Series Servo Motor

## Miniaturization | High Performance | Flexible Configuration



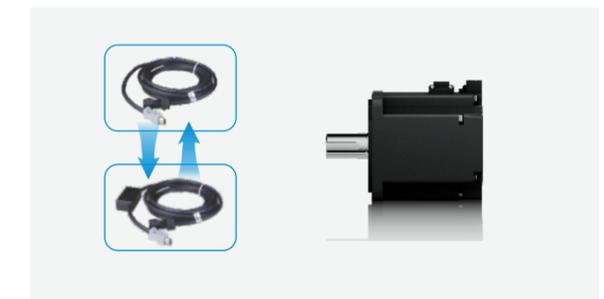
### Compact Body

- Designed for narrow installation spaces, featuring a small volume and compact structure; easily handles space-constrained scenarios, enhancing equipment layout flexibility.



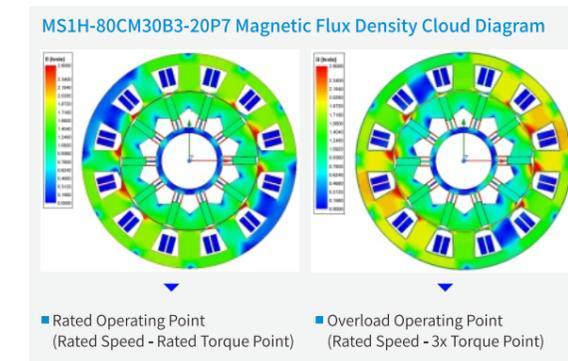
### Flexible Configuration

- Standard with single-turn/multi-turn integrated encoder. When switching between single-turn and multi-turn, only the encoder cable (battery box) needs to be replaced.



### High Power Density

- Optimized electromagnetic design achieves higher power density, delivering strong power output in a compact space to meet the demands of equipment miniaturization and high performance.



### CE Certification Compliant

- The entire product series complies with CE certification standards, ensuring electromagnetic compatibility and safety, assisting customers in rapidly expanding into the EU and global markets.



# MS6-B3 series servo motor

High protection level | lightweight design | high-precision positioning

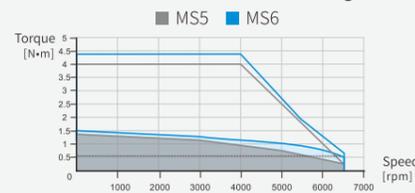


- Excellent Texture and Touch**
  - Black body with a matte texture, effectively reducing the perceived temperature of the motor.
- Low Noise, Low Temperature Rise**
  - Low noise and low temperature rise; maximum winding temperature rise can be reduced by up to 20°C.
- High Protection**
  - Optimized structure achieves a protection rating of up to IP67.

## Motor Miniaturization

- The MS6 series motor body is further shortened, with a maximum reduction of up to 18% compared to the MS5 series motor.

Comparison of characteristics between 60 flange MS5 and MS6



\*Note: Comparison of instantaneous operation zone between MS6 series and MS5 series 400W motors with a temperature rise of 70°C under the same specification requirements.

## Lightweight motor

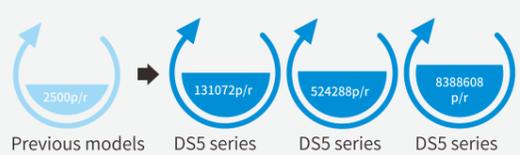
- The body of the MS6 series motor is further shortened, with a maximum reduction of 18% compared to the MS5 series motor.



\*Note: Taking 400W as an example.

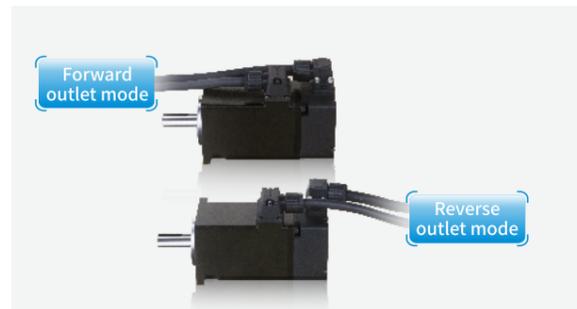
## Encoder resolution

- The entire series comes standard with 17-bit, 19-bit, and 23-bit encoders to choose from.
- Realize higher precision position control and stable low-speed operation.
- The magnetic encoder has enhanced resistance to oil stains and vibration.



## Flexible configuration to meet different needs

- Offers low inertia and high inertia motor options, suitable for a wider range of equipment scenarios.
- Optional power-off brake, oil seal, oil-resistant cable; configurable with connector to AMP adapter cable; forward/reverse cable exit optional.



# MS6S-130 series servo motor

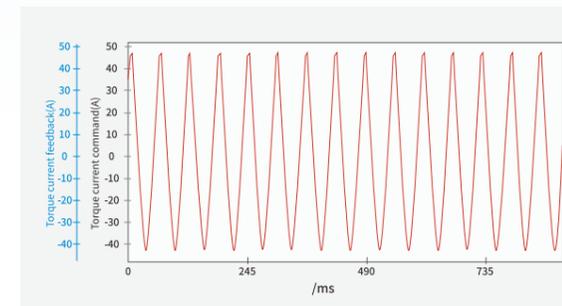
Instantaneous response | precision control | efficient and stable



- High Precision**
  - 19-bit/23-bit absolute encoder optional.
- High Protection**
  - IP67 protection rating, dustproof and waterproof
- High Reliability**
  - Front cover bearing mounting design uses larger bearings, resulting in higher bearing life.

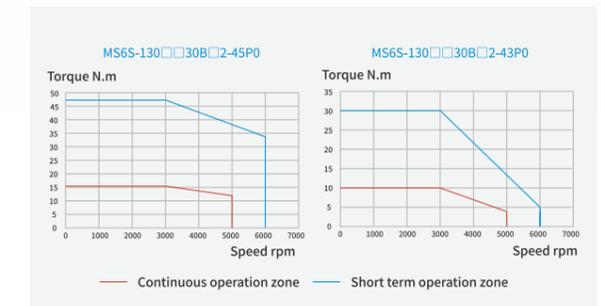
## Lower inertia, higher response

- Stronger acceleration and deceleration rapid response capability, higher motor overload capacity.



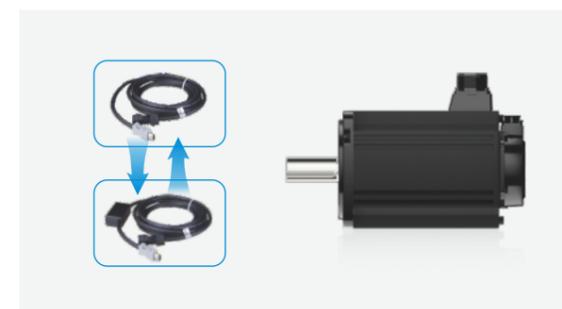
## Higher speed

- The rated speed of the MS6S series 130 flange motor has been increased to 3000rpm, and the maximum speed has been increased to 6000rpm.



## Flexible Configuration and Easy Installation/Removal

- Standard single/multi turn integrated encoder, when switching between single/multi turn, only the encoder cable (battery box) needs to be replaced.



## Optimized design for greater stability

- To enhance the overall strength and vibration resistance of the motor, a new body structure design has been adopted. Measures such as potting the stator, optimizing the rotor bearing fixation method, improving the aviation plug fixation method, and reducing the height of the aviation plug have been implemented to make the motor more stable and reliable.



PLC  
HMI  
Industrial Information  
Servo system  
Frequency Inverter  
Spinning system  
Vision system  
IoT Industrial Controller

# MS6G-130 series servo motor

## The best choice for compact device scenarios

### Reliable operation

- By integrating the end cap and body, improving the fixed structure of the aviation plug and potting, the overall strength and vibration resistance ability of the motor can be enhanced.

End cap and body integration, improve the aviation plug fixation structure and potting

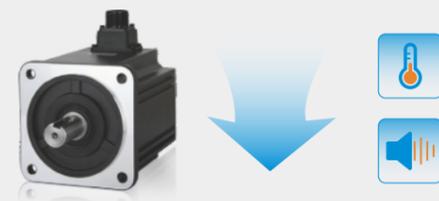
Enhance the overall strength vibration resistance of the motor



- 17-bit/19-bit/23-bit absolute value encoders are optional.

Adapt to multiple encoders  
17-bit, 19-bit, 23-bit absolute value encoders are optional

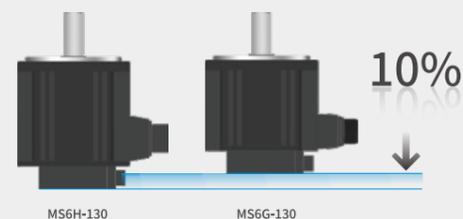
- Low temperature rise and low noise.



### Shorter body

- Compared with the MS6H series high inertia servo motor, the MS6G series has a shorter body, about 10% shorter, making it more suitable for compact equipment scenarios.
- Black body, matte texture, effectively reduces the tactile temperature on the surface of the motor body.

\*Note: Taking 1.5kW as an example.



### Ultra protection

- The protection level of the MS6H-130 series B2 motor is IP65, and the MS6G-130 series has optimized the motor structure, raising the protection level to IP67, dustproof and waterproof, and is not afraid of harsh environments.



# MS6G-180 series servo motor

## Short body | High reliability | More precise positioning



### Flexible Configuration

- The MS6G-180 series motor is standard with a single-turn/multi-turn integrated encoder. When switching between single-turn and multi-turn, only the encoder cable (battery box) needs to be replaced.

### High Protection Rating

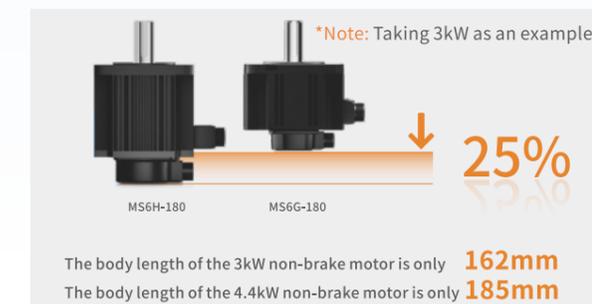
- Optimized motor structure with an IP67 protection rating, providing dust and water resistance to withstand harsh environments.

### High precision encoder for more accurate positioning

- 19-bit and 23-bit absolute value encoders can be selected for higher positioning accuracy.

### Lightweight Design, Shorter Body

- Compared to the MS6H series servo motor, the MS6G series body length is reduced by approximately 25%, making it more suitable for compact equipment scenarios;
- Black body with a matte texture, effectively reducing the perceived temperature on the motor body surface.



### Ultra-high overspeed capability

- The motor has an ultra-high weak magnetic field expansion capability, increasing the maximum operating speed to 4500rpm.



\*Note: Taking MS6G-180CN15B2-47P5 as an example.

### Improved vibration resistance and more reliable operation

- To enhance the overall strength and vibration resistance of the motor, a new body structure design has been adopted, along with measures such as stator potting, optimizing the rotor bearing fixation method, improving the fixation method for aviation plug, and reducing the height of the aviation connectors. These measures make the motor more stable and reliable.



# Liquid cooled servo motor

**High precision | Low temperature rise**  
**High reliability | High protection**

## High reliability

- Using a cross-coupling installation method for the encoder enhances vibration and impact resistance.
- The rotor features a built-in structure, significantly improving the motor's resistance to demagnetization.

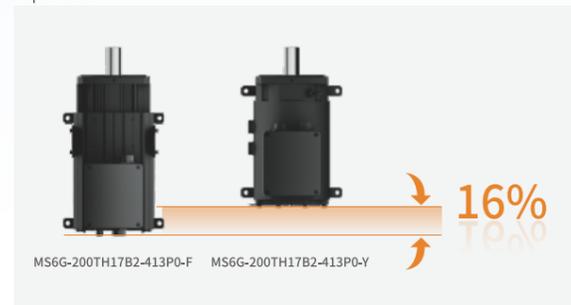


## Low temperature rise

- An axial Z-shaped water channel structure design is used, with cooling fluid for heat dissipation, significantly reducing the motor's temperature rise.

## High power density

- Compact structural design, with a body length shortened by about 16% compared to air-cooled motors of the same power.



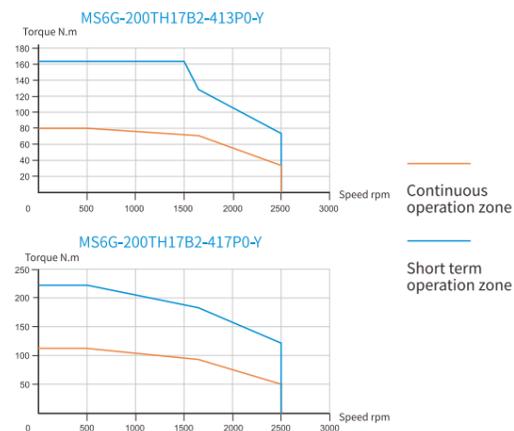
## High-precision

- Standard 23-bit high-precision absolute value optical encoder.



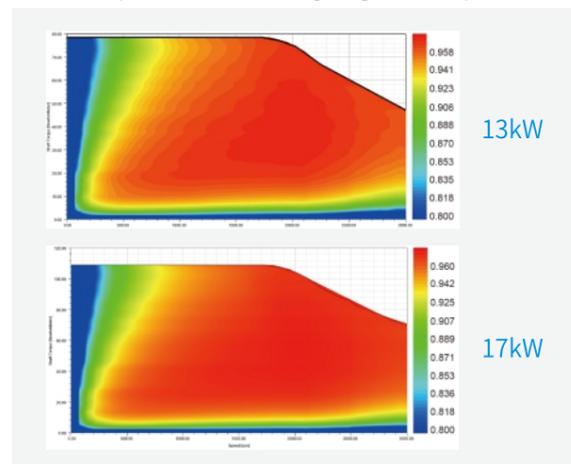
## High performance

- New electromagnetic scheme design, compatible with DS5C2/DM6C series high-performance servo drivers to meet high dynamic response requirements.



## High energy efficiency

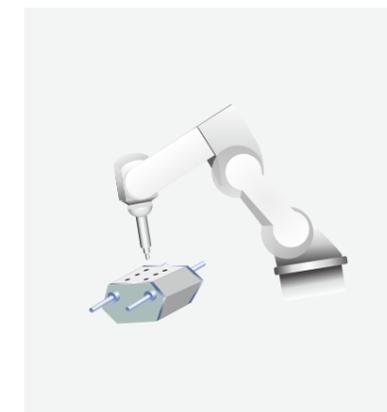
- By optimizing the motor's magnetic circuit design and selectively using materials with low losses, such as silicon steel sheets and oil seals, the overall losses of the motor are effectively controlled, achieving a high-efficiency motor design.



# Typical applications

## Mechanical arm

The robotic arm is the most widely used automated mechanical device in the field of robotics technology, and its presence can be seen in industrial manufacturing, medical treatment, entertainment services, military, semiconductor manufacturing, and space exploration. Although they have different forms, they all share a common feature of being able to receive instructions and accurately locate a certain point in three-dimensional (or two-dimensional) space.



## High speed cutting machine

High speed cutting machine combines ultrasonic welding technology with traditional cutting. When the ultrasonic generator is working, the ultrasonic energy is transmitted to the welding head through the ultrasonic transducer and violently vibrates and rubs against the cutting die, thereby achieving the cutting effect, making the cut products more beautiful, sturdy, and efficient in production.



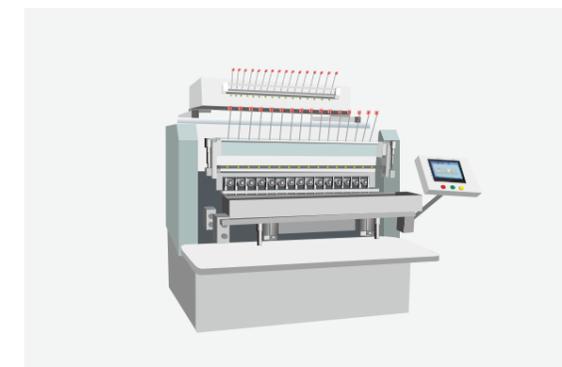
## Rotary die cutting machine

The rotary die cutting machine performs die cutting processing with the continuous rotation of a rotary cutter and is one of the most efficient types of die cutting machines. The circular blade die cutting achieves the purpose of die cutting by compressing the material between the cutting edge and the anvil roll. This improves both the speed and precision of die cutting. Additionally, it can achieve one-time product forming through multi-axis registration die cutting, overcoming the disadvantages of traditional multiple die cutting processes.



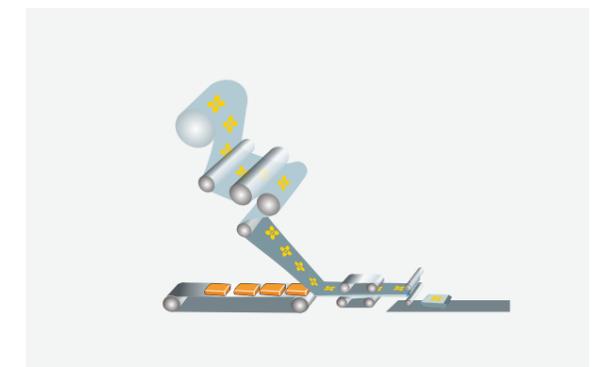
## 16-axis high-speed winding machine

A high-speed winding machine is equipment used to wind linear objects onto specific workpieces, commonly used for winding copper wire. Traditionally, high-speed winding was achieved by combining a variable frequency motor with a tension control system. However, with the increasing demand for efficiency in modern industry, servos can replace the original variable frequency motors to achieve high-speed and highly efficient production.



## Three-servo packaging machine

Packaging machinery refers to machines that can complete all or part of the packaging process for products and goods. The packaging process includes main operations such as filling, wrapping, and sealing, as well as related pre- and post-operations like cleaning, stacking, and disassembling. Additionally, packaging can involve operations such as measuring and stamping on the package. Using machinery to package products can improve productivity, reduce labor intensity, accommodate the needs of large-scale production, and meet cleanliness and hygiene standards.



- PLC
- HMI
- Industrial Information
- Servo system
- Frequency Inverter
- System
- Vision system
- IoT Industrial Controller

# XINJE SERVO software (DS5 series)

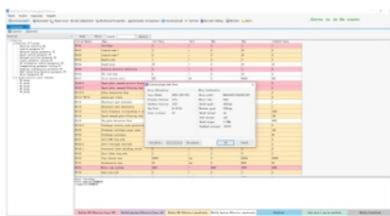
## Help users better understand the operation of the equipment



### 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.



### 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.



### 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.

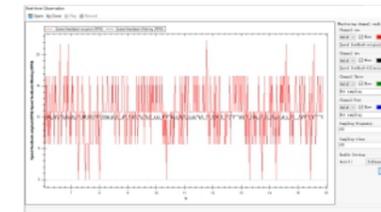


# XINJE SERVO software (DS5 series)

### Real time observation interface

Real time dynamic curve observation

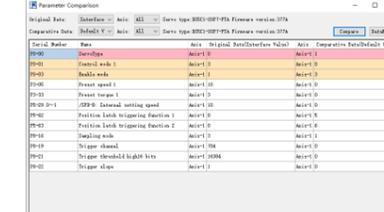
Xinje servo software can collect basic information such as speed, torque, position and bus voltage to help you understand the servo operation in real time and adjust the control scheme efficiently and timely.



### Parameter comparison interface

Simple and clear parameter comparison

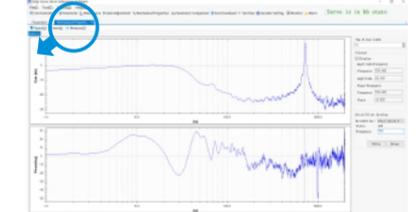
The parameter comparison function of Xinje servo software allows customers to easily compare preset values, current driver values, file values, and pairwise comparison of the current upper computer interface.



### Mechanical property measurement interface

Precise resonance recognition

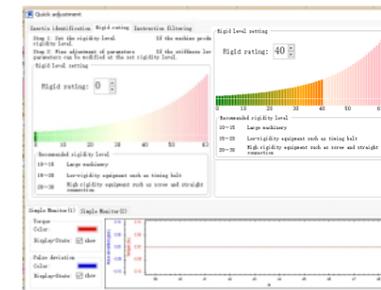
Xinje software has the function of mechanical characteristic measurement, which can automatically measure the resonance frequency according to the operation of mechanical load. It is equipped with five notch filters to ensure the stable and reliable operation of the equipment and sweep away the load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



### Gain adjustment interface

Fast adjustment

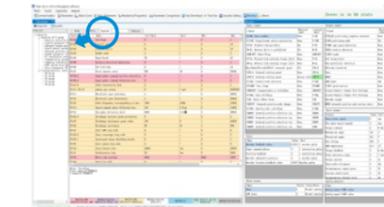
The fast adjustment / self-tuning mode can identify the inertia. The user can configure the appropriate mode, method, load type, foundation and other parameters according to the equipment operation status for the upper computer to set the best gain parameters, or adjust the rigidity level according to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



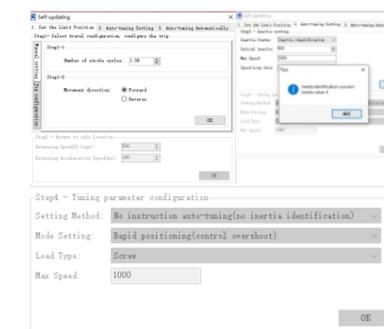
### Monitor interface

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.



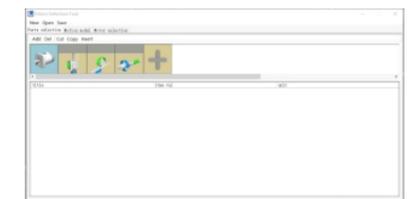
Self-tuning interface



### 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.



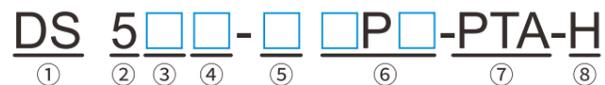
Electronic gear ratio conversion

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

## DS5 series servo driver naming rule



**① Name**

Symbol	Product name
DS	Servo driver

**② Series**

Symbol	Product series
5	Series 5

**③ Type**

Symbol	Product series
L	Basic pulse type
K	Standard pulse type
C	EtherCAT bus type
P	Profinet bus type

**④ Product version**

Symbol	Version
1	Compact
2	High-Performance
5	Flagship

**⑤ Voltage specification**

Symbol	Rated input voltage
2	AC220V
4	AC380V

**⑥ Driver power**

Symbol	Rated output power (kW) <sub>(kW)</sub>
0P1	0.1
0P2	0.2
0P4	0.4
0P7	0.75
1P0	1.0
1P5	1.5
2P3	2.3
2P6	2.6

**⑦ Encoder specification**

Symbol	Encoder specification
T	Communication type encoder

**⑧ Product type**

Symbol	Product type
default	Standard driver
H	Enhanced driver
FH	High protection driver
FS	STO model driver

## DS5 series servo driver model list

Power[kW]	Series	DS5L2 series <small>Small-Volume Static Pressure Type Enhanced Version</small>	DS5C2 series <small>Small-Volume Light-Load Type Enhanced Version</small>	DS5K2 series <small>Small-Volume Standard Type Enhanced Version</small>	DS5P series <small>PROFINET Bus Type</small>
0.1		DS5L2-20P1-PTA	DS5C2-20P1-PTA	DS5K2-20P1-PTA	DS5P-20P1-PTA
0.2		DS5L2-20P2-PTA	/	/	DS5P-20P2-PTA
0.4		DS5L2-20P4-PTA	DS5C2-20P4-PTA	DS5K2-20P4-PTA	DS5P-20P4-PTA
0.75		DS5L2-20P7-PTA	DS5C2-20P7-PTA	DS5K2-20P7-PTA	DS5P-20P7-PTA
1.0		DS5L2-21P0-PTA	DS5C2-21P0-PTA	DS5K2-21P0-PTA	DS5P-21P0-PTA
1.5		DS5L2-21P5-PTA	DS5C2-21P5-PTA	DS5K2-21P5-PTA	DS5P-21P5-PTA
2.3		DS5L2-22P3-PTA	DS5C2-22P3-PTA	DS5K2-22P3-PTA	DS5P-22P3-PTA
2.6		DS5L2-22P6-PTA	DS5C2-22P6-PTA	DS5K2-22P6-PTA	DS5P-22P6-PTA
1.0		DS5L2-41P0-PTA	DS5C2-41P0-PTA	DS5K2-41P0-PTA	DS5P-41P0-PTA
1.5		DS5L2-41P5-PTA	DS5C2-41P5-PTA	DS5K2-41P5-PTA	DS5P-41P5-PTA
2.3		DS5L2-42P3-PTA	DS5C2-42P3-PTA	DS5K2-42P3-PTA	DS5P-42P3-PTA
3.0		DS5L2-43P0-PTA	DS5C2-43P0-PTA	DS5K2-43P0-PTA	DS5P-43P0-PTA
5.5		/	DS5C2-45P5-PTA	DS5K2-45P5-PTA	DS5P-45P5-PTA
7.5		/	DS5C2-47P5-PTA	DS5K2-47P5-PTA	DS5P-47P5-PTA
11		/	/	/	/
15		/	DS5C2-415P0-PTA	/	/
22		/	DS5C2-422P0-PTA	DS5K2-422P0-PTA	/
32		/	DS5C2-432P0-PTA	DS5K2-432P0-PTA	/
45		/	/	/	/

## DS5 series servo driver specification list

Function	Control mode				Control method								
	Position control	Speed control	Torque control	Bus control	Pulse	Long line drive	Analog input	External displacement sensor	ABZ differential feedback	RS232	RS485	SI input	SO output
Pulse type DS5L1/L2 series	●	●	●	●	●							3	3
EtherCAT type DS5C1/C2 series	●	●	●	●								3	3
Standard type DS5K2 series	●	●	●	●	●	●	●		●	●	●	8	6
Profinet type DS5P series	●	●	●	●								5	3

\*Note: The DS5L1/L2/C1/C2 series 1kW-7.5kW servo drivers have 5 inputs and 3 outputs, the DS5C1/C2 series 11kW and above drivers have 5 inputs and 4 outputs, and the DS5C1/C2 series 11kW and above drivers support pulse control mode.

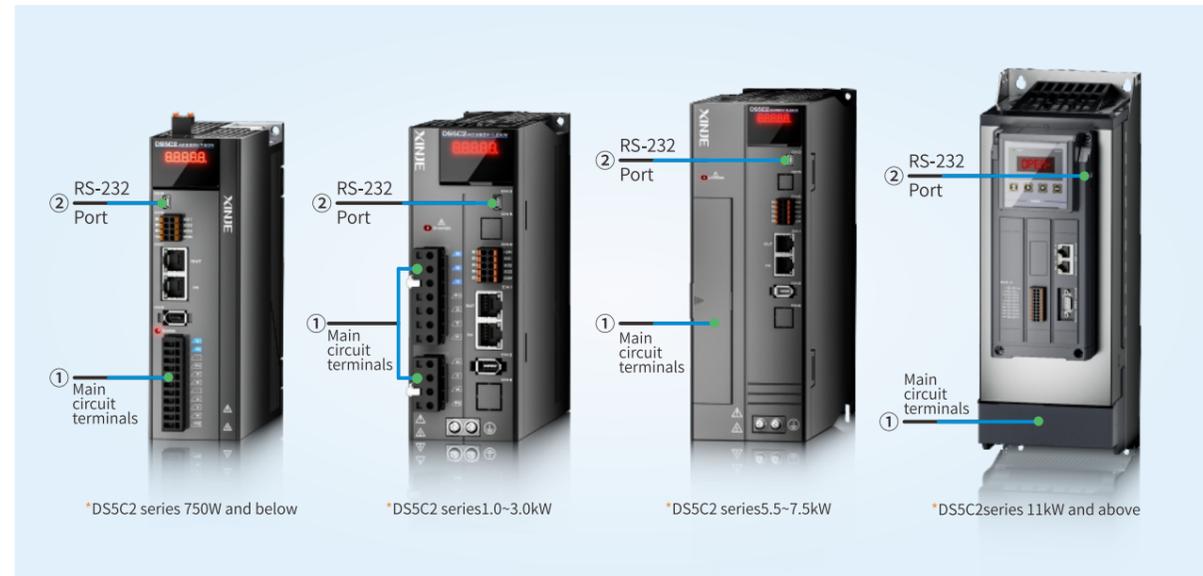
# Technical specification

## DS5 Series Drive Technical Specifications

Specification	Model	Pulse type	EtherCAT bus type	Standard type	PROFINET bus type	
		DS5L2 series	DS5C2 series	DS5K2 series	DS5P series	
Basic specification	Power range(kW)	0.1~3.0/0.1~3.0	0.1~45.0/0.1~32.0	0.1~7.5	0.1~7.5	
	Input power supply	Single phase/three-phase AC200~240V, 50Hz/60Hz; Three phase AC380V~440V, 50Hz/60Hz				
	Encoder feedback	17bit/19bit/23bit communication encoder				
	Control method	Three phase full wave rectification IPM, PWM control, sine wave current drive mode				
	Usage environment	Ambient temperature	Operation: -10°C~40 °C (no condensation) / storage: -20°C~60 °C (no condensation)			
		Ambient humidity	Operation/Storage: below 90%RH (no condensation)			
		Vibration/impact resistance	4.9m/s <sup>2</sup> / 19.6m/s <sup>2</sup>			
	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	DS5L2, DS5L1(1~3kW) standard configured	DS5C2, DS5C1(1~7.5kW) standard configured	DS5K2 standard configured	no
		Communication function	RS232: Standard ModbusRTU protocol RS485: Standard ModbusRTU protocol	RS232: Standard ModbusRTU protocol EtherCAT: EtherCAT bus communication	RS232: Standard ModbusRTU protocol RS485: Standard ModbusRTU protocol	RS232: Standard ModbusRTU protocol Profinet: Profinet bus communication
		Braking resistor	750W~3.0kW with built-in resistor			21P0 and above with built-in resistor
	Position output	Display and operation	5-digit LED indicator light, power indicator light, 4 operation buttons			
		Output form	no	no	ABZ differential feedback output	no
		Frequency division function Collector Z-phase output	no	no	Yes	no
I/O signal	Analog input	no	no	Yes	no	
	Digital input (SI)	3channels (750Wand below) 5channels (above750W)	3channels (750Wand below) 5channels (above750W)	8 channels	5 channels	
	Digital output (SO)	3 channels	3 channels (below11kW) 4 channels (11kW and above)	6 channels	3 channels	
Position control mode	Maximum input pulse frequency	Collector open circuit: 200kpps(optocoupler) Differential input: 500kpps (optocoupler)	Collector open circuit: 200kpps(optocoupler) Differential input: 500kpps (optocoupler) (11kW and above supported)	Collector open circuit: 200kpps(optocoupler) Differential input: 500kpps (optocoupler)	Not support	
	Pulse command mode	3.3V-5V/18-24V pulse+direction, AB phase pulse, CW/CCW signal	3.3V-5V/18-24V pulse+direction, AB phase pulse, CW/CCW signal	3.3V-5V/18-24V pulse+direction, AB phase pulse, CW/CCW signal	Not support	
	Control mode	External pulse/internal position	Internal position/EtherCAT motion bus	External pulse/internal position	PROFINET motion bus/internal position	
	Feedforward compensation	0~100% (set resolution to 1%)				
	Positioning completed width setting	1~65535 instruction units (set resolution to 1 instruction unit)				
Speed control mode	Electronic gear ratio	1/65530≤B/A≤65535				
	Control mode	Analog speed control (only supported by DS5K2), internal three-stage speed, external speed mode				
	Command smoothing mode	Low-pass filter, smoothing filter				
	Analog input	Voltage range	no	-10V~+10V	no	
	Input impedance	no	no	72KΩ	no	
Torque control mode	Torque limit	Internal parameters		Internal parameters/external analog value	Internal parameters	
	Rate of speed change	When the rated external load changes from 0 to 100%: less than ±0.01% (at rated speed) Rated voltage ±10%: 0.01% (at rated speed)				
		Environmental temperature 20±25°C: less than ±0.01% (at rated speed)				
Bus control mode	Control mode	Analog torque control (only supported by DS5K2), internal torque				
	Analog input	Voltage range	no	-10V~+10V	no	
	Input impedance	no	no	72KΩ	no	
Torque control mode	Speed limit	Internal parameters		Internal parameters/external analog value	Internal parameters	
	Communication protocol	no	EtherCAT protocol	no	PROFINET protocol	

# Terminal definition

## DS5C2 series



### ① Main circuit terminal definition

#### DS5C2-20P1/20P2/20P4-PTA

Terminal	Function	Explanation
L/N	Main circuit power input terminal	Single phase 200~240V, 50/60Hz
●	Empty pin	/
P+, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals.
U, V, W, PE	Motor connection terminal	Connect to the motor

#### DS5C2-20P7-PTA

Terminal	Function	Explanation
L/N	Main circuit power input terminal	Single phase 200~240V, 50/60Hz
●	Empty pin	/
P+, D, C	Use built-in regenerative resistor	Short circuit P+ and D terminals, disconnect P+ and C
	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
●	Empty pin	/
U, V, W, PE	Motor connection terminal	Connect to the motor

#### DS5C2-45P5/47P5-PTA

Terminal	Function	Explanation
R, S, T	Main circuit power input terminal	Three phase 380~440V, 50/60Hz
P+, D, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor <i>Note:</i> The ground wire is on the heat sink, please check before powering on.
⊕	Grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

### ② RS-232 port

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

\*Note: PE is the grounding terminal.

#### DS5C2-21P0/21P5/22P3/22P6-PTA

Terminal	Function	Explanation
L1, L2, L3	Main circuit power input terminal	Single/three-phase 200~240V, 50/60Hz
	Use built-in regenerative resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor <i>Note:</i> The ground wire is on the heat sink, please check before powering on.
⊕	Grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5C2-41P0/41P5/42P3/43P0-PTA

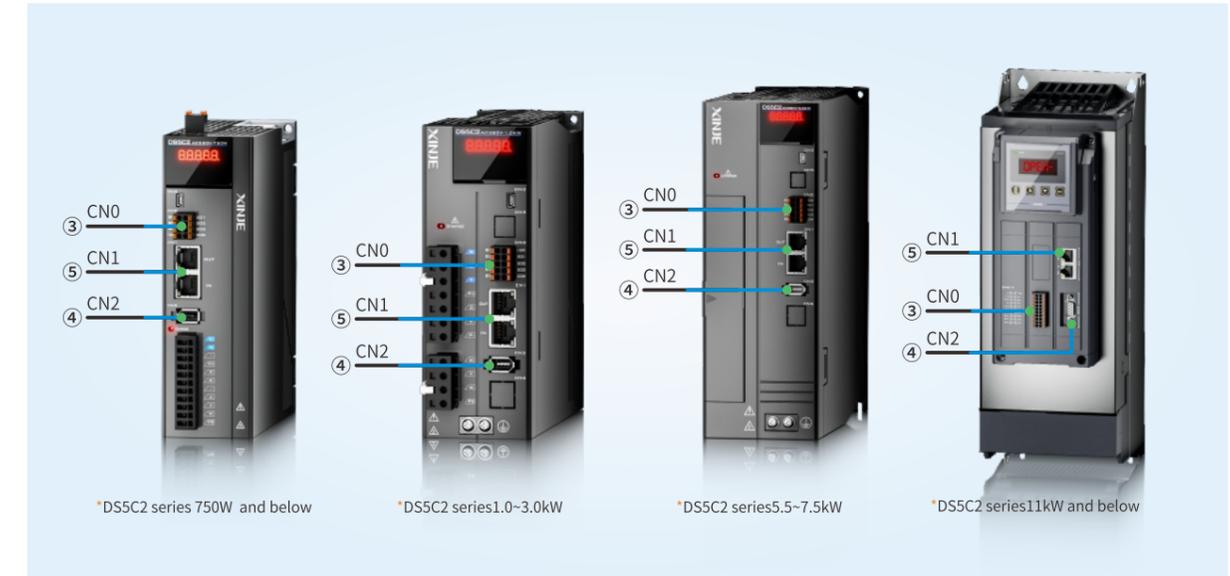
Terminal	Function	Explanation
R, S, T	Main circuit power input terminal	Three phase 380~440V, 50/60Hz
	Use built-in regenerative resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor <i>Note:</i> The ground wire is on the heat sink, please check before powering on.
⊕	Grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5C2-41P0/41P0/422P0/432P0/445P0-PTA

Terminal	Function	Explanation
R, S, T	Main circuit power input terminal	Single phase 380~440V, 50/60Hz
●	Empty pin	/
U, V, W	Motor connection terminal	Connect to the motor <i>Note:</i> The ground wire is on the heat sink, please check before powering on.
P+, PB	Use external regenerative resistor	Connect the regenerative resistor to P+ and PB. Set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
PE, PE	Grounding terminal	Only supported by 11, 15kW

# Terminal definition

## DS5C2 series



### ③ CN0 port

#### DS5C2 series 750W and below

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

### ④ CN2 port

#### DS5C2 series 0.1~7.5kW

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

#### DS5C2 series 11kW and above

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

### DS5C2 series 1~7.5kW

Pin	Explanation	Name	Explanation
SI1	Input terminal 1	24V	+24 input common terminal
SI2	Input terminal 2	SO1	Output terminal 1
SI3	Input terminal 3	SO2	Output terminal 2
SI4	Input Terminal 4 (High Speed)	SO3	Output terminal 3
SI5	Input Terminal 5 (High Speed)	COM	Output terminal ground

### DS5C2 series 11kW and above

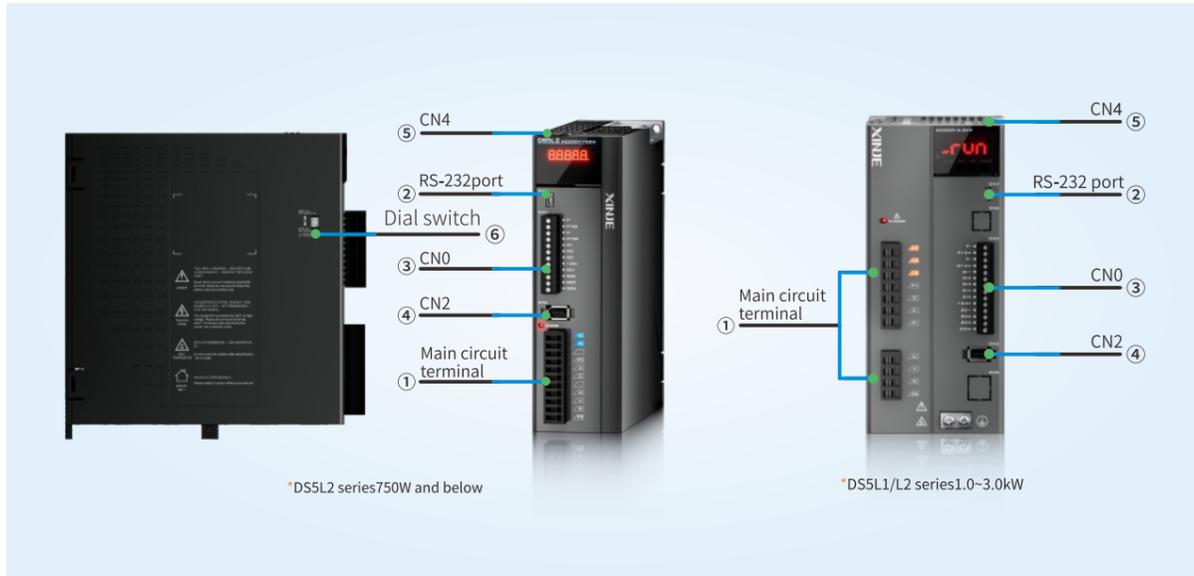
Pin	Explanation	Name	Explanation
P-	Pulse-	+24V	Input terminal common terminal
P+5	Pulse +5V	SI1	Input terminal
P+24	Pulse pulse +24V	SI2	Input terminal
D-	Direction-	SI3	Input terminal
D+5	Direction +5V	SI4	Input terminal (high-speed)
D+24	Direction +24V	SI5	Input terminal (high-speed)
SO1+	Output terminal +	SO1-	Output terminal-
SO2+	Output terminal +	SO2-	Output terminal-
SO3+	Output terminal +	SO3-	Output terminal-
SO4+	Output terminal +	SO4-	Output terminal-

### 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	TX B+	TRANSMIT B+
10	TX B-	TRANSMIT B-
11	RX B+	RECEIVE B+
12	/	/
13	/	/
14	RX B-	RECEIVE B-
15	/	/
16	/	/

# Terminal definition

## DS5L2 series



### ① Definition of main circuit terminals

#### DS5L2-20P1/20P2/20P4-PTA

Terminal	Function	Explanation
L/N	Main circuit power input terminal	Single phase200~240V, 50/60Hz
●	Empty pin	/
P+, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, P0-25=power value, P0-26=resistance value
U, V, W, PE	Motor connection terminal	Connect to the motor

#### DS5L2-20P7-PTA

Terminal	Function	Explanation
L/N	Main circuit power input terminal	Single phase200~240V, 50/60Hz
●	Empty pin	/
P+, D, C	Use built-in regenerative resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
●	Empty pin	/
U, V, W, PE	Motor connection terminal	Connect to the motor

### ② RS-232 port

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

### ④ CN2 port

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

### ⑤ CN4-485 port

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

### ⑥ Dial switch

Dial 1	Dial 2	Status
ON	ON	Pulse input differential 5V
OFF	OFF	Pulse input collector 24V

\*Note: The directions of the two dials must be consistent. If they are not consistent, once the driver pulse terminal is powered on, the pulse terminal will be burned out.

\*Note: PE is the grounding terminal.

#### DS5L2-21P0/21P5/22P3/22P6-PTA

Terminal	Function	Explanation
L1, L2, L3	Main circuit power input terminal	Single/three-phase200~240V, 50/60Hz
P+, D, C	Use built-in regenerative resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor *Note: The ground wire is on the heat sink, please check before powering on.
⊕	Grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5L2-41P0/41P5/42P3/43P0-PTA

Terminal	Function	Explanation
R, S, T	Main circuit power input terminal	Three phase380~440V, 50/60Hz
P+, D, C	Use built-in regenerative resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external regenerative resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. Set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor *Note: The ground wire is on the heat sink, please check before powering on.
⊕	Grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

### ③ CN0 port

#### DS5L2 series 750W and below

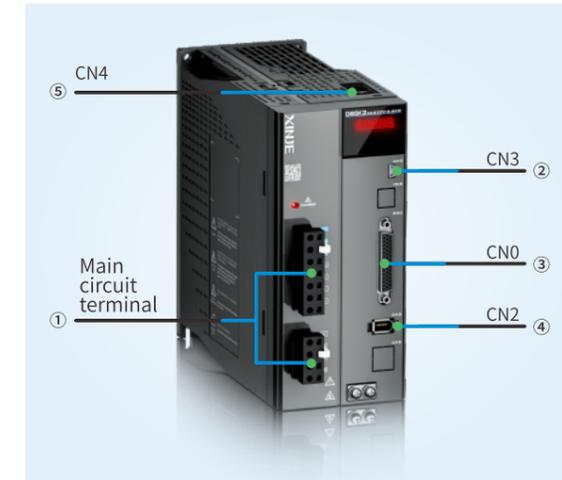
Pin	Name
P-	Pulse input PUL-
P+24(5V)	Pulse input external power supply
D-	Direction input DIR-
D+24(5V)	Directional input external power supply
SI1	Input terminal 1
SI2	Input terminal 2
SI3	Input terminal 3
+24V	Input terminal +24V
SO1	Output terminal 1
SO2	Output terminal 2
SO3	Output terminal 3
COM	Output terminal ground

#### DS5L2 series above750W

Pin	Name
P-	Pulse input PUL-
P+24(5V)	Collector open circuit input
D-	Direction input DIR-
D+24(5V)	Collector open circuit input
SI1	Input terminal 1
SI2	Input terminal 2
SI3	Input terminal 3
SI4	Input terminal 4
SI5	Input terminal 5
+24V	Input +24V
SO1	Output terminal 1
SO2	Output terminal 2
SO3	Output terminal 3
COM	Output terminal ground

# Terminal definition

## DS5K2 series



### ② RS-232 port

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

### ③ CN0 port

No.	Name	Explanation	No.	Name	Explanation
1	P-	Pulse-	23	SI4	Input terminal
2	P+5	Pulse +5V	24	SI6	Input terminal
3	P+24	Pulse +24V	25	SI7	Input terminal
4	D-	Direction-	26	GND	Long line drive ground
5	D+5	Direction +5V	27	SI8+	High speed input terminal
6	D+24	Direction +24V	28	SI8-	High speed input terminal
7	SO1	Output terminal	29	SI5	High speed input terminal
8	SO2	Output terminal	30	+24V	High speed input terminal
9	SO3	Output terminal	31	T-REF+	External torque analog differential input+
10	SO4	Output terminal	32	T-REF-	External torque analog differential input-
11	SO5+	Output terminal	33	V-REF+	External speed analog differential input+
12	SO5-	Output terminal	34	V-REF-	External speed analog differential input-
13	SO6+	Output terminal	35	OA+	Encoder frequency division output OA+
14	SO6-	Output terminal	36	OA-	Encoder frequency division output OA-
15	COM	Output common terminal	37	OB+	Encoder frequency division output OB+
16	NC	Reserved	38	OB-	Encoder frequency division output OB-
17	NC	Reserved	39	OZ+	Encoder frequency division output OZ+
18	NC	Reserved	40	OZ-	Encoder frequency division output OZ-
19	GND	Analog input ground	41	HPUL+	Long line drive high-speed pulse+
20	SI1	Input terminal	42	HPUL-	Long line drive high-speed pulse-
21	SI2	Input terminal	43	HDIR+	Long line drive high-speed direction+
22	SI3	Input terminal	44	HDIR-	Long line drive high-speed direction-

### ④ CN2 port

No.	Definition
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

### ① Definition of main circuit terminals

#### DS5K2-20P1/20P4-PTA

Terminal	Function	Explanation
L/N	Main circuit power input terminal	Single phase200~240V, 50/60Hz
●	Empty pin	/
P+, C	Use external braking resistor	Connect the regenerative resistor to the P+ and C terminals, P0-25=power value, P0-26=resistance value
U, V, W	Motor connection terminal	Connect to the motor
PE	Motor grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5K2-20P7-PTA

Terminal	Function	Explanation
L/N	Main circuit power input terminal	Single phase200~240V, 50/60Hz
●	Empty pin	/
P+, D, C	Use built-in braking resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external braking resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. P0-25=power value, P0-26=resistance value
U, V, W	Motor connection terminal	Connect to the motor
PE	Motor grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5K2-21P0/21P5/22P3/22P6-PTA

Terminal	Function	Explanation
L1, L2, L3	Main circuit power input terminal	Three phase (L1 · L2 · L3) AC200~240V, 50/60Hz Or single-phase (L1 · L3) AC200~240V, 50/60Hz
P+, D, C	Use built-in braking resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external braking resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor
PE	Motor grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5K2-41P0/41P5/42P3/43P0-PTA

Terminal	Function	Explanation
R, S, T	Main circuit power input terminal	Three phase AC380~440V, 50/60Hz
P+, D, C	Use built-in braking resistor	Short circuit P+ and D terminals, disconnect P+ and C
P+, D, C	Use external braking resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor
PE	Motor grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

#### DS5K2-45P5/47P5-PTA

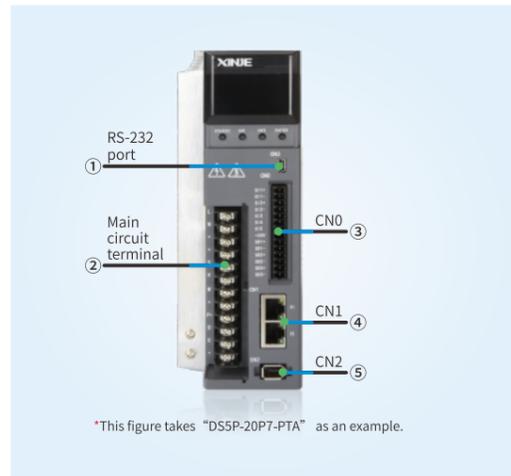
Terminal	Function	Explanation
R, S, T	Main circuit power input terminal	Three phase AC380~440V, 50/60Hz
P+, D, C	Use built-in braking resistor	Short circuit P+ and D terminals, disconnect P+ and C (This model does not have a built-in braking resistor and is not supported)
P+, D, C	Use external braking resistor	Connect the regenerative resistor to the P+ and C terminals, and disconnect the P+ and D. P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W	Motor connection terminal	Connect to the motor
PE	Motor grounding terminal	Connect to the motor grounding terminal and perform grounding treatment

### ⑤ CN4 port-RS485

No.	Definition
4	485-A
5	485-B
6	485GND
Others	Reserved

# Terminal definition

## DS5P series



### ① RS-232 port

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

### ② Definition of main circuit terminals

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

### ③ CN0 port

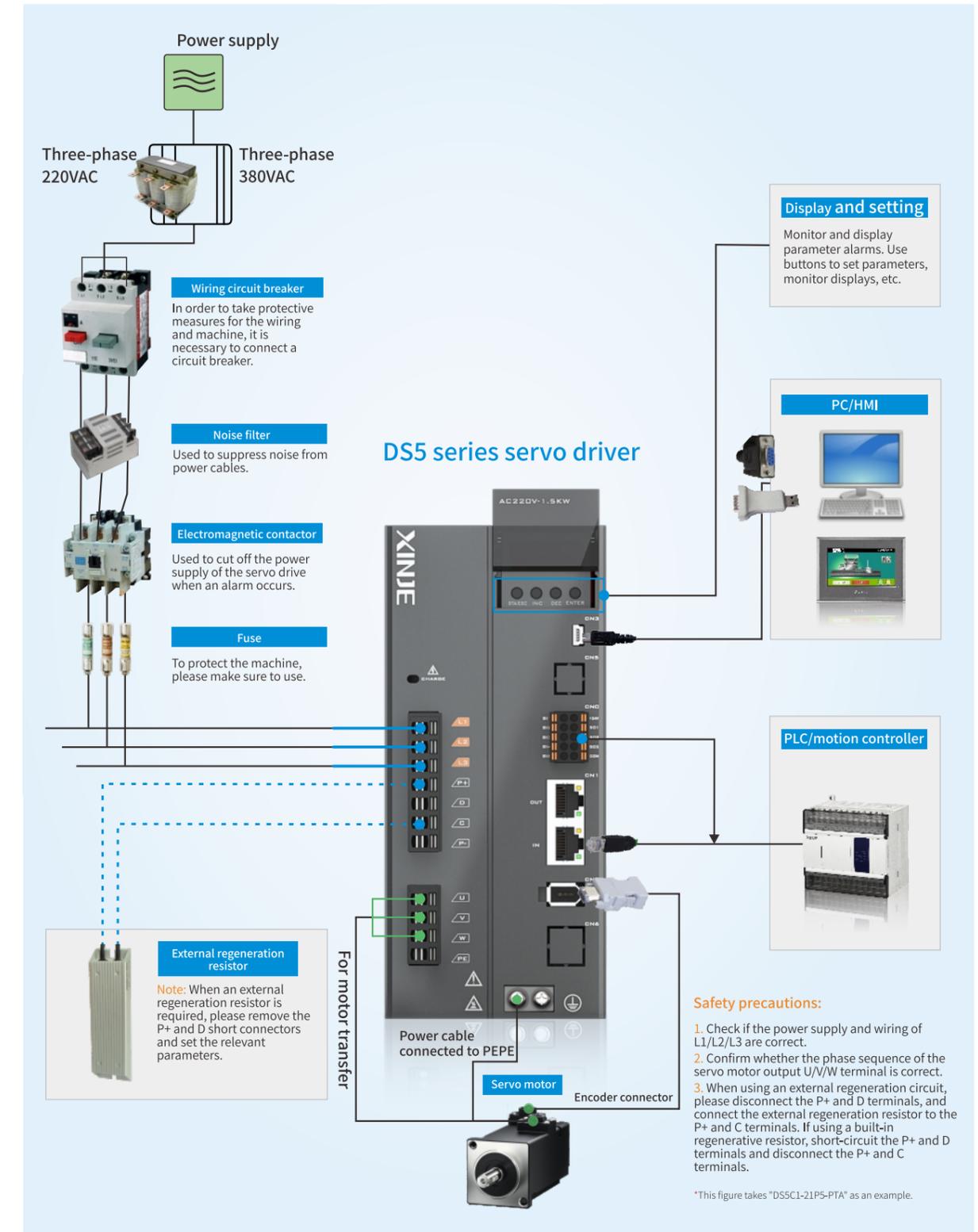
Name	Explanation	Name	Explanation
SI1+	High speed S1+	24V	Input common terminal
SI1-	High speed S1-	SO1+	Output terminal
SI2+	High speed S1+	SO1-	Output terminal
SI2-	High speed S1-	SO2+	Output terminal
SI3	Input terminal	SO2-	Output terminal
SI4	Input terminal	SO3+	Output terminal
SI5	Input terminal	SO3-	Output terminal

### ⑤ CN2 port

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

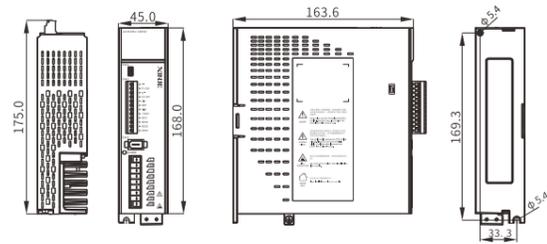
# Peripheral device wiring

## DS5 series

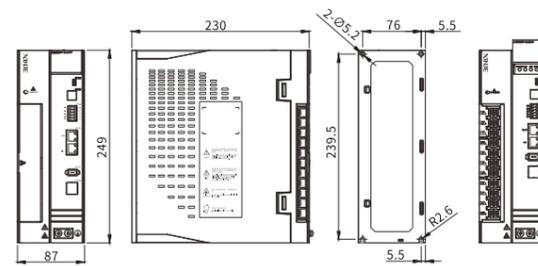


# Driver dimension diagram (Unit: mm)

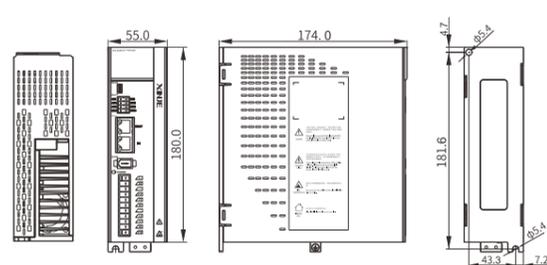
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DS5C2-20P1/2/4-PTA  
DS5K2-20P1/20P4-PTA



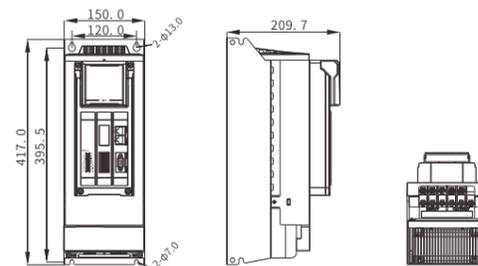
DS5C2-45P5/47P5-PTA  
DS5K2-45P5/47P5-PTA



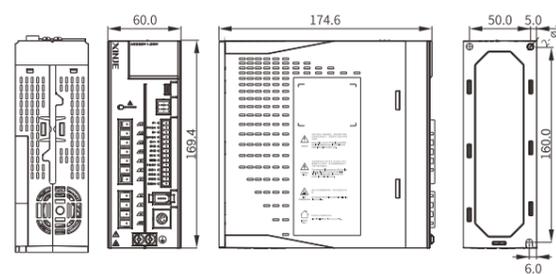
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DS5C2-20P7-PTA  
DS5K2-20P7-PTA



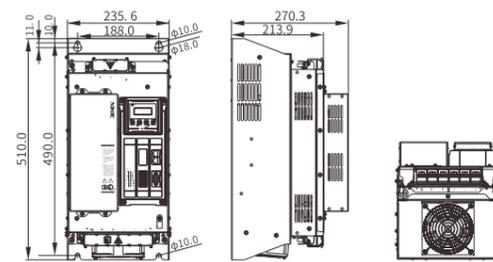
DS5C2-415P0-PTA



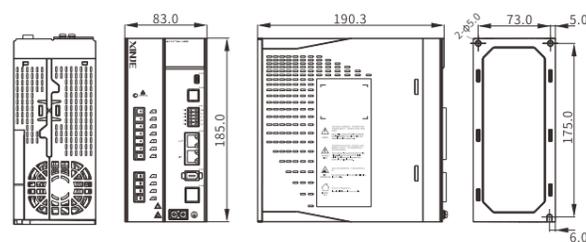
DS5L2-21P0/41P0/41P5-PTA  
DS5C2-21P0/41P0/41P5-PTA  
DS5K2-21P0/41P0/41P5-PTA



DS5C2-422P0/432P0-PTA

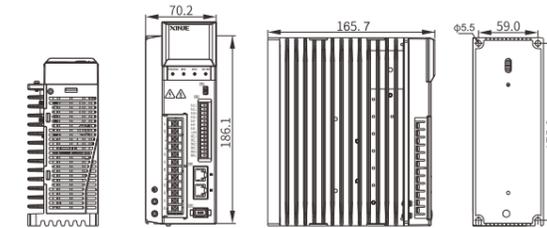


DS5L2-21P5/22P3/22P6/42P3/43P0-PTA  
DS5C2-21P5/22P3/22P6/42P3/43P0-PTA  
DS5K2-21P5/22P3/22P6/42P3/43P0-PTA

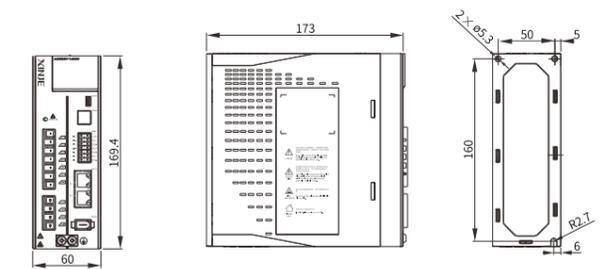


# Driver dimension diagram (Unit: mm)

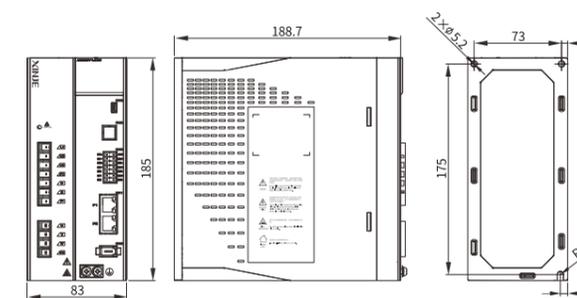
DS5P-20P1/20P2/20P4/20P7-PTA



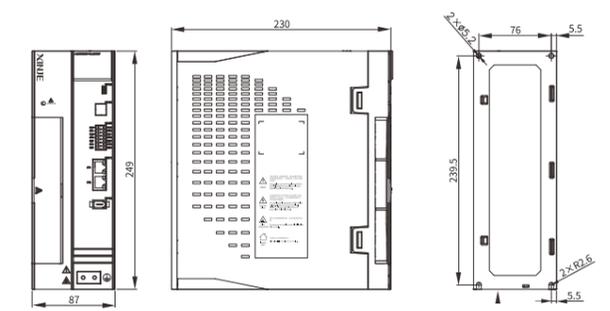
DS5P-21P0/41P0/41P5-PTA



DS5P-21P5/22P3/22P6/42P3/43P0-PTA



DS5P-45P5/47P5-PTA



- PLC
- HMI
- Industrial Information
- Servo system
- Frequency Inverter
- Splicing system
- Vision system
- IoT Industrial Controller

# Naming rule

## MS6 servo motor naming rule

**MS6H - 80 C N 30 B Z 3 - 2 0P7 - □**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

① Inertia type		② Frame		③ Encoder structure		④ Encoder specification		⑤ speed		⑩ Rated power	
Symbol	Inertia	Symbol	Frame	Symbol	Type	Symbol	Specification	Symbol	Rated speed(rpm)	Symbol	Rated power(kw)
MS6L	Ultra-low inertia motor	25	Frame 25	C	Magnetic encoder	M	Multi turn 17-bit	15	1500	0A5	0.05
MS6S	Low inertia motor	40	Frame 40	T	Optical encoder	N	Single/multi turn integrated 19-bit	20	2000	0P1	0.1
MS6G	Medium inertia motor	60	Frame 60			L	Multi turn 23-bit	25	2500	0P2	0.2
MS6H	High inertia motor	80	Frame 80			H	High performance multi turn 23-bit	30	3000	0P4	0.4
		100	Frame 100							0P7	0.75
		110	Frame 110							0P8	0.85
		130	Frame 130							1P0	1
		180	Frame 180							1P3	1.3
		200	Frame 200						1P5	1.5	
		220	Frame 220						1P8	1.8	
		265	Frame 265						2P0	2.0	
									2P3	2.3	
									3P0	3.0	
									4P4	4.4	
									5P5	5.5	
									7P5	7.5	
									11P0	11	
									13P0	13	
									17P0	17	
									21P0	21	
									27P0	27	
									30P0	30	
									48P0	48	
									60P0	60	
									75P0	75	

⑥ Motor shaft specification		⑦ Power-off brake		⑧ Motor connector type	
Symbol	Shaft specification	Symbol	Power-off brake	Symbol	Connector type
A	With key, no oil seal, with threaded hole	Z	With brake	2	Aviation connector
B	With key, with oil seal, with threaded hole	empty	Without brake	3	Connection form
C	No key, no oil seal, with threaded hole			4	Amp plug (motor body IP67)
D	No key, with oil seal, with threaded hole				
E	Special shaft specifications (length, shaft diameter, etc.)				

⑨ Power supply voltage		⑪ Motor heat dissipation method	
Symbol	Power supply voltage	Symbol	Heat dissipation method
2	220V	Default	Natural heat dissipation
4	380V	F	Air cooling
		Y	Liquid cooling

\*NOTE: The provided explanation is only an example, please refer to the detailed parameters of the motor for specific models. Our company provides combination models of CM, CN, TL, and TH. Currently, only the MS6 series 130 flange 2.3kW and 180 flange 5.5kW and

## Motor driver specification list

MS6 MOTOR														
Item	50W	100W	200W	400W	750W	850W	1.0kW	1.3kW	1.5kW	1.8kW	2.3kW	2.6kW	2.5kW	3.0kW
Ultra low inertia MS6L									100			100		
Low inertia MS6S	25			60	80		80 100		100					130
Medium inertia MS6G						130	130		110 130		130		130	180
High inertia MS6H	40	40	60	60	80	130	80	130	130	130	130			180

Item	4.4kW	5kW	5.5kW	7.0kW	7.5kW	13kW	17kW	21kW	27kW	30kW	48kW	60kW	75kW
Ultra low inertia MS6L													
Low inertia MS6S		130		130									
Medium inertia MS6G	180		180	180	200	200	200	200	265	265	265	265	
High inertia MS6H	180		180	180									

\*Note: 40/60/80/110/130/180/220/265 represents the motor base. The motor marked with "\*" is still under development, please stay tuned. Provide models with a voltage level of 220V. Provide models with a voltage level of 380V. Provide models with a voltage level of 220V/380V.

# MS6 series motor

Series	Specification	1.5kW	1.5kW	2.5kW					
MS6L ultra low inertia	Model	100□□30B□2	100□□30B□2	100□□30B□2					
	Frame [mm]	100	100	100					
	Rated torque(max torque)[N·m]	4.9(14.7)	4.9(14.7)	8(24)					
	Rated speed(max speed)[r/min]	3000(6000)	3000(6000)	3000(6000)					
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	2550(3123)	2550(3123)	3840(4315)					
	Encoder bits	19/23	19/23	19/23					
	220V 380V	✓ ✓	✓ ✓	✓ ✓					

Series	Specification	50W	400W	400W	750W	750W	1kW	1kW	1.5kW	3kW	5kW	7kW
MS6S low inertia	Model	25□□30B4	60□□30B□3	60□□30B□4	80□□30B□3	80□□30B□4	80□□30B□3	100□□30B□2	100□□30B□2	130□□30B□2	130□□30B□2	130□□30B□2
	Frame [mm]	25	60	60	80	80	80	100	100	130	130	130
	Rated torque(max torque)[N·m]	0.159(0.477)	1.27(4.45)	1.27(4.45)	2.39(7.17)	2.39(7.17)	3.18(9.54)	3.18(9.54)	4.8(12)	9.8(29.4)	15.8(47.4)	22.3(66.9)
	Rated speed(max speed)[r/min]	3000(6000)	3000(6500)	3000(6500)	3000(5200)	3000(5200)	3000(4000)	3000(4500)	3000(4500)	3000(6000)	3000(6000)	3000(5000)
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	14	258(280)	247(279)	980(1005)	980(1004)	1182(1196)	1928(2200)	2812(2888)	5870(8500)	8570(10530)	1180(1314)
	Encoder bits	19	17/19/23	17	17/19/23	17	17/19/23	17/23	17/19/23	19/23	19/23	19/23
	220V 380V	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓

Series	Specification	850W	850W	1kW	1.5kW	1.5kW	1.5kW	1.5kW	1.5kW	2.3kW	2.3kW	
MS6G medium inertia	Model	130□□15B□2	130□□15B□2	130□□25B□2	110□□30B□2	110□□30B□2	130□□15B□2	130□□15B□2	130□□20B□2	130□□20B□2	130□□15B□2	
	Frame [mm]	130	130	130	110	110	130	130	130	130	130	
	Rated torque(max torque)[N·m]	5.4(16.2)	5.4(16.2)	4(12)	4.78(12.7)	4.78(13.5)	10(25)	10(25)	7.2(18)	7.2(21.6)	14.6(29.2)	14.6(36.5)
	Rated speed(max speed)[r/min]	1500(2500)	1500(3000)	2500(4000)	3000(4500)	3000(4500)	1500(2500)	1500(3000)	2000(3000)	2000(4000)	1500(2000)	1500(3000)
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	11770(14480)	11770(14480)	8030(8430)	6200(6248)	6200(6248)	17320(19670)	17320(19670)	12140(14410)	12140(14410)	23020(28780)	23020(28780)
	Encoder bits	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23	17/19/23
	220V 380V	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓

Series	Specification	2.6kW	3kW	4.4kW	5.5kW	7.5kW	13kW	17kW	21kW	27kW	30kW	48kW
MS6G medium inertia	Model	130□□25B□2	180□□15B□2	180□□15B□2	180□□15B□2	180□□15B□2	200□□17B□2	200□□17B□2	200□□17B□2	200□□17B□2	265□□17B□2	200□□17B□2
	Frame [mm]	130	180	180	180	180	200	200	200	200	265	265
	Rated torque(max torque)[N·m]	10(28.5)	19.1(47.75)	28(84)	35(87.5)	48(120)	70(175)	95.5(238.75)	120(240)	150(375)	170(340)	270(540)
	Rated speed(max speed)[r/min]	2500(4000)	1500(3000)	1500(3000)	1500(3000)	1500(3000)	1700(2500)	1700(2500)	1700(2500)	1700(2500)	1700(2200)	1700(2200)
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	17130(19823)	45790(47340)	67600(76770)	91360(100530)	135330(144500)	159350(165980)	195000(202056)	229611(230194)	263957(264545)	470111	602879
	Encoder bits	19/23	19/23	19/23	19/23	19/23	23	23	23	23	23	23
	220V 380V	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓

Series	Specification	50W	100W	100W	200W	200W	400W	400W	750W	750W	
MS6H high inertia	Model	40□□30B□4	40□□30B□3	60□□30B□4	60□□30B□3	60□□30B□4	60□□30B□3	60□□30B□4	80□□30B□3	80□□30B□4	
	Frame [mm]	40	40	40	60	60	60	60	80	80	
	Rated torque(max torque)[N·m]	0.16(0.56)	0.32(0.96)	0.32(1.12)	0.64(2.24)	0.64(2.24)	1.27(4.45)	1.27(4.45)	1.27(4.45)	2.39(7.17)	2.39(7.17)
	Rated speed(max speed)[r/min]	3000(6500)	3000(6500)	3000(6500)	3000(6500)	3000(6500)	3000(6000)	3000(6000)	3000(6000)	3000(5200)	3000(5200)
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	35.6(38.27)	64.38(67.18)	58.2(60.77)	271(281)	300(332)	530(550)	521(529)	1550(1569)	1578(1688)	
	Encoder bits	17	17/19/23	17	17/19/23	17	17/19/23	17	17/19/23	17	
	220V 380V	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	

Series	Specification	1kW	1kW	850W	850W	1.3kW	1.5kW	1.8kW	1.8kW
MS6H high inertia	Model	80□□30B□3	80□□30B□4	130□□15B□2	130□□15B□2	130□□15B□2	130□□20B□2	130□□15B□2	130□□15B□2
	Frame [mm]	80	80	130	130	130	130	130	130
	Rated torque(max torque)[N·m]	3.18(9.54)	3.18(9.54)	5.41(16.23)	5.41(16.23)	8.3(24.9)	7.16(18)	11.5(34.5)	11.5(28.75)
	Rated speed(max speed)[r/min]	3000(4000)	3000(4000)	1500(3000)	1500(3000)	1500(3000)	2000(3000)	1500(2500)	1500(3000)
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	2391(2410)	2362(2483)	13860(15340)	13860(15340)	20000(21440)	20000(21440)	28500(29940)	28500(29940)
	Encoder bits	17/19/23	17	17/23	17/23	17/23	17/23	17/23	17/23
	220V 380V	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓

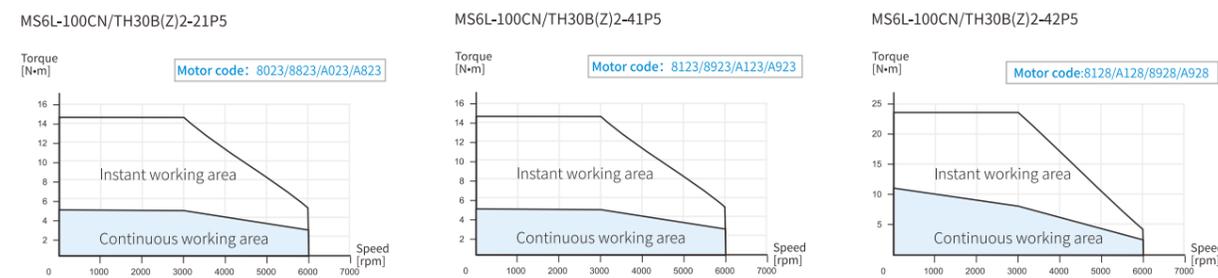
Series	Specification	2.3kW	2.3kW	3kW	4.4kW	5.5kW	7.5kW
MS6H high inertia	Model	130□□15B□2	130□□15B□2	180□□15B□2	180□□15B□2	180□□15B□2	180□□15B□2
	Frame [mm]	130	130	180	180	180	180
	Rated torque(max torque)[N·m]	14.6(36.5)	14.6(36.5)	19(51.3)	28(84)	35(87.5)	48(120)
	Rated speed(max speed)[r/min]	1500(2500)	1500(3000)	1500(3000)	1500(3000)	1500(3000)	1500(3000)
	Inertia, none brake(brake)[10 <sup>-4</sup> kg·m <sup>2</sup> ]	35240(36260)	35240(36260)	51000(55490)	73280(78040)	90250(95200)	132000(134690)
	Encoder bits	17/23	17/23	17/23	17/23	17/23	17/23

# MS6L ultra low inertia

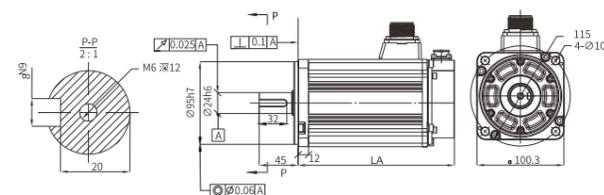
## Motor specification 1.5kW/2.5kW

Motor model	MS6L ultra low inertia		
	100□□30B□2 21P5	100□□30B□2 41P5	100□□30B□2 42P5
Rated power [kW]	1.5	1.5	2.5
Voltage level	AC220V	AC380V	AC380V
Rated speed [rpm]	3000	3000	3000
Maximum speed [rpm]	6000	6000	6000
Rated torque [N·m]	4.9	4.9	8
Maximum torque [N·m]	14.7	14.7	24
Rated current [mA]	9500	6700	9700
Rotor inertia [10 <sup>-7</sup> kg·m <sup>2</sup> ]	2550(3123)	2550(3123)	3840(4315)
Inertia type	ultra low inertia	ultra low inertia	ultra low inertia
Recommended rotor inertia ratio	15	15	15
Electrical constant e(ms)	11.63	12.08	13.16
Mechanical constant m(ms)	0.73	0.37	0.30
Back EMF constant	48	71	77
Torque constant (Nm/A)	0.516	0.731	0.82
Pole pairs	5	5	5
Encoder bits	19/23	19/23	19/23
Encoder type	Magnetic(optical)	Magnetic(optical)	Magnetic(optical)
Motor insulation grade	ClassF(155°C)		
Protection level	IP67		
Using environment	Ambient temperature: -10-40°C (not frozen) Ambient humidity: Relative humidity <90% (non condensing)		
Braking parameter	Static friction torque [N·m]	≥10	
	Rated power [W]	17.6	
	Attraction time [ms]	≤100	
	Release time [ms]	≤50	
	Excitation current DC[V]	0.734	
	Attraction voltage DC[V]	≤16.8	
	Release voltage DC[V]	1~8	
Excitation voltage DC[V]	DC24±10%		

# MS6L series T/N curve



# Motor dimension (unit: mm)



Motor model	LA±1		Inertia level
	Normal	With brake	
MS6L-100CN30B□2-21P5	180	205	Ultra low inertia
MS6L-100TH30B□2-21P5	193	218	
MS6L-100CN30B□2-41P5	180	205	
MS6L-100TH30B□2-41P5	193	218	
MS6L-100CN30B□2-42P5	228	253	
MS6L-100TH30B□2-42P5	241	266	

# MS6S low inertia

## Motor specification 50W/400W/750W/1KW/1.5KW/3KW/5KW/7KW

Motor model	MS6S低惯量										
	25□□30B4 20A5	60□□30B□3 20P4	60□□30B□4 20P4	80□□30B□3 20P7	80□□30B□4 20P7	100□□30B□3 21P0	100□□30B□2 21P0	100□□30B□2 21P5	130□□30B□2 43P0	130□□30B□2 45P0	130□□30B□2 47P0
Rated power [kW]	0.05	0.4	0.4	0.75	0.75	1.0	1.0	1.5	3.0	5.0	7.0
Voltage level	AC220V										
Rated speed [rpm]	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Maximum speed [rpm]	6000	6500	6500	5200	5200	4000	4500	4500	6000	6000	5000
Rated torque [N·m]	0.16	1.27	1.27	2.39	2.39	3.18	3.18	4.8	9.8	15.8	22.3
Maximum torque [N·m]	0.48	4.45	4.445	7.17	7.17	9.54	9.54	12	29.4	47.4	66.9
Rated current [mA]	900	2700	2700	4100	4100	4100	5700	8000	9200	14000	18500
Rotor inertia [10 <sup>-7</sup> kg·m <sup>2</sup> ]	14	258(280)	247(279)	980(1005)	980(1104)	1182(1196)	1928(2200)	2812(2888)	5870(8500)	8570(10530)	11180(13140)
Inertia type	low inertia	low inertia	low inertia	low inertia	low inertia	low inertia	low inertia	low inertia	low inertia	low inertia	low inertia
Recommended rotor inertia ratio	30	30	30	20	20	20	15	15	10	10	10
Electrical constant e(ms)	0.22	2.96	3.11	5.53	5.53	5.89	10.34	10.791	22.13	22.13	20.88
Mechanical constant m(ms)	2.88	0.57(0.61)	0.55(0.62)	0.69(0.71)	0.69(0.78)	0.53	0.67	0.61	0.24(0.35)	0.24(0.35)	0.22
Back EMF constant	16.00	44.25	44	55	55	75	57	57	98	98	117
Torque constant (Nm/A)	0.18	0.47	0.47	0.58	0.58	0.78	0.55	0.6	1.07	1.07	1.21
Pole pairs	5										
Encoder bits	19	17/19/23	17	17/19/23	17	17/19/23	17/23	17	19/23	19/23	19/23
Encoder type	Magnetic	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic (optical)	Magnetic (optical)
Motor insulation grade	ClassF(155°C)										
Protection level	IP54	IP67	IP67	IP67	IP67	IP67	IP65	IP66	IP67	IP67	IP67
Using environment	Ambient temperature: -10-40°C (not frozen) Ambient humidity: Relative humidity <90% (non condensing)										
Braking parameter	Static friction torque [N·m]	≥1.3	≥1.3	≥3.2	≥3.2	≥3.2	≥8	≥15	≥23.5	≥23.5	≥23.5
	Rated power [W]	7.4	7.4	11.5	11.5	11.5	17.6	17.6	16.9	23	23
	Attraction time [ms]	≤50	≤50	≤60	≤60	≤60	100	100	≤100	≤100	≤100
	Release time [ms]	≤30	≤30	≤30	≤30	≤30	50	50	≤60	≤60	≤60
	Excitation current DC[V]	0.308	0.308	0.48	0.48	0.48	0.733	0.733	0.705	0.945	0.958
	Attraction voltage DC[V]	<16.8	<16.8	<16.8	<16.8	<16.8	≤16.8	≤16.8	≤16.8	≤16.8	≤16.8
	Release voltage DC[V]	>1	>1	>1	>1	>1	≥1	≥1	≥1	≥1	≥1
Excitation voltage DC[V]	DC24±10%										

# MS6S series T/N curve



PLC  
HMI  
Industrial  
Automation  
Servo  
System  
Frequency  
Inverter  
CNC  
System  
Vision  
System  
IoT  
Industrial  
Controller



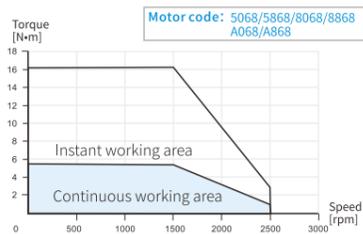
# MS6G medium inertia

## Motor specification of 0.8kW/1kW/1.5kW

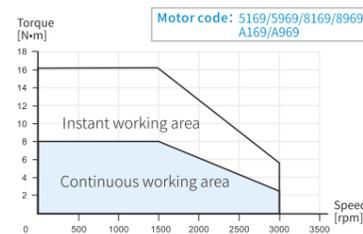
Motor model	MS6G medium inertia									
	130□□15B□2	130□□15B□2	130□□25B□2	130□□25B□2	110□□30B□2	110□□30B□2	130□□20B□2	130□□15B□2	130□□20B□2	130□□15B□2
	20P8	40P8	21P0	41P0	21P5	41P5	21P5		41P5	
Rated power [kW]	0.85	0.85	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Voltage level	AC220V	AC380V	AC220V	AC380V	AC220V	AC380V	AC220V	AC220V	AC380V	AC380V
Rated speed [rpm]	1500	1500	2500	2500	3000	3000	2000	1500	2000	1500
Maximum speed [rpm]	2500	3000	4000	4000	4500	4500	3000	2500	4000	3000
Rated torque [N·m]	5.4	5.4	4	4	4.78	4.78	7.2	10	7.2	10
Maximum torque [N·m]	16.2	16.2	12	12	12.7	13.5	18	25	21.6	25
Rated current [mA]	4300	2900	5900	3200	7500	6000	8000	8000	5300	5700
Rotor inertia [10 <sup>-7</sup> kg·m <sup>2</sup> ]	11770(14480)	11770(14480)	8030(8430)	8030(8430)	6200(/)	6200(/)	12140(14410)	17320(19670)	12140(14410)	17320(19670)
Inertia type	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia
Recommended rotor inertia ratio	10	10	10	10	15	15	10	10	10	10
Electrical constant e(ms)	9.84	9.84	9.64	9.15	8.45	8.89	10.9	11.6	10.76	12.43
Mechanical constant m(ms)	1.63(2.01)	1.72(2.11)	2.01(2.11)	5.46(2.3)	4.05	1.36	1.39(1.65)	1.17(1.33)	1.38	1.1(1.25)
Back EMF constant	115	173	69	49.6	21	76.33	88	116	128	163
Torque constant (Nm/A)	1.26	1.86	0.68	1.25	0.64	0.8	0.9	1.25	1.36	1.75
Pole pairs	5									
Encoder bits	17/19/23									
Encoder type	Magnetic(optical)									
Motor insulation grade	ClassF(155°C)									
Protection level	IP67									
Using environment	-1°C~+40°C (not frozen)									
Relative humidity	Relative humidity <90% (non condensing)									
Braking parameter	Static friction torque [N·m]	≥15		≥6		≥15				
	Rated power [W]	16.9		18		16.9				
	Attraction time [ms]	≤100		≤100		≤100				
	Release time [ms]	≤60		≤50		≤60				
	Excitation current DC[V]	0.705		0.75		0.705				
	Attraction voltage DC[V]	≤16.8		≤16.8		≤16.8				
	Release voltage DC[V]	≥1		≥1		≥1				
	Excitation voltage DC[V]	DC24±10%								

# MS6G series T/N curve

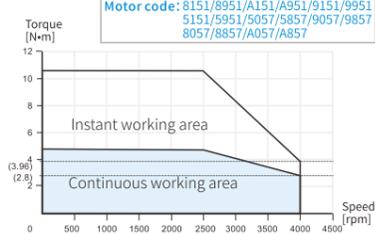
MS6G-130CM/CN/TH15B(Z)2-20P8



MS6G-130CM/CN/TH15B(Z)2-40P8

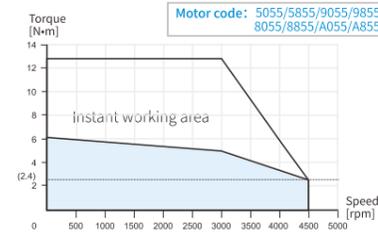


MS6G-130CM/CN/TH/TL25B(Z)2-21P0/41P0

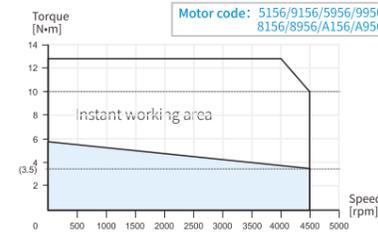


# MS6G series T/N curve

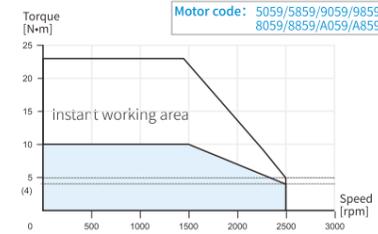
MS6G-110CM/CN/TH/TL30B2-21P5



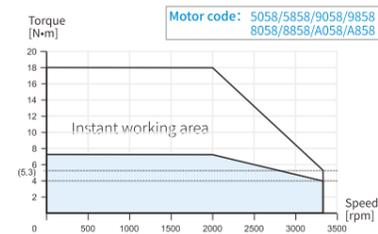
MS6G-110CM/CN/TH/TL30B2-41P5



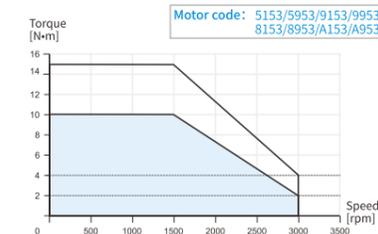
MS6G-130CM/CN/TL/TH15B(Z)2-21P5



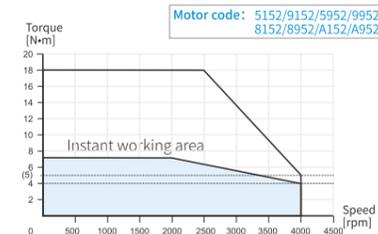
MS6G-130CM/CN/TL/TH20B(Z)2-21P5



MS6G-130CM/CN/TL/TH15B(Z)2-41P5

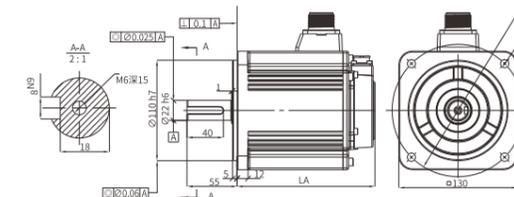


MS6G-130CM/CN/TL/TH20B(Z)2-41P5

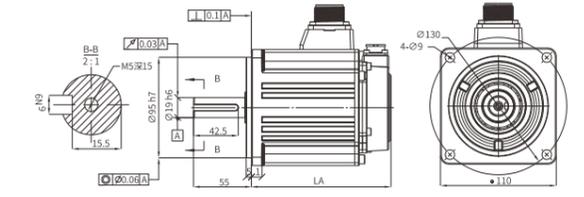


# Motor dimension (unit: mm)

130 flange



110 flange



Motor model	LA±1		Shaft diameter φD	Inertia level
	Normal	With brake		
MS6G-130C□15B□2-□0P8	133.5	162.5	22	Medium inertia
MS6G-130TH15B□2-□0P8	150	179		
MS6G-130C□25B□2-□1P0	119.5	148.5		
MS6G-130T□25B□2-□1P0	136	165		
MS6G-130C□20B□2-□1P5	133.5	162.5		
MS6G-130T□20B□2-□1P5	150	179		
MS6G-130C□15B□2-□1P5	151.5	180.5		
MS6G-130T□15B□2-□1P5	168	197		

Motor model	LA±1		Inertia level
	Normal	With brake	
MS6G-110C□30B2-21P5/41P5	132.5	163.5	Medium inertia
MS6G-110T□30B2-21P5/41P5	149	180	

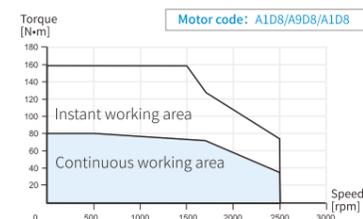
# MS6G medium inertia

## Motor specification of 2.3kW/3kW/4.4kW/5.5kW/7.5kW/13kW/17kW

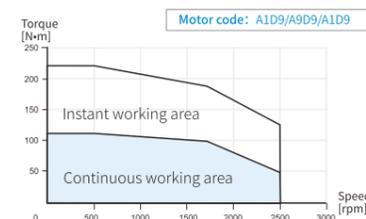
Motor model	MS6G medium inertia							
	130□□15B□□2	130□□15B□□2	180□□15B□□2	180□□15B□□2	180□□15B□□2	180□□15B□□2	200□□17B□□2	200□□17B□□2
Rated power [kW]	2.3	4.2P3	43P0	44P4	45P5	47P5	413P0	417P0
Voltage level	AC220V	AC380V						
Rated speed [rpm]	1500	1500	1500	1500	1500	1500	1700	1700
Maximum speed [rpm]	2000	3000	3000	3000	3000	3000	2500	2500
Rated torque [N·m]	14.6	14.6	19.1	28	35	48	70	95.5
Maximum torque [N·m]	29.2	36.5	47.75	84	87.5	120	175	238.75
Rated current [mA]	9000	8300	10500	16500	20500	25000	25000	35000
Rotor inertia [10 <sup>-7</sup> kg·m <sup>2</sup> ]	23020(28780)	23020(28780)	45790(47340)	67600(76770)	91360(100530)	135330(144500)	159350(165980)	195000(202056)
Inertia type	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia
Recommended rotor inertia ratio	10	10	10	10	10	10	10	10
Electrical constant e(ms)	12.99	13.2	21.98	24.08	24.49	24.76	32.59	32.30
Mechanical constant m(ms)	0.84(1.05)	1.29(1.62)	1.23(1.28)	0.98(1.11)	0.97(1.07)	1.24(1.33)	1.29(1.35)	1.12
Back EMF constant	151(155)	166	167	155	156.77	124	274.12	275
Torque constant (Nm/A)	1.62	1.76	1.82	1.70	1.71	1.92	2.80	2.73
Pole pairs	5	5	5	5	5	5	4	4
Encoder bits	17/19/23	17/19/23	19/23	19/23	19/23	19/23	23	23
Encoder type	Magnetic(optical)						Optical	Optical
Motor insulation grade	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)
Protection level	IP67	IP67	IP67	IP67	IP67	IP67	IP54	IP54
Using environment	-10°C~+40°C (not frozen) Relative humidity <90% (non condensing)							
Braking parameter	Static friction torque [N·m]	≥15		≥55		≥150		
	Rated power [W]	16.9		31		61		
	Attraction time [ms]	≤100		≤200		≤300		
	Release time [ms]	≤60		≤100		≤50		
	Excitation current DC[V]	0.705		1.291		2.539		
	Attraction voltage DC[V]	≤16.8		16.8		≤19.2		
	Release voltage DC[V]	≥1		≥1		0.8		
	Excitation voltage DC[V]	DC24±10%						

# MS6G series T/N curve

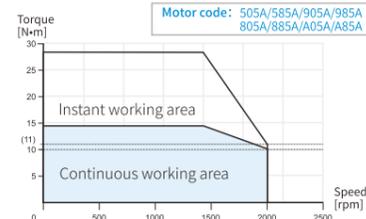
MS6G-200TH17B(Z)2-413P0-Y/F



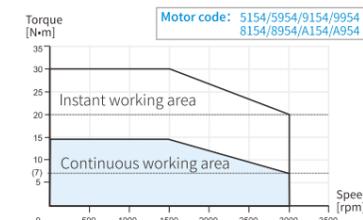
MS6G-200TH17B(Z)2-417P0-Y/F



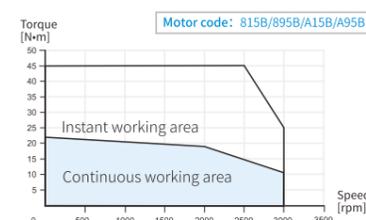
MS6G-130CM/CN/TL/TH15B(Z)2-22P3



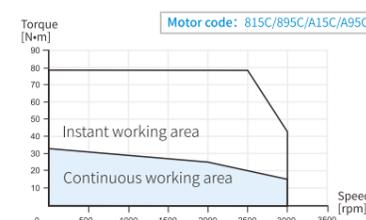
MS6G-130CM/CN/TL/TH15B(Z)2-42P3



MS6G-180CN/TH15B(Z)2-42P3

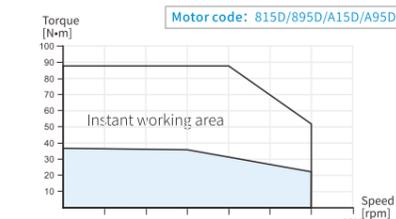


MS6G-180CN/TH15B(Z)2-44P4

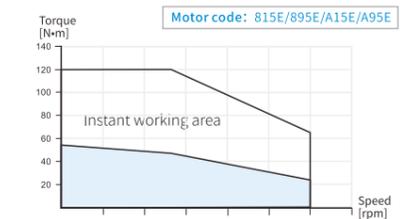


# MS6G series T/N curve

MS6G-180CN/TH15B(Z)2-45P5

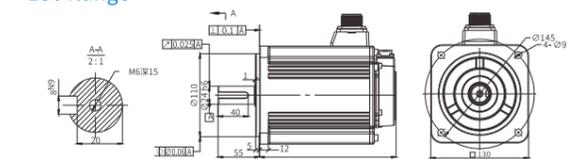


MS6G-180CN/TH15B(Z)2-47P5



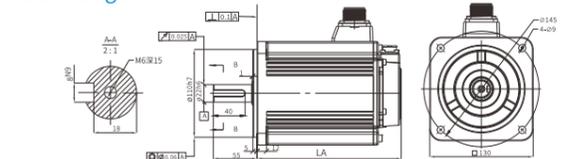
# Motor dimension (unit: mm)

130 flange



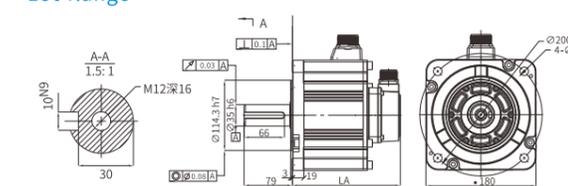
	LA±1			
MS6G-130C□15B□□2-□2P3	181.5	210.5	24	Medium inertia
MS6G-130T□15B□□2-□2P3	198	227	24	Medium inertia

130 flange



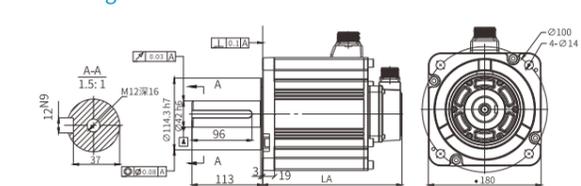
	LA±1			
MS6G-130C□15E□□2-□2P3	181.5	210.5	22	Medium inertia
MS6G-130T□15E□□2-□2P3	198	227	22	Medium inertia

180 flange



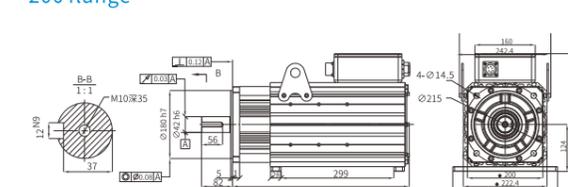
	LA±1			
MS6G-180CN15B□□2-43P0	162	206.5	35	Medium inertia
MS6G-180CN15B□□2-44P4	185	229.5	35	
MS6G-180TH15B□□2-43P0	176.5	221.5	35	
MS6G-180TH15B□□2-44P4	199.5	244	35	

180 flange



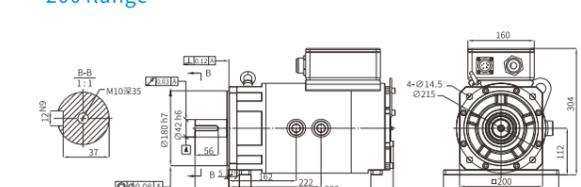
	LA±1			
MS6G-180CN15B□□2-45P5	208	252.5	42	Medium inertia
MS6G-180CN15B□□2-47P5	256	300.5	42	
MS6G-180TH15B□□2-45P5	222.5	267	42	
MS6G-180TH15B□□2-47P5	270.5	315	42	

200 flange



	LA±1			
MS6G-200TH17B□□2-417P0-F	468	545.5		Medium inertia
MS6G-200TH17B□□2-413P0-F	433	512		

200 flange



	LA±1			
MS6G-200TH17B2-417P0-Y	396	/		Medium inertia
MS6G-200TH17B2-413P0-Y	361	/		

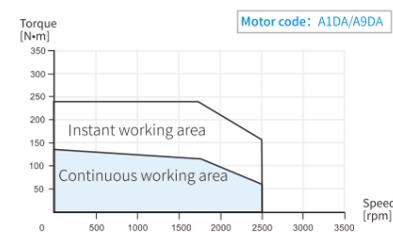
# MS6G Medium Inertia

## Motor Specifications 21kW/27kW/30kW/48kW

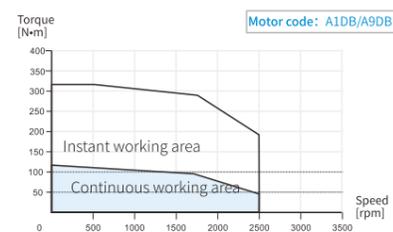
Motor model	MS6G Medium Inertia			
	200□□17B□2	200□□17B□2	265□□17B□2	265□□17B□2
	421P0	427P0	430P0	448P0
Rated power [kW]	21	27	30	48
Voltage level	AC380V	AC380V	AC380V	AC380V
Rated speed [rpm]	1700	1700	1700	1700
Maximum speed [rpm]	2500	2500	2200	2200
Rated torque [N·m]	120	150	170	270
Maximum torque [N·m]	240	375	340	540
Rated current [mA]	45000	50000	62000	100000
Rotor inertia [10 <sup>-7</sup> kg·m <sup>2</sup> ]	229611(230194)	263957(264545)	470111	602879
Inertia type	Medium Inertia	Medium Inertia	Medium Inertia	Medium Inertia
Recommended rotor inertia ratio	10	10	10	10
Electrical constant e(ms)	41.57	43.06	80.00	86.19
Mechanical constant m(ms)	0.98	0.58	1.41	1.23
Back EMF constant	271	271	146	151
Torque constant (Nm/A)	2.67	4.29	2.74	2.70
Pole pairs	4	4	4	4
Encoder bits	23	23	23	23
Encoder type	Magnetism (Light)	Magnetism (Light)	Light	Light
Motor insulation grade	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)	ClassF(155°C)
Protection level	Ip54	Ip54	IP54	IP54
Using environment	Ambient temperature: -10°C ~ +40°C (non-freezing) Ambient humidity: Relative Humidity < 90% (non-condensing)			
Braking parameter	Static friction torque [N·m]	≥ 150		
	Rated power [W]	61		
	Attraction time [ms]	≤ 300		
	Release time [ms]	≤ 50		
	Excitation current DC[V]	2.539		
	Attraction voltage DC[V]	≤ 19.2		
	Release voltage DC[V]	0.8		
Excitation voltage DC[V]	DC24 ± 10%			

# MS6G Series T/N Curve

MS6G-200TH17B(Z)2-421P0-Y/F

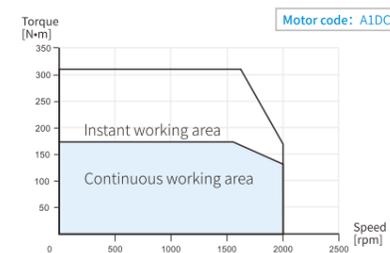


MS6G-200TH17B(Z)2-427P0-Y/F

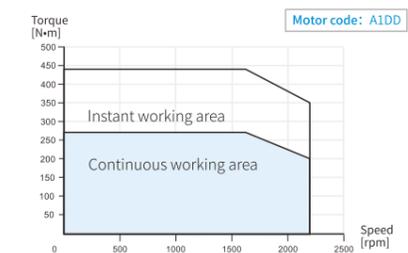


# MS6G Series T/N Curve

MS6G-265TH17B2-430P0-F

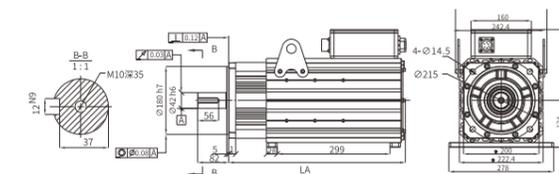


MS6G-265TH17B2-448P0-F



# Motor Dimensions (unit: mm)

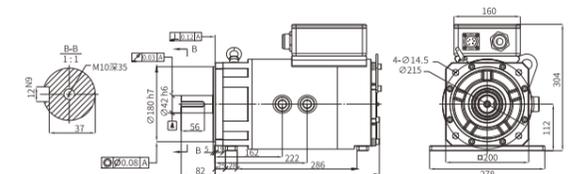
200 engine seats



Air-cooled Motor

Motor Model	LA ± 1		Inertia Level
	Standard	With Brake	
MS6G-200TH17B□2-421P0-F	503	580.7	Medium Inertia
MS6G-200TH17B□2-427P0-F	536.4	615.7	

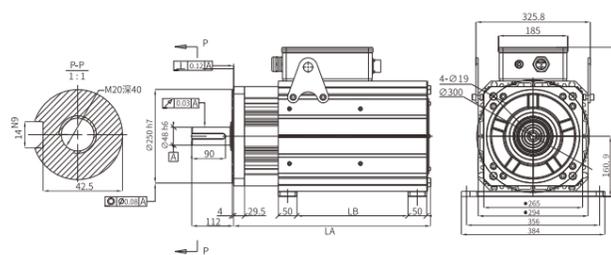
200 engine seats



Liquid-cooled Motor

Motor Model	LA ± 1		Inertia Level
	Standard	With Brake	
MS6G-200TH17B2-421P0-Y	431	/	Medium Inertia
MS6G-200TH17B2-427P0-Y	466	/	

265 engine seats



风冷电机

Motor Model	LA ± 1		LB	Inertia Level
	Standard	With Brake		
MS6G-265TH17B2-430P0-F	527.5	/	297	Medium Inertia
MS6G-265TH17B2-448P0-F	577.5	/	307	

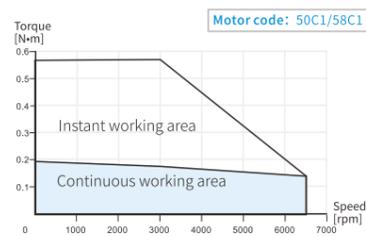
# MS6H high inertia

## Motor specification of 50W/100W/200W/400W/750W/1kW

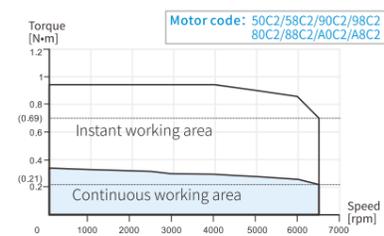
Motor model	MS6H high inertia											
	40□□30B□4	40□□30B□3	40□□30B□4	60□□30B□3	60□□30B□4	60□□30B□3	60□□30B□4	80□□30B□3	80□□30B□4	80□□30B□3	80□□30B□4	
Rated power [kW]	0.05	0.1	0.1	0.2	0.2	0.4	0.4	0.75	0.75	1.0	1.0	
Voltage level	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V	AC220V	
Rated speed [rpm]	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	
Maximum speed [rpm]	6500	6500	6500	6500	6500	6500	6500	5200	5200	4000	4000	
Rated torque [N·m]	0.16	0.32	0.32	0.64	0.64	1.27	1.27	2.39	2.39	3.18	3.18	
Maximum torque [N·m]	0.56	0.96	1.12	2.24	2.24	4.45	4.45	7.17	7.17	9.54	9.54	
Rated current [mA]	950	950	950	1900	1900	2800	2800	4100	4100	4100	4100	
Rotor inertia [10 <sup>-4</sup> kg·m <sup>2</sup> ]	35.6(38.27)	64(67)	58.2(60.77)	271(281)	300(332)	530(550)	521(529)	1550(1569)	1578(1688)	2391(2410)	2362(2483)	
Inertia type	High inertia											
Recommended rotor inertia ratio	30	30	30	30	30	30	30	20	20	20	20	
Electrical constant e(ms)	0.77	1.04	0.88	1.67	1.48	1.7	1.7	4.58	4.58	4.97	4.61	
Mechanical constant m(ms)	1.59(1.71)	1.16(1.21)	1.06(1.11)	1.26(1.29)	1.45(1.61)	0.93	0.93	1(1.02)	1(1.02)	0.93	0.77(0.81)	
Back EMF constant	17	33	33	31	32	43.98	43.98	56	56	73	76	
Torque constant (Nm/A)	0.17	0.34	0.34	0.34	0.34	0.45	0.45	0.58	0.58	0.78	0.78	
Pole pairs	5	5	5	5	5	5	5	5	5	5	5	
Encoder bits	17	17/19/23	17	17/19/23	17	17/19/23	17	17/19/23	17	17/19/23	17	
Encoder type	Magnetic	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic	Magnetic (optical)	Magnetic	
Motor insulation grade	ClassF(155°C)											
Protection level	IP67											
Using environment	-10°C~+40% (not frozen) 20%~90% RH (non condensing)											
Braking parameter	Static friction torque [N·m]	≥0.32		≥1.3		≥3.2						
	Rated power [W]	6.1		7.4		11.5						
	Attraction time [ms]	≤40		≤50		≤60						
	Release time [ms]	≤20		≤30		≤30						
	Excitation current [DCV]	0.254		0.308		0.48						
	Attraction voltage [DCV]	≤16.8		<16.8		<16.8						
	Release voltage [DCV]	≥1		>1		>1						
	Excitation voltage [DCV]	DC24±10%										

# MS6H series T/N curve

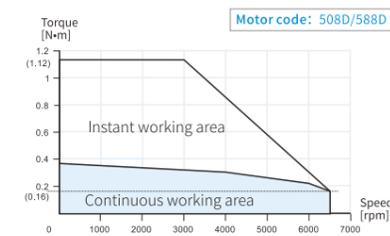
MS6H-40CM30B(Z)4-20A5



MS6H-40CM/CN/TH/TL30B(Z)3-20P1

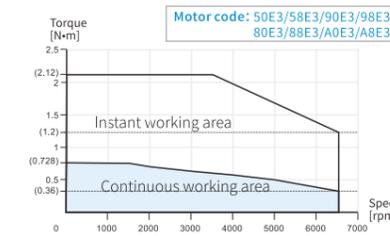


MS6H-40CM30B(Z)4-20P1

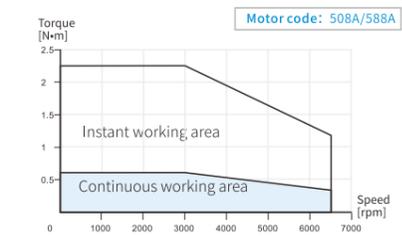


# MS6H series T/N curve

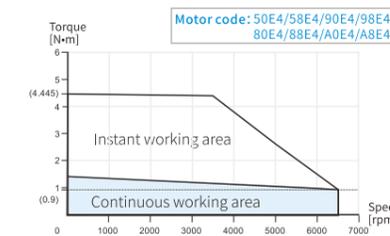
MS6H-60CM/CN/TH/TL30B(Z)3-20P2



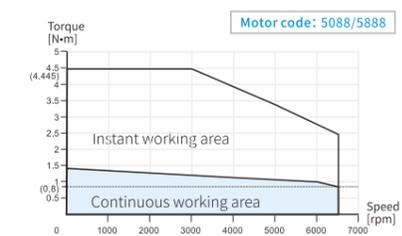
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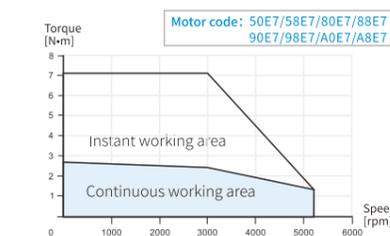
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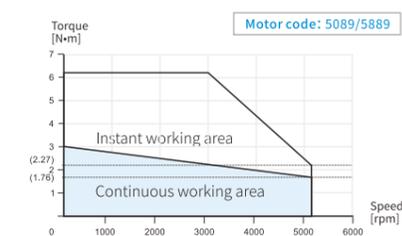
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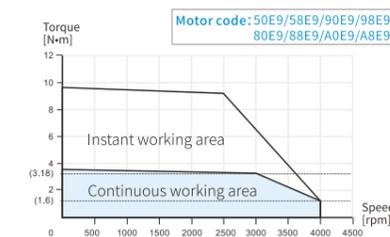
MS6H-80CM/CN/TH/TL30B(Z)3-20P7



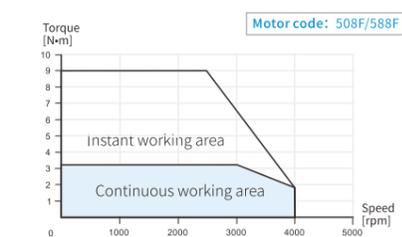
MS6H-80CM30B(Z)4-20P7



MS6H-80CM/CN/TH/TL30B(Z)3-21P0

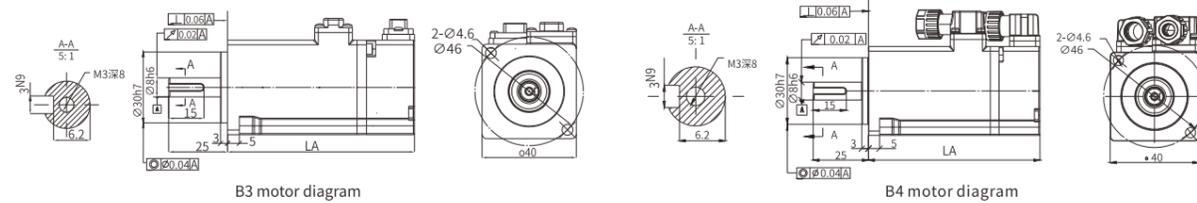


MS6H-80CM30B(Z)4-21P0



# Motor dimension (unit: mm)

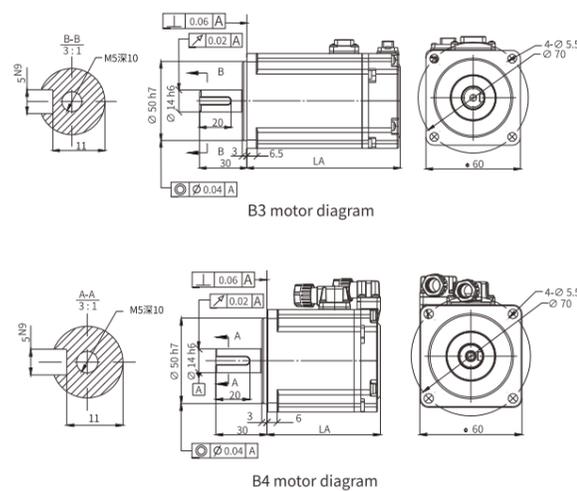
## 40 flange



Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-40□□30B□3-20P1	79.4	112	High inertia

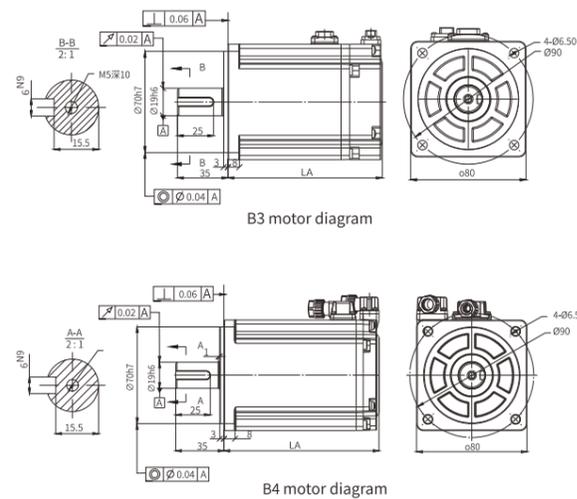
Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-40CM30B□4-20A5	60.8	93.4	High inertia
MS6H-40CM30B□4-20P1	77.4	110	

## 60 flange



Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-60□□30B□3-20P2	76.4	99.15	High inertia
MS6H-60□□30B□3-20P4	98.4	121.15	
MS6H-60CM30B□4-20P4	80.2	106.95	
MS6H-60CM30B□4-20P2	66.7	93.5	

## 80 flange



Motor model	LA±1		Inertia level
	Normal	With brake	
MS6H-80CM30B□4-21P0	112.5	144	High inertia
MS6H-80□□30B□3-20P7	107.1	132.1	
MS6H-80CM30B□4-20P7	89.2	121.1	
MS6H-80□□30B□3-21P0	134	159	

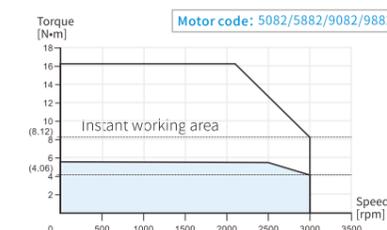
# MS6H high inertia

## Motor specification of 850W/1.3kW/1.5kW/1.8kW/2.3kW

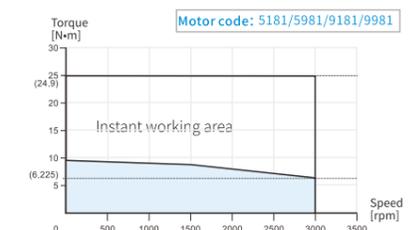
	MS6H High inertia							
	130□□15B□2	130□□15B□2	130□□15B□2	130□□20B□2	130□□15B□2	130□□15B□2	130□□15B□2	130□□15B□2
	20P8	40P8	41P3	21P5	21P8	41P8	22P3	42P3
Rated power [kW]	0.85	0.85	1.3	1.5	1.8	1.8	2.3	2.3
Voltage level	AC220V	AC380V	AC380V	AC220V	AC220V	AC380V	AC220V	AC380V
Rated speed [rpm]	1500	1500	1500	2000	1500	1500	1500	1500
Maximum speed [rpm]	3000	3000	3000	3000	2500	3000	2500	3000
Rated torque [N·m]	5.41	5.41	8.3	7.16	11.5	11.5	14.6	14.6
Maximum torque [N·m]	16.23	16.23	24.9	18	34.5	28.75	36.5	36.5
Rated current [mA]	6000	3500	6000	8000	10000	7400	11800	8500
Rotor inertia [10 <sup>-4</sup> kg·m <sup>2</sup> ]	13860(15340)	13860(15340)	20000(21440)	20000(21440)	28500(29940)	28500(29940)	35240(36260)	35240(36260)
Inertia type	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
Electrical constant e(ms)	6.944	6.722	9.229	8.409	8.37	9.973	9.893	9.887
Mechanical constant m(ms)	1.823(2.017)	1.844(2.041)	1.496(1.603)	1.523(1.633)	1.414(1.486)	1.252(1.316)	1.234(1.27)	1.249(1.285)
Back EMF constant	89	149	127	86	106	144	115	155
Torque constant (Nm/A)	0.902	1.546	1.383	0.895	1.15	1.554	1.237	1.718
Pole pairs	5							
Encoder bits	17/23							
Encoder type	Magnetic(optical)							
Motor insulation grade	ClassF(155°C)							
Protection level	IP65							
Using environment	Ambient temperature: -10°C~+40% (not frozen) Ambient humidity: 20%~90% RH (non condensing)							
Braking parameter	Static friction torque [N·m]	≥15						
	Rated power [W]	23						
	Attraction time [ms]	<100						
	Release time [ms]	<60						
	Excitation current DC[V]	0.96						
	Attraction voltage DC[V]	<18						
	Release voltage DC[V]	>1.5						
	Excitation voltage DC[V]	24±10%						

# MS6H series T/N curve

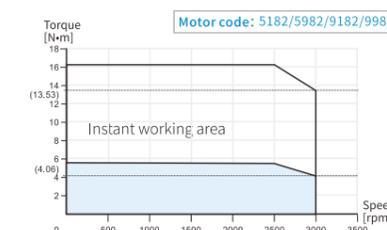
MS6H-130CM/TL15B(Z)2-20P8



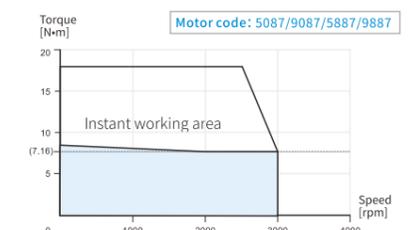
MS6H-130CM/TL15B(Z)2-41P3



MS6H-130CM/TL15B(Z)2-40P8

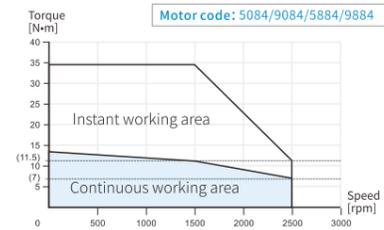


MS6H-130CM/TL20B(Z)2-21P5

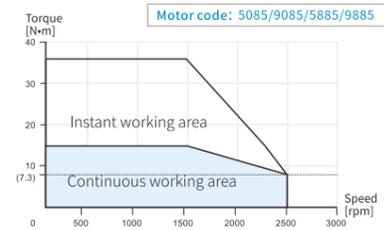


# MS6H series T/N curve

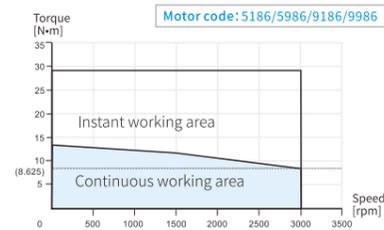
MS6H-130CM/TL15B(Z)2-21P8



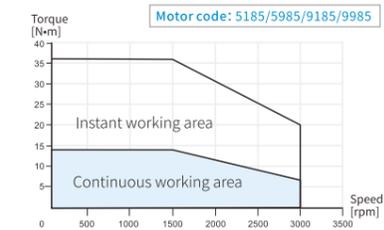
MS6H-130CM/TL15B(Z)2-22P3



MS6H-130CM/TL15B(Z)2-41P8

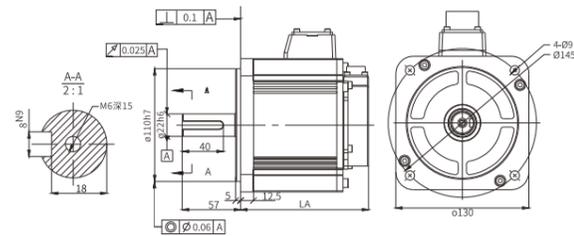


MS6H-130CM/TL15B(Z)2-42P3



# Motor dimension (unit: mm)

## 130 flange



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

# MS6H high inertia

## Motor specification of 3kW/4.4kW/5.5kW/7.5kW

	180□□15B□2	180□□15B□2	180□□15B□2	180□□15B□2
	43P0	44P4	45P5	47P5
	3.0	4.4	5.5	7.5
	AC380V			
	1500	1500	1500	1500
	3000	3000	3000	3000
	19	28	35	48
	51.3	84	87.5	120
	11000	16500	19700	25000
	51000(55490)	73280(78040)	90250(95200)	132000(134690)
	High inertia	High inertia	High inertia	High inertia
	10	10	10	10
	22.539	25.547	26.195	25.176
	1.251(1.361)	1.023(1.09)	0.957(1.01)	0.907(0.925)
	160	160	160	172
	1.727	1.636	1.777	1.92
	5			
	17/19/23			
	Magnetic(optical)			
	ClassF(155°C)			
	IP65			
	-10°C~+40% (not frozen)			
	2.20%~90% RH (non condensing)			
	≥58			
	30			
	≤180			
	≤80			
	1.25			
	<16.8			
	>1.5			
	24±10%			

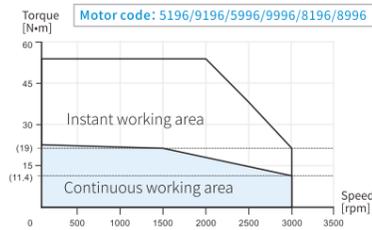
PLC  
HMI  
Industrial Information  
Servo System  
Frequency Inverter  
System  
Vision system  
IoT Industrial Controller

# MS6H series T/N curve

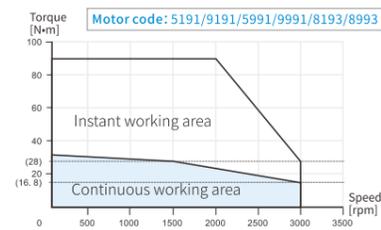
# Selection and configuration list

## I MS6 series

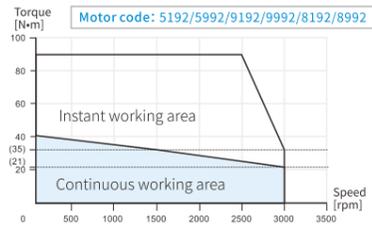
MS6H-180CN/CM/TL15B(Z)2-43P0



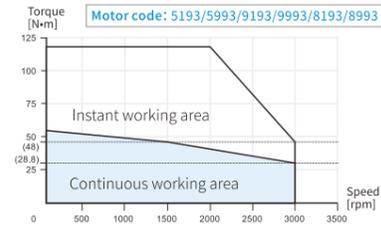
MS6H-180CN/CM/TL15B(Z)2-44P4



MS6H-180CN/CM15B/E(Z)2-45P5  
MS6H-180TL15B(Z)2-45P5



MS6H-180CN/CM15B/E(Z)2-47P5  
MS6H-180TL15B/E(Z)2-47P5

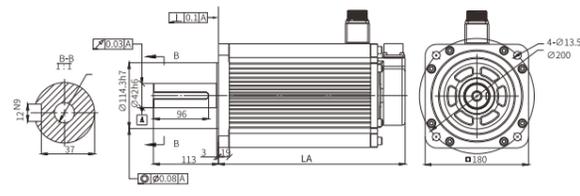
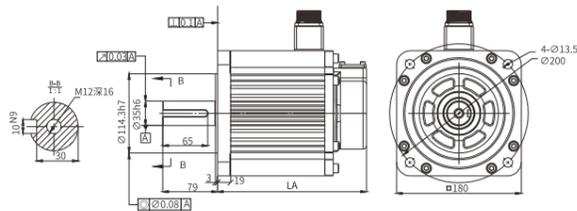


### DS5 series is compatible with MS6-B4 series motors

Power(kw)	Inertia level	Motor model	Suitable driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessory package
0.05	High inertia	MS6H-40CM30B4-20A5	DS5L1/C1/K1/N1-20P1-PTA	AC 220V	CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4
		MS6H-40CM30B4-20A5			CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2
0.1	High inertia	MS6H-40CM30B4-20P1	DS5L1/C1/K1/N1-20P1-PTA		CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4
		MS6H-40CM30B4-20P1			CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2
0.2	High inertia	MS6H-60CM30B4-20P2	DS5L1/C1/K1/N1-20P2-PTA		CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4
		MS6H-60CM30B4-20P2			CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2
0.4	Low inertia	MS6S-60CM30B4-20P4	DS5L1/C1/K1/N1-20P4-PTA		CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4
		MS6S-60CM30B4-20P4			CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2
	High inertia	MS6H-60CM30B4-20P4			CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4
		MS6H-60CM30B4-20P4			CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2
0.75	Low inertia	MS6S-80CM30B4-20P7	DS5L1/C1/K1/N1-20P7-PTA	CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4	
		MS6S-80CM30B4-20P7		CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2	
	High inertia	MS6H-80CM30B4-20P7		CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4	
		MS6H-80CM30B4-20P7		CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2	
1.0	High inertia	MS6H-80CM30B4-21P0	DS5L1/C1/K1/N1-20P7-PTA	CP(T)-SP-BM-length	CM(T)-P07A-M-length	/	JAM-P9-P4	
		MS6H-80CM30B4-21P0		CP(T)-SP-BM-length	CM(T)-P07A-M-length	CB(T)-P03-length	JAM-P9-P4-P2	

# Motor dimension (unit: mm)

### 180 flange



Motor model	LA±1		LR ±0.5	LC	X	φD	Key width	Inertia level
	Normal	With brake						
MS6H-180□□15B□2-43P0	215	255	79	65	16	35	10	High inertia
MS6H-180□□15B□2-44P4	247	287						
MS6H-180□□15E□2-45P5	269	309						
MS6H-180□□15E□2-47P5	325	365						

Motor model	LA±1		LR ±0.5	LC	X	φD	Key width	Inertia level
	Normal	With brake						
MS6H-180□□15B□2-45P5	269	309	113	96	16	42	12	High inertia
MS6H-180□□15B□2-47P5	325	365						

# Selection and configuration list

## DS5 series is compatible with MS6-B3 series motors

80 flange and below connector form motor									
Power [kW]	Inertia level	Motor model	Suitable driver	Voltage level	Forward outlet		Reverse outlet		The adapter cable only supports forward outlet
					Encoder cable	Power cable	Encoder cable	Power cable	
0.1	High inertia	MS6H-40CM30B3-20P1	DS5L1/C1/K1-20P1-PTA DS5P-20P1-PTA	AC 220V	CP(T)-SE-BM-length	CM(T)-E03A-length	CP(T)-SF-BM-length	CM(T)-F03A-length	CPT-EP/CMT-E03
		MS6H-40CM30B3-20P1			CP(T)-SE-BM-length	CMB(T)-E03A-length	CP(T)-SF-BM-length	CMB(T)-F03A-length	CPT-EP/CMBT-E03
	MS6H-40TL30B3-20P1	DS5L2/C2/K2-20P1-PTA	CP(T)-SE-BM-length		CM(T)-E03A-length	CP(T)-SF-BM-length	CM(T)-F03A-length	CPT-EP/CMT-E03	
	MS6H-40CN30B3-20P1		CP(T)-SE-BM-length		CMB(T)-E03A-length	CP(T)-SF-BM-length	CMB(T)-F03A-length	CPT-EP/CMBT-E03	
	MS6H-40TH30B3-20P1		CP(T)-SE-BM-length		CM(T)-E03A-length	CP(T)-SF-BM-length	CM(T)-F03A-length	CPT-EP/CMT-E03	
	MS6H-40TM30B3-20P2		CP(T)-SE-BM-length		CMB(T)-E03A-length	CP(T)-SF-BM-length	CMB(T)-F03A-length	CPT-EP/CMBT-E03	
0.2	High inertia	MS6H-60CM30B3-20P2	DS5L1/C1/K1-20P2-PTA DS5P-20P2-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-60TL30B3-20P2		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
	High inertia	MS6H-60CN30B3-20P2	DS5L2-20P2-PTA DS5C2/K2-20P4-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-60TH30B3-20P2		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
		MS6H-60TM30B3-20P4		CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6S-60CM30B3-20P4		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
0.4	Low inertia	MS6S-60TL30B3-20P4	DS5L1/C1/K1-20P4-PTA DS5P-20P4-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-60CM30B3-20P4		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
	High inertia	MS6H-60TL30B3-20P4	DS5L2/C2/K2-20P4-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-60TL30B3-20P4		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
		MS6S-60CN30B3-20P4		CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6S-60TH30B3-20P4		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
0.75	Low inertia	MS6S-80TL30B3-20P7	DS5L1/C1/K1-20P7-PTA DS5P-20P7-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-80CM30B3-20P7		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
	High inertia	MS6H-80TL30B3-20P7	DS5L2/C2/K2-21P0-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-80TL30B3-20P7		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
		MS6S-80CN30B3-20P7		CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6S-80TH30B3-21P0		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
1.0	Low inertia	MS6S-80TL30B3-21P0	DS5L1/C1/K1-20P7-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-80CM30B3-21P0		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
	High inertia	MS6H-80TL30B3-21P0	DS5L2/C2/K2-20P7-PTA	CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6H-80TL30B3-21P0		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	
		MS6S-80CN30B3-21P0		CP(T)-SE-BM-length	CM(T)-E05A-length	CP(T)-SF-BM-length	CM(T)-F05A-length	CPT-EP/CMT-E05	
		MS6S-80TH30B3-21P0		CP(T)-SE-BM-length	CMB(T)-E05A-length	CP(T)-SF-BM-length	CMB(T)-F05A-length	CPT-EP/CMBT-E05	

\*Note: 1. Choose either forward outlet or reverse outlet.  
 2. Select either CMT or CMBT for connection cables, choose CMT for non-brake models and CMBT for brake models.  
 3. CPT-SCT-M-length refers to the encoder cable length, where "T" in CPT stands for high-flex encoder cable, and "M" in SCT stands for encoder aviation plug with threaded hole.  
 4. If using an adapter cable, purchase the corresponding B1 motor encoder cable and power cable.  
 5. For forward outlet, optional oil-resistant cable materials include CPG-SE-M/BM-length, CMG-E03A-length, and CMG-E05A-length.  
 6. High protection models can choose FH series drivers.

# Selection and configuration list

## I MS6 series

## DS5 series is compatible with MS6-B2 series motors

Power [kW]	Inertia level	Motor model	Suitable driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessory package
MS6H-130CM15B2-20P8	CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7				
MS6H-130TL15B2-20P8	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4				
MS6H-130TL15B2-20P8	CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7				
0.85	Medium inertia	MS6G-130CN15B2-20P8	DS5C2/L2/K2-20P7-PTA	AC 220V	CP(T)-SCT-B-length	CM(T)-L15T-length	/	JAM-C10T-L4T
		MS6G-130TH15B2-20P8			CP(T)-SCT-B-length	CMB(T)-L15T-length	/	JAM-C10T-L6T
	High inertia	MS6H-130CM15B2-40P8	DS5L1/C1/P-41P0-PTA		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4
		MS6H-130CM15B2-40P8			CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7
		MS6H-130TL15B2-40P8			CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4
		MS6H-130TL15B2-40P8			CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7
AC 380V	Medium inertia	MS6G-130CN15B2-40P8	DS5L2/C2/K2-41P0-PTA	CP(T)-SCT-B-length	CM(T)-L15T-length	/	JAM-C10T-L4T	
		MS6G-130TH15B2-40P8		CP(T)-SCT-B-length	CMB(T)-L15T-length	/	JAM-C10T-L6T	
	High inertia	MS6H-130CM15B2-40P8	DS5L1/C1/P-41P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-130CM15B2-40P8		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-130TL15B2-40P8		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-130TL15B2-40P8		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 220V	Low inertia	MS6S-100CM30B2-21P0	DS5L1/C1-21P0-PTA DS5P-21P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6S-100TL30B2-21P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
	High inertia	MS6H-100CM30B2-21P0	DS5L2/C2/K2-21P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-100CM30B2-21P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-100TL30B2-21P0		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-100TL30B2-21P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 380V	Medium inertia	MS6G-130CM25B2-41P0	DS5L1/C1/P-41P0-PTA	CP(T)-SCT-B-length	CM(T)-L15T-length	/	JAM-C10T-L4T	
		MS6G-130TH25B2-41P0		CP(T)-SCT-B-length	CMB(T)-L15T-length	/	JAM-C10T-L6T	
	High inertia	MS6H-130CM25B2-41P0	DS5L2/C2/K2-21P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-130CM25B2-41P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-130TL25B2-41P0		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-130TL25B2-41P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 220V	Low inertia	MS6S-100CM30B2-21P0	DS5L1/C1/P-41P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6S-100TL30B2-21P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
	High inertia	MS6H-100CM30B2-21P0	DS5L2/C2/K2-21P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-100CM30B2-21P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-100TL30B2-21P0		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-100TL30B2-21P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 380V	Medium inertia	MS6G-130CM25B2-41P0	DS5L1/C1/P-41P0-PTA	CP(T)-SCT-B-length	CM(T)-L15T-length	/	JAM-C10T-L4T	
		MS6G-130TH25B2-41P0		CP(T)-SCT-B-length	CMB(T)-L15T-length	/	JAM-C10T-L6T	
	High inertia	MS6H-130CM25B2-41P0	DS5L2/C2/K2-21P0-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-130CM25B2-41P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-130TL25B2-41P0		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-130TL25B2-41P0		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 220V	Low inertia	MS6S-100CM30B2-21P5	DS5L1/C1/P-41P5-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6S-100TL30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
	High inertia	MS6H-100CM30B2-21P5	DS5L2/C2/K2-22P6-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-100CM30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-100TL30B2-21P5		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-100TL30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 380V	Medium inertia	MS6G-110CN30B2-21P5	DS5L2/C2/K2-42P3-PTA	CP(T)-SCT-B-length	CM(T)-L15T-length	/	JAM-C10T-L4T	
		MS6G-110TH30B2-21P5		CP(T)-SCT-B-length	CMB(T)-L15T-length	/	JAM-C10T-L6T	
	High inertia	MS6H-110CM30B2-21P5	DS5L1/C1/P-21P5-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-110CM30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-110TL30B2-21P5		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-110TL30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
AC 220V	Low inertia	MS6S-110CM30B2-21P5	DS5L1/C1/P-21P5-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6S-110TL30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
	High inertia	MS6H-110CM30B2-21P5	DS5L2/C2/K2-21P5-PTA	CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-110CM30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	
		MS6H-110TL30B2-21P5		CP(T)-SCT(B)-length	CM(T)-L15B-length	/	JAM-C10(T)-L4	
		MS6H-110TL30B2-21P5		CP(T)-SCT(B)-length	CMB(T)-L15B-length	/	JAM-C10(T)-L7	



# Selection and configuration list

## I MS6 series

DS5 series is compatible with MS6-B2 series motors								
Power[kW]	Inertia level	Motor model	Suitable driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessory package
5.5	High inertia	MS6H-180CM15B2-45P5	DS5C1/P-45P5-PTA	AC 380V	CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4
		MS6H-180CM15BZ2-45P5			CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6
		MS6H-180TL15B2-45P5			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
		MS6H-180CM15E2-45P5			CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4
		MS6H-180CM15E2Z-45P5			CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6
	High inertia	MS6H-180CN15B2-45P5	DS5C2/K2-45P5-PTA		CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4
		MS6H-180CN15BZ2-45P5			CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6
		MS6H-180CN15E2-45P5			CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4
		MS6H-180CN15E2Z-45P5			CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6
		MS6G-180CN15B2-45P5			CP(T)-SLT-B-length	CM(T)-XL60T-length	/	JAM-L15T-XL4T
		MS6G-180CN15BZ2-45P5			CP(T)-SLT-B-length	CMB(T)-XL60T-length	/	JAM-L15T-XL6T
7.5	High inertia	MS6H-180TH15B2-47P5	DS5C1/P-47P5-PTA	CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4	
		MS6H-180TL15B2-47P5		CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6	
		MS6H-180TL15BZ2-47P5		CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4	
		MS6H-180TH15E2-47P5		CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6	
		MS6H-180CM15E2-47P5		CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4	
		MS6H-180CM15E2Z-47P5		CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6	
	High inertia	MS6H-180CN15B2-47P5	DS5C2/K2-47P5-PTA	CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4	
		MS6H-180CN15BZ2-47P5		CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6	
		MS6H-180CN15E2-47P5		CP(T)-SL-B-length	CM(T)-XL60-length	/	JAM-L15-XL4	
		MS6H-180CN15E2Z-47P5		CP(T)-SL-B-length	CMB(T)-XL60-length	/	JAM-L15-XL6	
		MS6G-180CN15B2-47P5		CP(T)-SLT-B-length	CM(T)-XL60T-length	/	JAM-L15T-XL4T	
		MS6G-180CN15BZ2-47P5		CP(T)-SLT-B-length	CMB(T)-XL60T-length	/	JAM-L15T-XL6T	
13	Medium inertia	MS6G-200TH17B2-413P0-F	DS5C2-415P0-PTA	CPT-ZDL-B-length	CM(T)-D60-length	/	JAM-L15-D4	
		MS6G-200TH17BZ2-413P0-F		CPT-ZDL-B-length	CM(T)-D60-length	/	JAM-L15-D4	
		MS6G-200TH17B2-413P0-Y		CPT-ZDL-B-length	CM(T)-D60-length	/	JAM-L15-D4	
17	Medium inertia	MS6G-200TH17B2-417P0-F	DS5C2-415P0-PTA	CPT-ZDL-B-length	CM(T)-D60-length	/	JAM-L15-D4	
		MS6G-200TH17BZ2-417P0-F		CPT-ZDL-B-length	CM(T)-D60-length	/	JAM-L15-D4	
		MS6G-200TH17B2-417P0-Y		CPT-ZDL-B-length	CM(T)-D60-length	/	JAM-L15-D4	
21	Medium inertia	MS6G-200TH17B2-421P0-F	DS5C2/K2-422P0-PTA	CPT-ZDL-B-length	CM(T)-D100-length	/	JAM-L15-D4	
		MS6G-200TH17BZ2-421P0-F		CPT-ZDL-B-length	CM(T)-D100-length	/	JAM-L15-D4	
		MS6G-200TH17B2-421P0-Y		CPT-ZDL-B-length	CM(T)-D100-length	/	JAM-L15-D4	
27	Medium inertia	MS6G-200TH17B2-427P0-F	DS5C2/K2-432P0-PTA	CPT-ZDL-B-length	CM(T)-D100-length	/	JAM-L15-D4	
		MS6G-200TH17BZ2-427P0-F		CPT-ZDL-B-length	CM(T)-D100-length	/	JAM-L15-D4	
		MS6G-200TH17B2-427P0-Y		CPT-ZDL-B-length	CM(T)-D100-length	/	JAM-L15-D4	
30	Medium inertia	MS6G-265TH17B2-430P0-F	DS5C2/K2-432P0-PTA	CPT-ZDL-B-length	CM(T)-D160-length	/		
48		MS6G-265TH17B2-448P0-F	DS5C2-445P0-PTA <small>(Under Search)</small>	CPT-ZDL-B-length	CM-D300-length	/		

\*NOTE: E2 motor is a special shaft diameter motor. The special shaft diameter for 2.3kW motor is 22mm, and for 5.5kW and 7.5kW motors, it is 35mm.

# Product accessories

## I Quick connector

- Provide convenient wiring terminals
- For 100W~15kW drivers.



## I Absolute value battery box

- Battery box model: CP-B-BATT
- The battery is not rechargeable



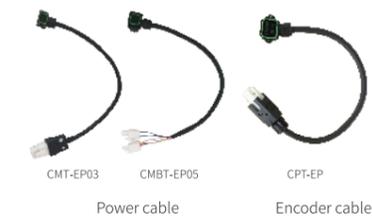
## I JC-CB bus cable

- EtherCAT motion bus dedicated communication cable
- Adopting industrial grade Category 5e four-core Ethernet cable



## I Adapter cable

- Power cable
- Encoder cable



## I Power cable

- Provide standard cable length specifications: 2/3/5/8/10/12/16/20/25/30 meters
- Customizable length
- Optional purchase of cable connectors (excluding cables)



## I Encoder cable

- Provide standard cable length specifications: 2/3/5/8/10/12/16/20/25/30 meters
- Customizable length
- Optional purchase of cable connectors (excluding cables)



## I Regenerative resistor

- Release bus capacitor regeneration voltage
- Please refer to the user manual for the selection of regeneration resistors



## I DB9F side cable

- Provide cable specifications of 1.5 meters
- Can be connected to a PC to achieve control of the servo upper computer



# DM6C series multi-axis servo driver

Powerful performance | precise intelligent control | quality choice



## Product characteristics

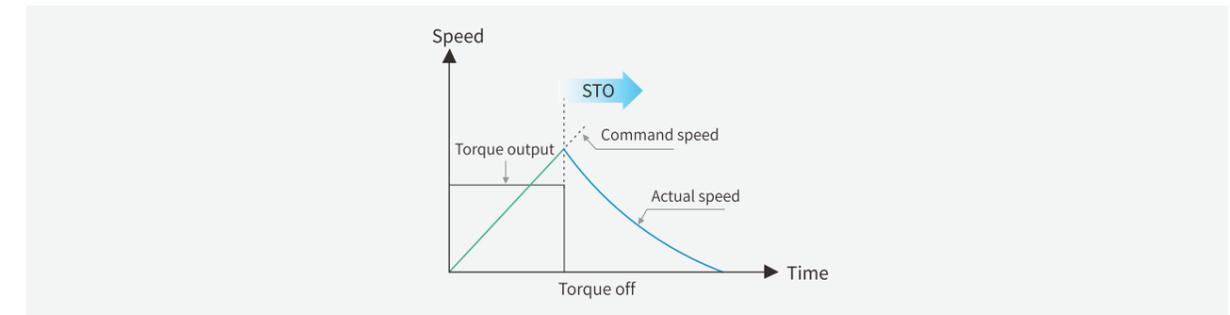
### Safe and reliable

#### Standard STO function

- Support STO. When the safe torque function is enabled, the internal hardware circuit of the drive will trigger, forcibly shutting down the power transistor of the drive, causing the motor to stop running and protecting personal and equipment safety.

#### 24V control power supply independent supply

- The panel supports independent 24V control power supply, and can still communicate with the upper computer even when the main circuit is not powered.



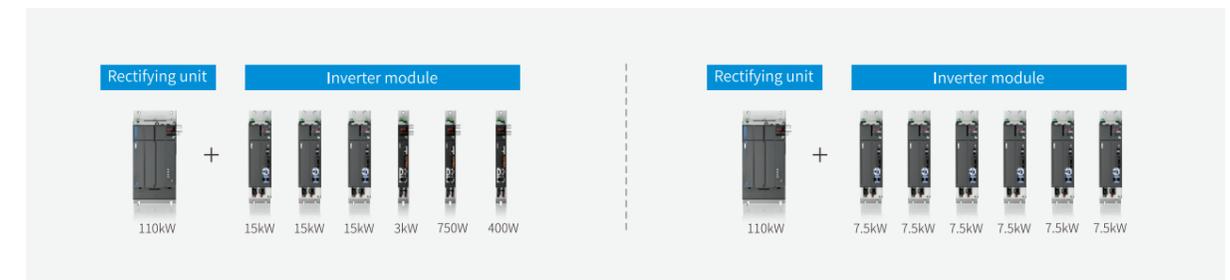
### Space saving, convenient wiring, flexible configuration

- The design of equal-height and equal-depth book-style modular units allows for compact side-by-side installation, maximizing cabinet space utilization.
- Only one set of power cables is needed. Inside, a reliable connection between modules is achieved through a common bus with copper bars and screw locking.
- Inverter modules of 15KW and below use plug-in power terminals, saving approximately 30% in wiring time.



### Flexible combination

- By using a combination of rectifier and inverter modules, taking the 110kW rectifier unit as an example, the following inverter module combinations are possible:



# Product characteristics

## Efficient and energy-saving

DC common busbar, energy-saving and environmentally friendly

- Using common DC bus technology for energy exchange, reducing energy loss of the driver, expected to save up to 30% electricity, more energy-efficient.



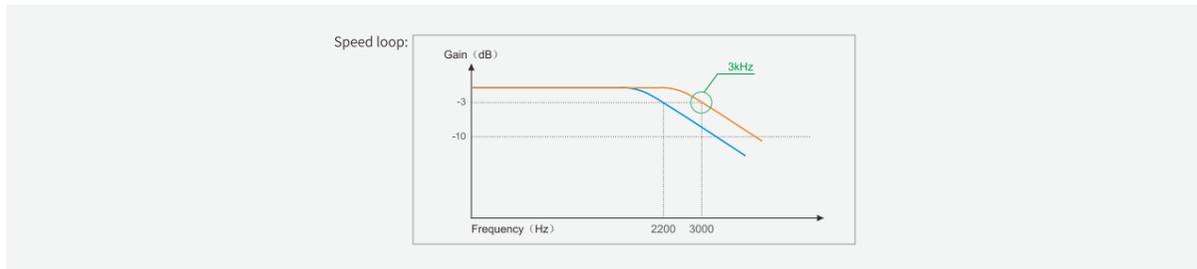
## High protection

- Independent air duct design to prevent dust or foreign objects from entering the control circuit.
- Enhance the three proofings to improve the environmental resistance of the driver.



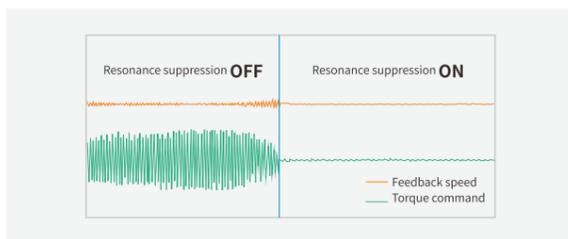
## High dynamic response, vibration suppression, and efficient tuning

- 3kHz speed loop response bandwidth. Synchronization cycle 250μs. High dynamic response, improving production efficiency.
- Advanced control algorithms provide the optimal solution for achieving fast and flexible results in fast positioning systems.



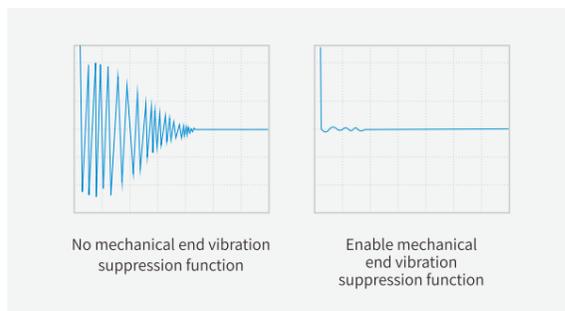
### Resonance suppression

- The resonance suppression control algorithm can effectively shorten the tuning time, eliminate mechanical resonance, and make path tracking smooth and accurate.
- Resonance frequency automatic inspection, with stronger usability.
- The accuracy of vibration frequency recognition has been improved by 50%.
- The resonance frequency analysis time is reduced by 50%.

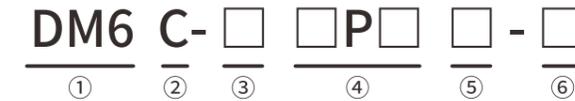


### Mechanical end vibration suppression

- By using advanced control algorithms, vibration and noise suppression at the mechanical end can be achieved. Effectively solve the vibration at the end of the cantilever beam mechanism, shorten the tuning time, and improve product accuracy.



# Model naming rule



No.	Item	Content
①	Product series	DM6: DM6 series
②	Product type	C: EtherCAT bus type Default: Rectification unit and braking unit
③	Voltage level	4: AC380V
④	Driver power	0P4: 400W 0P7: 750W 1P5: 1.5kW 3P0: 3kW 5P5: 5.5KW
		7P5: 7.5kW 11P0: 11kW 15P0: 15kW 22P0: 22kW 32P0: 32kW
⑤	Inversion axes	45P0: 45kW 55P0: 55kW 75P0: 75kW 110P0: 110kW 160P0: 160kW
		S: single axis Default: two axes
⑥	Unit type	R: rectification unit M: inverter unit

# Driver model list

Power(kW)	Rated output current(A)	Rectifier module
22.0	56	DM6-422P0-R <i>(in development)</i>
45.0	107	DM6-445P0-R
75.0	152	DM6-475P0-R <i>(in development)</i>
110.0	240	DM6-4110P0-R
160.0	358	DM6-4160P0-R <i>(in development)</i>

Power(kW)	Inverter module	Axis number	Axis power (power*axis number)	Rated current (A)	Maximum current (A)	Suitable motor (recommended)
0.4	DM6C-40P4-M	2	0.4*2	2.8	8.4	MS6S-60CN30B3-20P4
						MS6S-60CN30BZ3-20P4
						MS6S-60TH30B3-20P4
						MS6S-60TH30BZ3-20P4
						MS6H-60CN30B3-20P4
						MS6H-60TH30B3-20P4
0.7	DM6C-40P7-M	2	0.75*2	4.8	14.4	MS6S-80CN30B3-20P7
						MS6S-80CN30BZ3-20P7
						MS6S-80TH30B3-20P7
						MS6S-80TH30BZ3-20P7
						MS6H-80CN30B3-20P7
						MS6H-80TH30B3-20P7
1.5	DM6C-41P5-M	2	1.5*2	6	18	MS6G-110CN30B2-41P5
						MS6G-110CN30BZ2-41P5
						MS6G-110TH30B2-41P5
						MS6G-110TH30BZ2-41P5
						MS6G-130CN20B2-41P5
						MS6G-130CN20BZ2-41P5
3.0	DM6C-43P0-M	2	3.0*2	11	29.7	MS6G-130TH15B2-41P5
						MS6G-130TH20B2-41P5
						MS6G-130TH20BZ2-41P5
						MS6G-130TH15B2-41P5
						MS6G-130TH15BZ2-41P5
						MS6H-180CN15B2-43P0
						MS6H-180CN15BZ2-43P0
						MS6G-180CN15B2-43P0
						MS6G-180CN15BZ2-43P0
						MS6G-180TH15B2-43P0
						MS6G-180TH15BZ2-43P0
						MS6S-130CN30B2-43P0
MS6S-130TH30B2-43P0						
MS6S-130CN30BZ2-43P0						
MS6S-130TH30BZ2-43P0						

# Driver model list

Power(kW)	Inverter module	Axis number	Axis power (power*axis number)	Rated current (A)	Maximum current (A)	Suitable motor (recommended)
5.5	DM6C-45P5-M	2	5.5*2	20	50	MS6H-180CN15B2-44P4
						MS6H-180CN15B2-44P4
						MS6G-180CN15B2-44P4
						MS6G-180CN15B2-44P4
						MS6G-180TH15B2-44P4
						MS6G-180TH15B2-44P4
						MS6S-130CN30B2-45P0
						MS6S-130TH30B2-45P0
						MS6H-180CN15B2-45P5
						MS6H-180CN15B2-45P5
						MS6H-180CN15E2-45P5
						MS6H-180CN15E2-45P5
						MS6G-180CN15B2-45P5
						MS6G-180CN15B2-45P5
						MS6G-180TH15B2-45P5
						MS6G-180TH15B2-45P5
7.5	DM6C-47P5-M	2	7.5*2	25	62.5	MS6H-180CN15B2-47P5
						MS6H-180CN15B2-47P5
						MS6H-180CN15E2-47P5
						MS6H-180CN15E2-47P5
						MS6G-180CN15B2-47P5
						MS6G-180CN15B2-47P5
						MS6G-180TH15B2-47P5
						MS6G-180TH15B2-47P5
						MS6G-200TH17B2-417P0-F
						MS6G-200TH17B2-413P0-F
15.0	DM6C-415P0-M	2	15.0*2	37	77.7	MS6G-200TH17B2-417P0-F
						MS6G-200TH17B2-413P0-F
						MS6G-200TH17B2-417P0-F
						MS6G-200TH17B2-413P0-F
						MS6G-200TH17B2-417P0-Y
						MS6G-200TH17B2-413P0-Y
						MS6G-200TH30B2-422P0-YL01
						MS6G-200TH30B2-415P0-YL01
						MS6G-200TH17B2-421P0-F
						MS6G-200TH17B2-421P0-F
32.0	DM6C-432P0S-M	1	32.0*1	65	130	MS6G-200TH17B2-421P0-F
						MS6G-200TH17B2-421P0-F
						MS6G-200TH17B2-421P0-Y
						MS6G-200TH17B2-427P0-F
						MS6G-200TH17B2-427P0-F
						MS6G-200TH17B2-427P0-Y
						MS6G-265TH17B2-430P0-F
						MS6G-265TH17B2-430P0-Y
45.0	DM6C-445P0S-M	1	45.0*1	100	250	MS6G-265TH17B2-448P0-F
						MS6G-265TH17B2-448P0-Y
55.0	DM6C-455P0S-M	1	55.0*1	126	315	MS6G-265TH20B2-456P0-Y01
						MS6G-265TH17B2-460P0-F
75.0	DM6C-475P0S-M	1	75.0*1	152	380	MS6G-265TH17B2-475P0-F
						MS6G-265TH17B2-475P0-Y

# Driver specification list

Function	Control mode				
	Position control	Speed control	Torque control	Bus control	
EtherCAT type DM6C series	●	●	●	●	

Function	Control method								
	Pulse	Long line drive	Analog input	External displacement sensor	ABZ differential encoder	USB Type-C	RS485	SI input	SO output
EtherCAT type DM6C series					●	●	●	6	4

# Technical specification

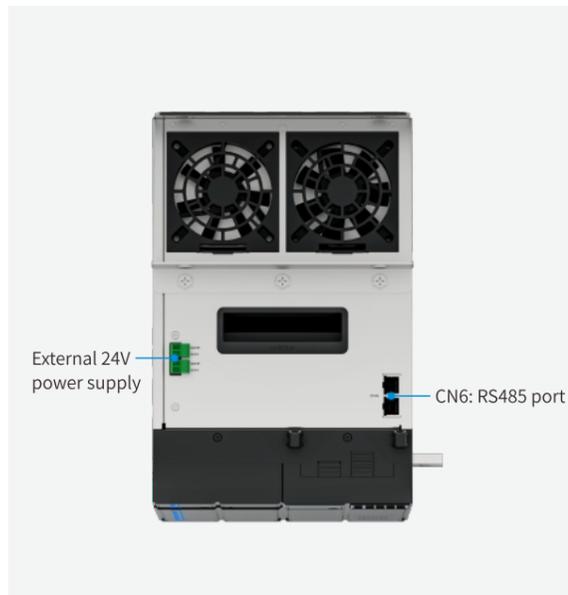
Specification	Model	Inverter unit	
	DM6C-M series		
Basic specification	Power range (KW)	0.4KW-75KW	
	Input power supply	DC537V-679V	
	Control circuit power supply	DC24V	
	Encoder feedback	19-bit/23-bit communication encoder	
	Control mode	PWM control, sine wave current drive mode	
	Using environment	Ambient temperature	Operation:-10°C~40°C (no condensation)/Storage:-20°C~60°C (no condensation)
		Ambient humidity	Operation/Storage: Below 90%RH (no condensation)
		Vibration/impact resistance	4.9m/s <sup>2</sup> /19.6m/s <sup>2</sup>
	Function	Protection function	Overvoltage, undervoltage, overheating, overcurrent, overload, overspeed, excessive position deviation, output short circuit, encoder abnormality, overtravel protection, oscillation protection, etc.
		STO	Standard configured
		Communication interface	USB Type-C, RS-485, EtherCAT
	Position output	Display and operation	6-digit LED indicator light, power indicator light, 5 buttons operation
		Frequency division function	Yes
	Analog input	Collector Z-phase output	Yes
		Frequency division function	Yes
	I/O signal	Digital input (SI)	6 channels Servo enable, alarm clear, prohibit forward rotation, prohibit reverse rotation, torque limit selection, internal speed selection, mode switching Pulse input prohibition, zero speed locking, position deviation clearing, internal position step change signal, internal control mode direction switching
Digital output (SO)		4 channels Positioning completed, servo ready, alarm output, torque limit output, same speed detection, rotation detection, speed reached Brake release output, warning output	
Position control mode	Pulse command mode	Not support	
	Control mode	Internal position/EtherCAT motion bus	
	Feedforward compensation	0~100% (set the resolution to 1%)	
Speed control mode	Positioning completed width setting	1~65535 instruction units (set resolution to 1 instruction unit)	
	Electronic gear ratio	1/65530 ≤ B/A ≤ 65535	
	Control method	Internal three-segment speed, external speed mode	
Torque control mode	Instruction smoothing method	Low-pass filter, smoothing filter	
	Analog input	Voltage range: NO Input impedance: NO	
	Torque limit	Internal parameters	
	Speed change rate	When the rated external load changes from 0% to 100%: below ±0.01% (at rated speed) Rated voltage ±10%: 0.01%(at rated speed) Environmental temperature of 20 ± 25°C: below ±0.01% (at rated speed)	
Bus control mode	Control mode	Internal torque	
	Analog input	Voltage range: NO Input impedance: NO	
	Speed limit	Internal parameters	
Communication protocol	EtherCAT protocol		

Specification	Model	Rectifying unit	
	DM6-R series		
Basic specification	Power range (KW)	22KW, 45KW, 75KW, 110KW, 160KW	
	Input power supply	Three phase AC380V~440V, 50Hz/60Hz	
	Control circuit power supply	DC24V	
	Control mode	Three phase full wave rectification IPM, PWM control, sine wave current drive mode	
	Using environment	Ambient temperature	Operation:-10°C~40°C (no condensation)/Storage:-20°C~60°C (no condensation)
		Ambient humidity	Operation/Storage: Below 90%RH (no condensation)
		Vibration/impact resistance	4.9M/S <sup>2</sup> /19.6M/S <sup>2</sup>
	Protection function	Overvoltage, undervoltage, overheating, oscillation protection, phase loss protection, etc	

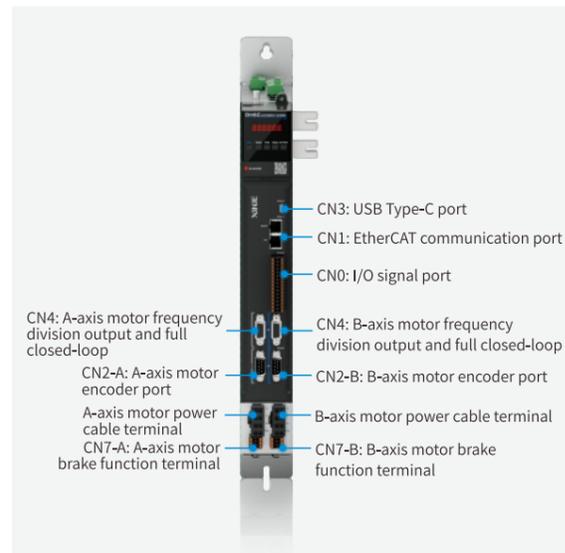


# Terminal definition

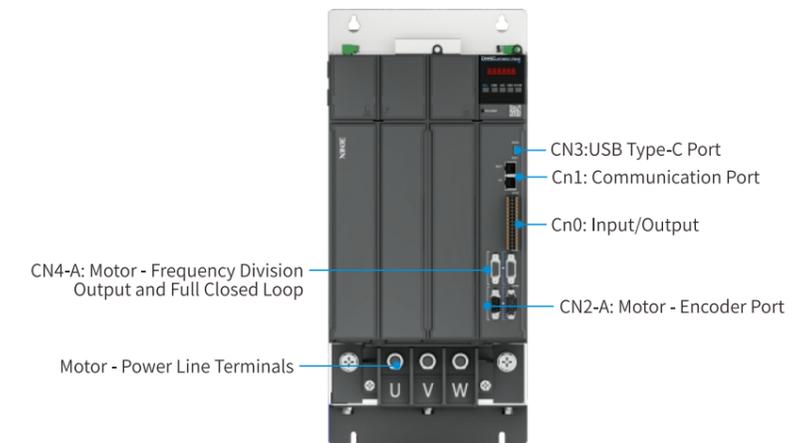
**Terminal arrangement of rectifier unit  
DM6-4110P0-R**



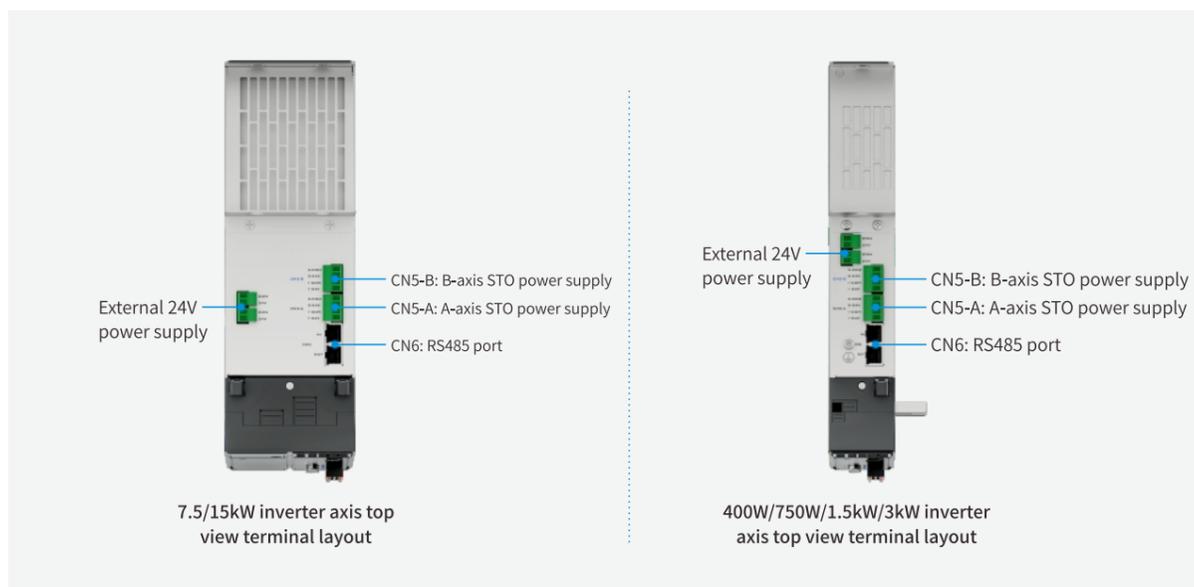
**Front terminal layout of inverter module  
DM6C 15kW/7.5kW/5.5kW/3kW/1.5kW/  
750W/400W**



**DM6C-44P0S/455P0S/475P0S-M  
Front Terminal Layout of the Inverter Module**



**Top view terminal layout of inverter module  
DM6C 15kW/7.5kW/5.5kW/3kW/1.5kW/750W/400W**



**DM6C-44P0S/455P0S/475P0S-M  
Inverter module top view terminal layout**



# Terminal definition

## ① CN0 (I/O terminals)

No.	Name	Explanation	No.	Name	Explanation
1	SI1+	Axis A SI1+ (high-speed)	16	SO4-	Axis B SO4-
2	SI1-	Axis A SI1- (high Speed)	17	SO4+	Axis B SO4+
3	SI2+	Axis A SI2+ (high speed)	18	COM	Axis B output terminal ground
4	SI2-	Axis A SI2- (high speed)	19	SO3	Axis B SO3
5	SI3	Axis A SI3	20	SO2	Axis B SO2
6	SI4	Axis A SI4	21	SO1	Axis B SO1
7	SI5	Axis A SI5	22	+24VI	Axis B input +24V
8	SI6	Axis A SI6	23	SI6	Axis B SI6
9	+24V	Axis A input +24V	24	SI5	Axis B SI5
10	SO1	Axis A SO1	25	SI4	Axis B SI4
11	SO2	Axis A SO2	26	SI3	Axis B SI3
12	SO3	Axis A SO3	27	SI2-	Axis B SI2- (high speed)
13	COM	Axis A output terminal ground	28	SI2+	Axis B SI2+ (high speed)
14	SO4+	Axis A SO4+	29	SI1-	Axis B SI1- (high speed)
15	SO4-	Axis A SO4-	30	SI1+	Axis B SI1+ (high speed)

## ③ CN2 (encoder)

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

## ⑤ CN4 (frequency division output and fully closed-loop signal)

No.	Name	Explanation	No.	Name	Explanation
1	QBH-A+	Fully closed-loop input A+	9	FPA+	Encoder frequency division output A+
2	QBH-A-	Fully closed-loop input A-	10	FPA-	Encoder frequency division output A-
3	GND	Grating ruler GND	11	FPB+	Encoder frequency division output B+
4	QBH-B+	Fully closed-loop input B+	12	FPB-	Encoder frequency division output B-
5	QBH-B-	Fully closed-loop input B-	13	FPZ+	Encoder frequency division output Z+
6	QBH-Z+	Fully closed-loop input Z+	14	FPZ-	Encoder frequency division output Z-
7	QBH-Z-	Fully closed-loop input Z-	15	5V	Grating ruler power supply 5V
8	GND	Grating ruler GND	/	/	Idle pins

## ⑦ CN6 (CAN+RS485+station number allocation)

No.	Name	No.	Definition
1	CANH	9	CANH
2	CANL	10	CANL
3	GND	11	GND
4	485-A	12	485-A
5	485-B	13	485-B
6	485GND	14	485GND
7	OUT-TX	15	IN-TX
8	OUT-RX	16	IN-RX

## ② CN1 (EtherCAT port)

No.	Name	No.	Name
1	TX A+	9	TX B+
2	TX A-	10	TX B-
3	RX A+	11	RX B+
4	-	12	-
5	-	13	-
6	RX A-	14	RX B-
7	-	15	-
8	-	16	-

## ④ CN3 (USB Type-C port)

No.	Name	No.	Name
A1	GND	B1	GND
A4	USB-VBUS	B4	USB-VBUS
A6	USB-D+	B6	USB-D+
A7	USB-D-	B7	USB-D-
A9	USB-VBUS	B9	USB-VBUS
A12	GND	B12	GND

## ⑥ CN5 (STO signal)

Name	Explanation
1	STO1-COM
2	STO1-24V
3	STO2-COM
4	STO2-24V

## ⑧ CN7 (brake terminals)

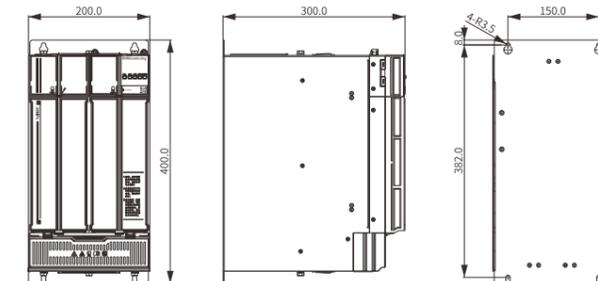
No.	Name	No.	Name
1	/	4	/
2	BK-	5	BK+
3	/	6	/

# Installation dimension

(unit: mm)

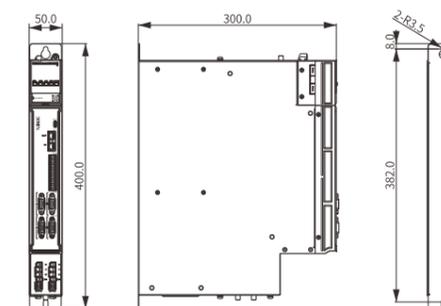
## ■ Rectifying unit

DM6-4110P0-R

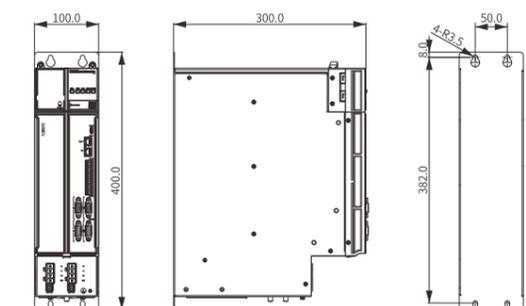


## ■ Inverter unit

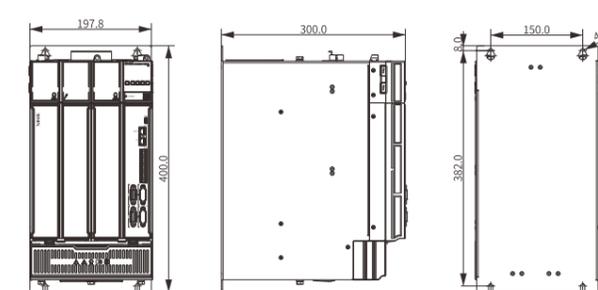
DM6C-40P4/40P7/41P5/43P0-M



DM6C-45P5/47P5/415P0-M



DM6C-445P0/455P0S/475P0S-M



# DL6 series

## fully functional linear drive servo driver

Reliable operation

High positioning accuracy

Newly debugging serial port

Efficient tuning

Gantry function

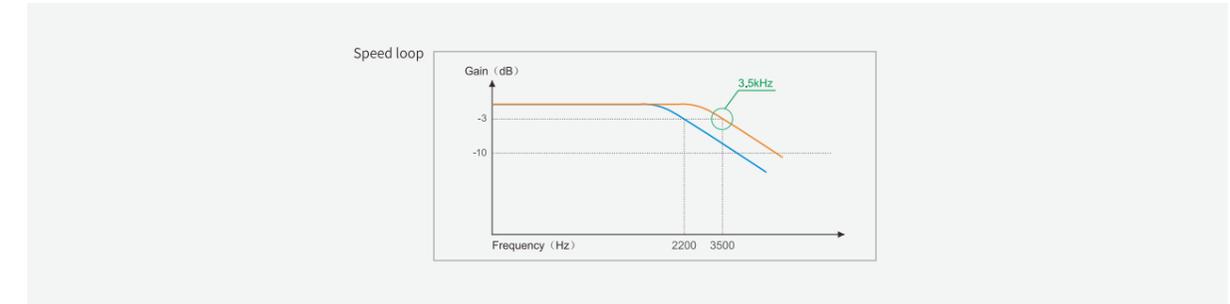
High dynamic response

Fully functional

## Product features

### High dynamic response

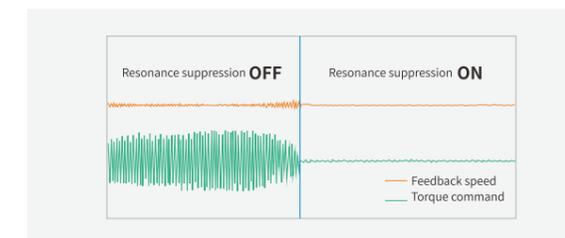
- 3.8kHz speed loop response bandwidth. Synchronization period 250μs. High dynamic response improves production efficiency.
- Advanced control algorithms provide the optimal solution for achieving fast and flexible results in fast positioning systems.



### Suppress vibration, Efficient tuning

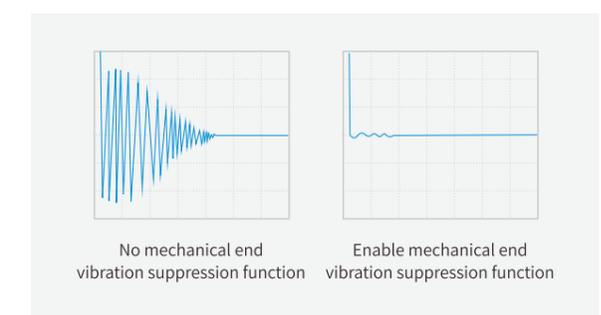
#### Resonance suppression

- The resonance suppression control algorithm can effectively shorten the tuning time, eliminate mechanical resonance, and make path tracking smooth and accurate.
- Resonance frequency automatic inspection, with stronger usability.
- The accuracy of vibration frequency recognition has been improved by 50%.
- The resonance frequency analysis time is reduced by 50%.



#### Mechanical end vibration suppression

- By using advanced control algorithms, vibration and noise suppression of mechanical ends can be achieved. Effectively solve the vibration at the end of the cantilever beam mechanism, shorten the tuning time, and improve product accuracy.



### Fully functional

- The DL6 series is equipped with long line drive, frequency division output, position comparison output, probe function, motor temperature sampling and other functions.

Long line drive

Frequency division output

Position comparison output

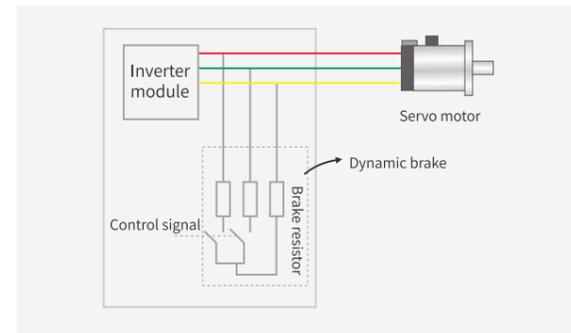
Probe function

Motor temperature sampling

## Reliable operation

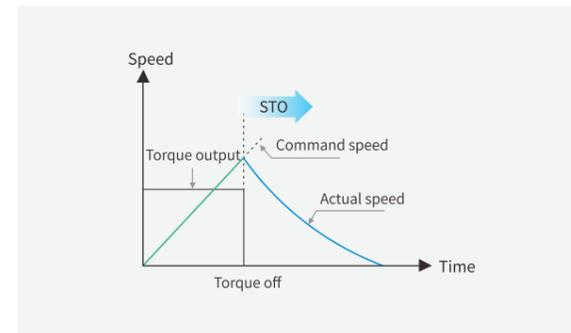
### Dynamic braking

- When there is a power outage or alarm during the operation of the motor, the servo will be turned off, and the three-phase circuit of the motor will be short circuited. The servo motor will quickly stop, thus protecting the safety of people and machines.



### STO function

- Support STO. When the safety torque function is enabled, the internal hardware circuit of the driver will trigger, forcibly shutting down the power transistor of the driver, causing the motor to stop running and protecting personal and equipment safety.



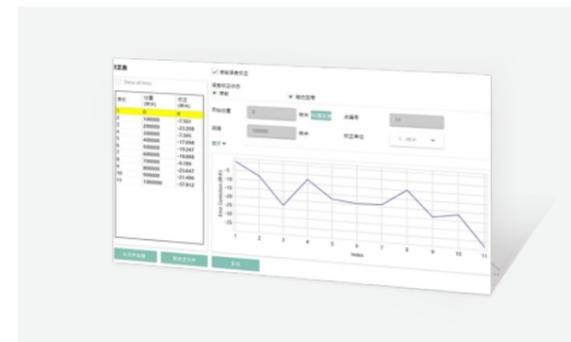
### Multiple protection functions

- Support multiple protection functions, such as ground short circuit protection, P- overcurrent protection, etc., with ultra-low failure rate, users can use it with more peace of mind.



### Higher positioning accuracy

- The positioning accuracy compensation function helps achieve higher absolute positioning accuracy.



### Equipped with a brand new upper computer debugging serial port

- Standard Type-C debugging port.



### Gantry function

- Introducing a new gantry synchronization algorithm, the two axes are highly synchronized during motion, ensuring high response and synchronization performance even at high speed.



## Naming rule

**DL 6 □ - 2 □ □ □ - GS**

① ② ③ ④ ⑤ ⑥

①	Symbol	Product name
	DL	Linear drive servo driver

②	Symbol	Product series
	6	6 series
	5	5 series

③	Symbol	Product type
	Default	Standard
	C	EtherCATBus Type
	K	Pulse Type

④	Symbol	Rated input voltage
	2	AC220V
	4	AC380V

⑤	Symbol	Rated output current
	003	2.8A
	006	6A
	010	10A
	012	12A
	020	20A

⑥	Symbol	Special function
	Default	Standard type
	GS	Gantry synchronization

## Driver model list

Current	Series	DL6 series
2.8A		DL6-2003
2.8A		DL6-2003-GS
6A		DL6-2006
6A		DL6-2006-GS
10A		DL6-4010
12A		DL6-4012
20A		DL6-4020

## Driver specification list

Function	Driver specification list			
	Position control	Speed control	Torque control	Bus control
DL6 series	●	●	●	●

Function	Control method								
	Pulse	Long line drive	Analog input	External displacement sensor	ABZ differential feedback	USB Type-C	RS485	SI input	SO output
DL6 series	●	●		●	●	●		7	4

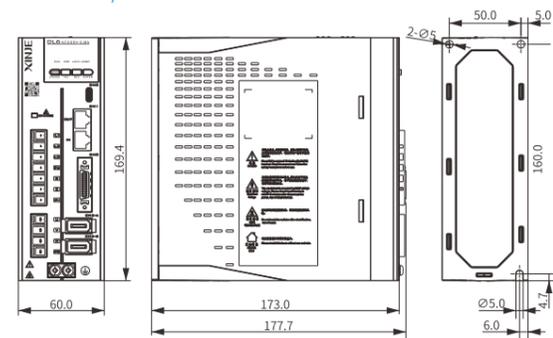
# Technical specification

Item		DL6 series linear drive servo driver	
Basic specification	Input current	Single phase/three-phase AC200~240V, 50Hz/60Hz; three-phase AC380V~440V, 50Hz/60Hz	
	Encoder feedback	ABZ incremental encoder, absolute Biss-c encoder	
	Control method	Three phase full wave rectification IPM, PWM control, sine wave current drive mode	
	Control mode	Position mode, speed mode, torque mode	
	Using environment	Ambient temperature	Operation:-10°C~40°C (no condensation)/Storage:-20°C ~60°C (no condensation)
		Ambient humidity	Operation/storage: below 90% RH (no condensation)
		Vibration/impact resistance	4.9m/s <sup>2</sup> / 19.6m/s <sup>2</sup>
		Installation site	A place without dust, dry, vibration, or corrosive substances
		Installation method	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		Standard configured	
Communication function		EtherCAT bus communication	
Braking resistor		Built-in braking resistor, external braking resistor available	
Display and operation		5-digit LED indicator light, power indicator light, 4 buttons operation	
I/O signal	Digital input	7 channels input Two channels of high-speed SI support probe function	
	Digital output	4 channels digital output Positioning completed, servo ready, alarm output, speed reached, rotation detection, torque limit output, same speed detection, brake release output	

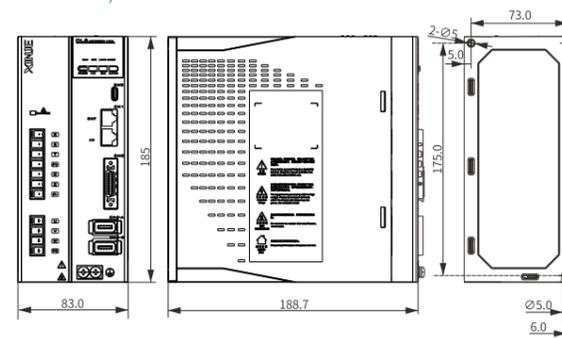
# Outline dimension

(unit: mm)

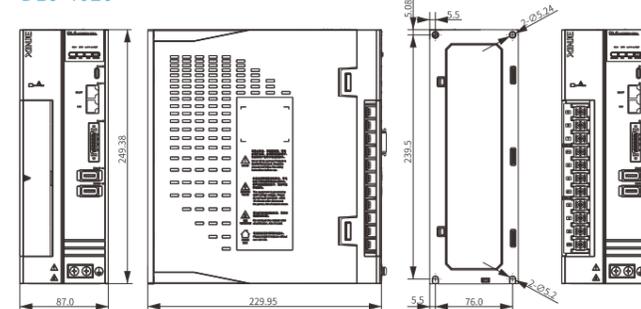
DL6-2003/2006



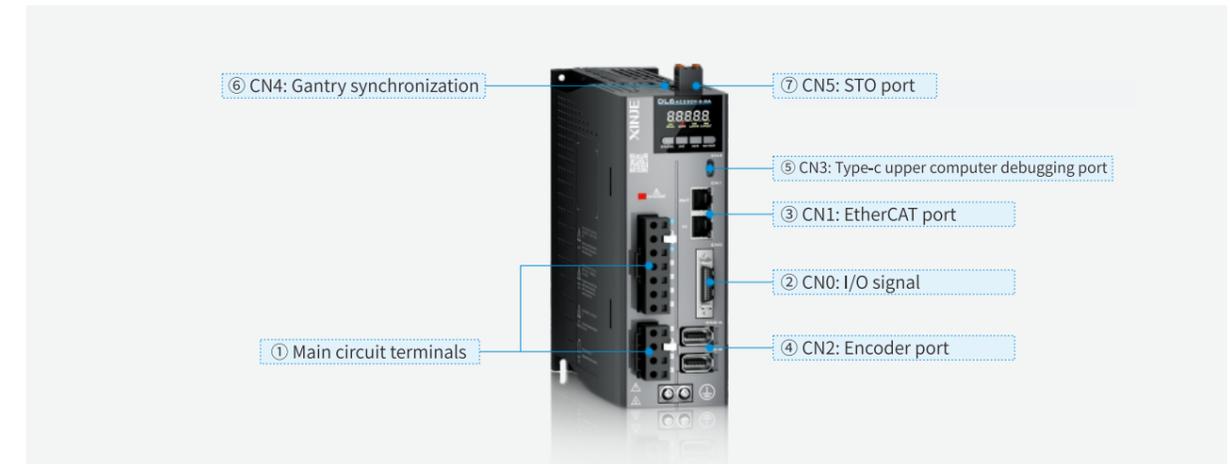
DL6-4010/4012



DL6-4020



# Port distribution



① Main circuit terminals

Terminal	Function	Explanation
L1, L2, L3	Main circuit power input terminal	Single phase/three-phase AC200~240V, 50/60Hz (If single phase power supply is used, please connect L1/L3, otherwise it will affect parameter memory when power off)
P+, D, C	Use built-in braking resistor	Short circuit P+ and D terminals, disconnect P+ and C
	Use external braking resistor	Connect the braking resistor to the P+ and C terminals, and disconnect the P+ and D short-circuit wires: set P0-25=power value, P0-26=resistance value
P+, P-	Bus terminal	Real time voltage of the busbar can be measured, please be aware of the danger
U, V, W, PE	Motor connection terminal	Connect to the motor
⊕	Grounding terminal	The ground wire is on the heat sink. Please confirm a good grounding before powering on

③ CN1

No.	Name	No.	Name
1	TX A+	9	TX B+
2	TX A-	10	TX B-
3	RX A+	11	RX B+
4	-	12	-
5	-	13	-
6	RX A-	14	RX B-
7	-	15	-
8	-	16	-

② CN0

No.	Name	Explanation	No.	Name	Explanation
1	+24V	+24V Common Terminal	14	SI3	Ordinary input terminal 3
2	SI4	Ordinary input terminal 4	15	SI5	Ordinary input terminal 5
3	SI6	Ordinary input terminal 6	16	SI7	Ordinary input terminal 7
4	COM	Output common terminal	17	SO3	Ordinary output terminal 3
5	SO4	Ordinary output terminal 4	18	SO1	High speed output terminal 1
6	SO2	High speed output terminal 2	19	DO_24V	High speed output +24V power supply
7	OA+	Encoder frequency division output OA+	20	OA-	Encoder frequency division output OA-
8	OB+	Encoder frequency division output OB+	21	OB-	Encoder frequency division output OB-
9	OZ+	Encoder frequency division output OZ+	22	OZ-	Encoder frequency division output OZ-
10	P+5V	Pulse +5V	23	p-	Pulse-
11	D+5V	Direction +5V	24	D-	Direction-
12	SI1	High speed input terminal 1	25	SI2	High speed input terminal 2
13	P+/D+24V	Pulse/direction +24V	26	GND	Frequency division output ground

④ CN2 (CN2-A)

No.	Definition	No.	Definition
1	Power supply+5V	6	Incremental encoder B-Biss-C encoder DATA-
2	GND	7	Incremental encoder Z+
3	Incremental encoder A+ Biss-C encoder CLK+	8	Incremental encoder Z-
4	Incremental encoder A- Biss-C encoder CLK	9	Motor temperature+
5	Incremental encoder B+ Biss-C encoder DATA+	10	Motor temperature-

(CN2-B)

No.	Definition	No.	Definition
1	Power supply+5V	6	-
2	GND	7	Rotary encoder A
3	Hall U+	8	Rotary encoder B
4	Hall V+	9	-
5	Hall W+	10	-

⑤ CN3

No.	Definition	No.	Definition
A1	GND	B1	GND
A4	USB-VBUS	B4	USB-VBUS
A6	USB-D+	B6	USB-D+
A7	USB-D-	B7	USB-D-
A9	USB-VBUS	B9	USB-VBUS
A12	GND	B12	GND

⑦ CN5

No.	Name	Explanation	No.	Name	Explanation
1	EDM+	EDM output+	4	EDM-	EDM output-
2	24V	24V output	5	COM	Public ground
3	STO1	STO1 circuit input	6	STO2	STO2 circuit input

⑥ CN4

Name	Explanation
1	TX A+
2	TX A-
3	RX A+
4	-
5	-
6	RX A-
7	-
8	-

# Low voltage servo system

## iMF5 Series Integrated Low-voltage Servo Drive Motor



# iMF5 Series Integrated Low-voltage Servo Drive Motor



### Comprehensive Protection

Built-in overvoltage, undervoltage, short circuit, and dual over-temperature protection (built-in thermistor), creating multiple safety barriers.

### Strong Overload Capacity

Triple overload capacity ensures stable operation during heavy load startup and instantaneous impacts.

### Worry-free Wiring

Built-in 24V brake power supply simplifies wiring, saving time and effort.

### Integrated and Compact

Integrated drive and control design, compact structure, effectively saving space and installation wiring.

### Wide-range Power Supply

24-60VDC wide voltage input, adaptable to various industrial environments, reducing power supply configuration complexity.

### Multi-protocol Integration

Integrates CANopen and Modbus RTU for easy system integration and networking.

## Naming Convention

### Integrated Low-voltage Servo Drive Motor Naming Convention

iMF5 <sup>①</sup> N <sup>②</sup> - 60 <sup>③</sup> C <sup>④</sup> N <sup>⑤</sup> 30 <sup>⑥</sup> B <sup>⑦</sup> Z <sup>⑧</sup> □ <sup>⑨</sup> - 5 <sup>⑩</sup> 04 <sup>⑪</sup>

① Series		② Type		③ Frame Size		④ Encoder Type		⑤ Encoder Accuracy		⑥ Rated Speed	
Symbol	Series	Symbol	Communication Method	Symbol	Frame Size	Symbol	Type	Symbol	Specification	Symbol	Rated Speed
iMF5	iMF5 Series	N	CANopen	40	40 Flange	C	Magnetic Encoder	N	Single/Multi-turn Integrated 19-bit	30	3000rpm
				60	60 Flange						
				80	80 Flange						

⑦ Motor Shaft Specification		⑧ Power-off Brake		⑨ Motor Connector Type		⑩ Voltage Class		⑪ Rated Power	
Symbol	Keyed Shaft, Oil Seal	Symbol	Specification	Symbol	Plug Type	Symbol	Voltage	Symbol	Power
B	With Key, With Oil Seal	Z	With Brake	2	Aviation Plug Connector	5	48V	01	100W
		空	Without Brake					02	200W
								04	400W
								07	750W

\*Note: The models that have been put into production can be found in the subsequent model list. Some models have not yet been put into production, please stay tuned.

# Model Overview

## Integrated Low-voltage Servo Drive Motor Model Overview

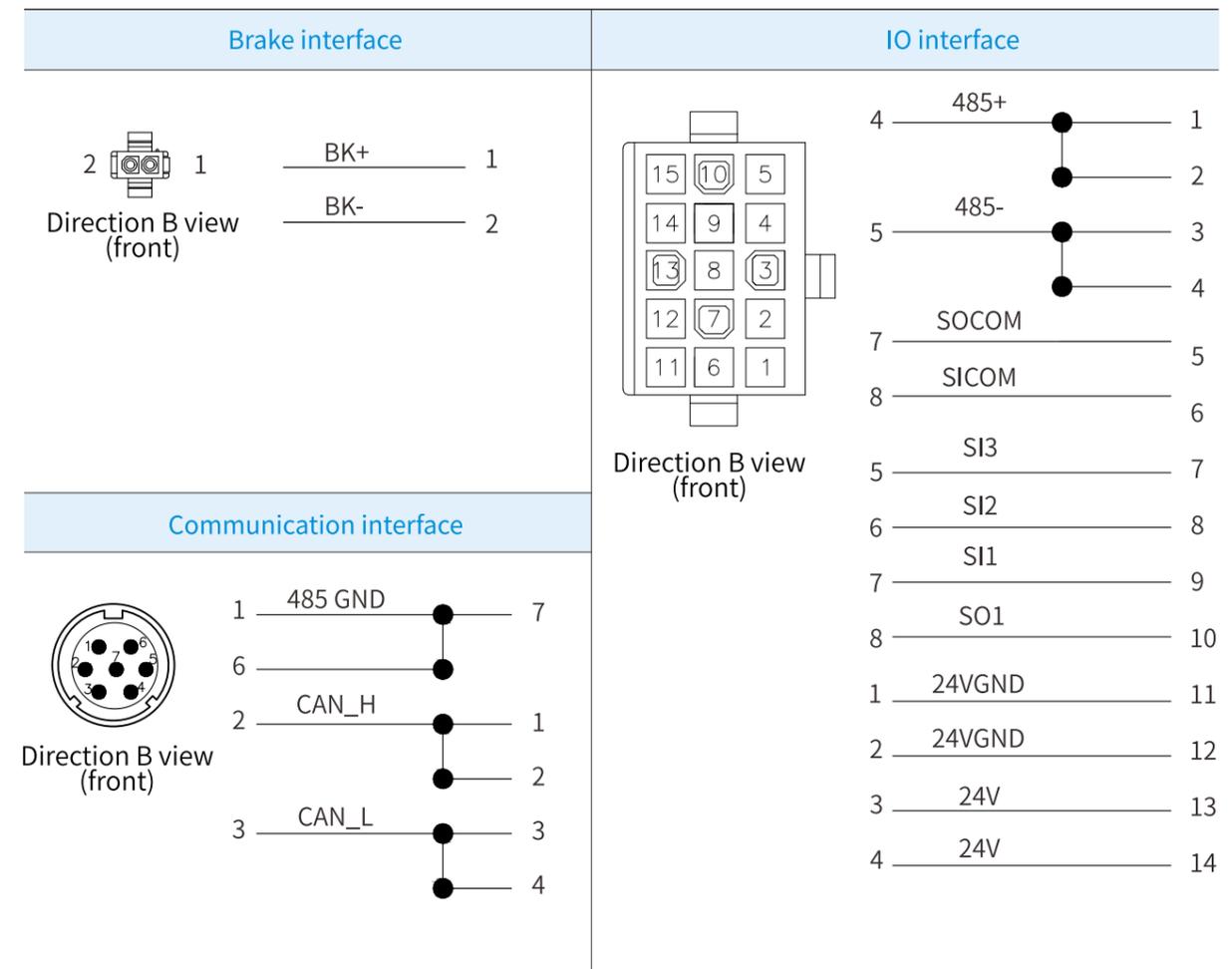
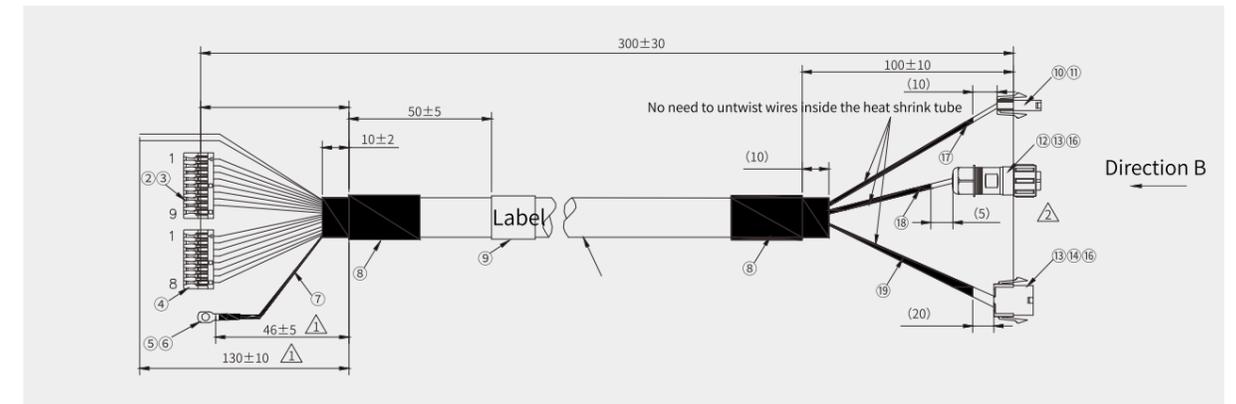
Series	Power supply voltage	Communication Method	Specification Model	Power (W)	Rated Torque (N.m)	Rated Speed (rpm)	Rated Current [A]	Encoder Type
iMF5 Series	DC48	CANopen	iMF5N-40CN30B(Z)2-501	100	0.32	3000	3.0	Magnetic Encoder 19-bit
			iMF5N-60CN30B(Z)2-502	200	0.64	3000	6.0	
			iMF5N-60CN30B(Z)2-504	400	1.27	3000	10	
			iMF5N-80CN30B(Z)2-507	750	2.39	3000	20	

# Technical Parameters Table

## Integrated Low-voltage Servo Drive Motor Technical Parameters

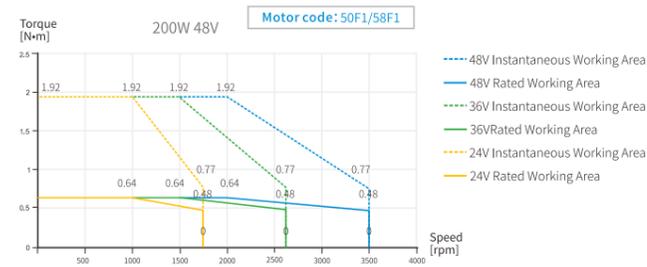
Voltage Class	DC48V			
	5N-40 <small>*Under research</small>	5N-60	5N-60	5N-80
Motor Model iMF	CN30B(Z)2	CN30B(Z)2	CN30B(Z)2	CN30B(Z)2
Rated Power (W)	501	502	504	507
Rated Current (A)	3	6	10	20
Rated Speed (RPM)	3000	3000	3000	3000
Maximum Speed (RPM)	3500	3500	3500	3500
Rated Torque (N.m)	0.32	0.64	1.27	2.39
Maximum Torque (N.m)	0.96	1.92	3.81	7.17
Rotor Inertia[10 <sup>-7</sup> kg·m <sup>2</sup> ]	64(67)	142(171)	252.1(265.3)	978(1031)
Bearing Axial Force (N)	54	74	74	147
Bearing Radial Force (N)	78	245	245	392
Inertia Type	High inertia	High inertia	High inertia	High inertia
Number of Pole Pairs	5	5	5	5
Encoder Bit Count	19	19	19	19
Encoder Type	Magnetic	Magnetic	Magnetic	Magnetic
Cooling Method	Natural cooling			
Motor Insulation Class	CLASSF(155°C)			
Protection Rating	IP65	IP65	IP65	IP65
Operating Environment	Ambient Temperature: -10°C~+40°C(Does not freeze) Ambient Humidity: 20%-90%RH(Does not condense)			

# Terminal Definitions

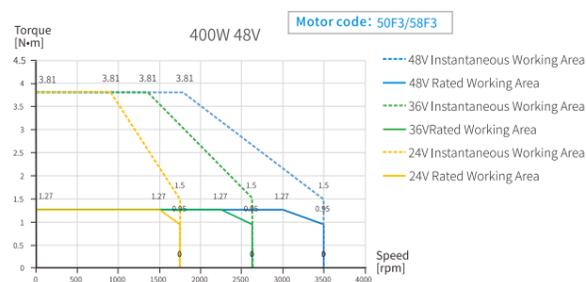


# Torque-Speed Characteristic Curve

iMF5N-60CN30B(Z)2-502



iMF5N-60CN30B(Z)2-504

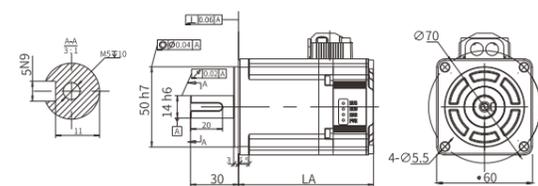


iMF5N-80CN30B(Z)2-507

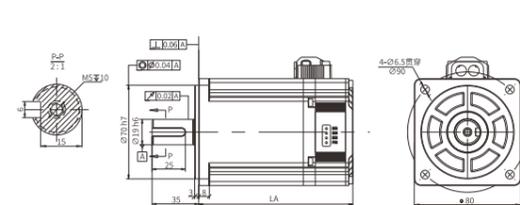


# Installation Dimension Diagram (unit: mm)

60 Flange



80 Flange



Model	LA±1	
	Standard	With Brake
iMF5N-60CN30B(Z)2-502	84.4	116.9
iMF5N-60CN30B(Z)2-504	101.7	134.2

Model	LA±1	
	Standard	With Brake
iMF5N-80CN30B(Z)2-507	84.4	116.9

\*Note: The models that have been put into production can be found in the subsequent model list. Some models have not yet been put into production, please stay tuned.

# DF3 series low voltage servo driver



## Appearance innovation

New appearance design, rich interfaces, compact size, lightweight body, meeting the equipment installation requirements of the AGV industry

## Powerful functionality

Support multiple control modes, built-in 24V brake output, alarm synchronous braking and other functions to meet customer usage requirements

## Diverse communication

Support multiple communication protocols such as CANopen and MODBUS to meet different communication function requirements of users

## Easy debugging

Gain adjustment only requires three steps, greatly reducing equipment debugging time and greatly improving on-site debugging efficiency

# MF series low voltage servo motor



## The body is shorter

Optimize magnetic circuit structure, further shorten motor size, MF5H has a 30% reduction in body compared to MF3S

## Overload capacity

The entire series comes standard with triple overload, making it faster and more stable to start and stop under overload conditions

## Accuracy guarantee

The motor comes standard with a self-developed 17-bit magnetic encoder, greatly improving positioning accuracy

## Excellent performance

The insulation level has reached the highest F level in the industry, fully ensuring the stability of on-site applications

## Protective capability

The protection level reaches IP67, making it easy to cope with harsh environments such as oil, water vapor, and dust, ensuring the reliability of the motor

# Naming rule and model list

## Low voltage servo driver naming rule

**DF** **3** **E** - **04** **10** **Z** - **A**

① ② ③ ④ ⑤ ⑥ ⑦

① Name		② Series number		③ Control function	
Symbol	Product name	Symbol	Specification	Symbol	Function
DF	Low voltage servo driver	3	Series number	E	Pulse, RS485, CANopen
④ Driver power		⑤ Rated current		⑥ Driver function	
Symbol	Rated output power	Symbol	Rated output current	Symbol	Driver function
02	200W	06	6A	Z	Servo directly driving brake
04	400W	10	10A	Vacant	Cannot directly driving brake
07	750W	20	20A	⑦ Series	
15	1.5kW	40	40A	Symbol	Specification
				A	Small size 400W driver

## Low voltage servo driver model list

Series	Driver name	Power (W)	Maximum continuous output current (A)	Peak current(A)	Control mode
DF3 series DC24V~70V	DF3E-0206	200	6	18	RS485, PULSE, CANOPEN
	DF3E-0410-A	400	10	30	RS485, PULSE, CANOPEN
	DF3E-0410				RS485, PULSE, CANOPEN
	DF3E-0410Z	750	20	60	RS485, PULSE, CANOPEN
	DF3E-0720				RS485, PULSE, CANOPEN
	DF3E-0720Z				RS485, PULSE, CANOPEN
DF3E-1540	1500	40	120	RS485, PULSE, CANOPEN	

## Low voltage servo cable naming rule

**CP** - **SP** - **M** - **Length**

① ② ③ ④

① Cable type		② Plug type		③ Battery box type		④ Cable length	
Symbol	Specification	Symbol	Specification	Symbol	Battery box type	Symbol	Length (m)
CP	Normal encoder cable	SP	9-pin Amp plug	M	Without battery box	01	1
		SV	7-core waterproof small aviation plug	BM	With battery box	02	2
		SC	10-core small aviation plug			03	3
						05	5

**CM** - **P** **15** **A** - **Length**

① ② ③ ④ ⑤

① Cable type		② Plug type		③ Cable diameter type		④ Terminal type		⑤ Cable length	
Symbol	Specification	Symbol	Specification	Symbol	Cable diameter (mm)	Symbol	Type	Symbol	Length (m)
CM	Normal power cable	P	4-core Amp plug	15	1.5	Vacant	U-shaped terminal	01	1
		V	6-core waterproof small aviation plug	20	2	A	Pin terminal	02	2
		XL	4-core medium-sized aviation plug	60	6			03	3
								05	5

# Naming rule and model list

## Low voltage servo adaptation table

Series	Power (W)	Servo motor	Suitable driver	Encoder cable	Power cable	Brake cable
High inertia 48VDC	200	MF5H-60CM30B1-502	DF3E-0206	CP-SP-M-Length	CM-P15A-Length	
		MF5H-60CM30BZ1-502	DF3E-0206	CP-SP-M-Length	CM-P15A-Length	CB-P03-Length
High inertia 48VDC	400	MF5H-60CM30B1-504	DF3E-0410-A DF3E-0410 DF3E-0410-Z	CP-SP-BM-Length	CM-P15A-Length	-
		MF5H-60CM30BZ1-504	DF3E-0410-A DF3E-0410 DF3E-0410-Z	CP-SP-BM-Length	CM-P15A-Length	CB-P03-Length
High inertia 48VDC	750	MF5H-80CM30B2-507	DF3E-0720 DF3E-0720Z	CP-SV-BM-Length	CM-V20-Length	-
High inertia 48VDC	750	MF5H-80CM30BZ2-507	DF3E-0720 DF3E-0720Z	CP-SV-BM-Length	CMB-V20-Length	-
High inertia 48VDC	1200	MF5H-80CM30B2-512	DF3E-1540	CP-SV-BM-Length	CM-V40-Length	-
		MF5H-80CM30BZ2-512	DF3E-1540	CP-SV-BM-Length	CMB-V40-Length	-
Low inertia 48VDC	1500	MF3S-130CM30B2-515	DF3E-1540	CP-SC-B-Length	CM-XL60-Length	-
		MF3S-130CM30BZ2-515		CP-SC-B-Length	CMB-XL60-Length	-

\*Note: The MF5H series motor adopts a single multi turn integrated encoder. If you need to use the multi turn function, please purchase a cable with a battery box.

# Technical parameter table

## Driver technical parameters

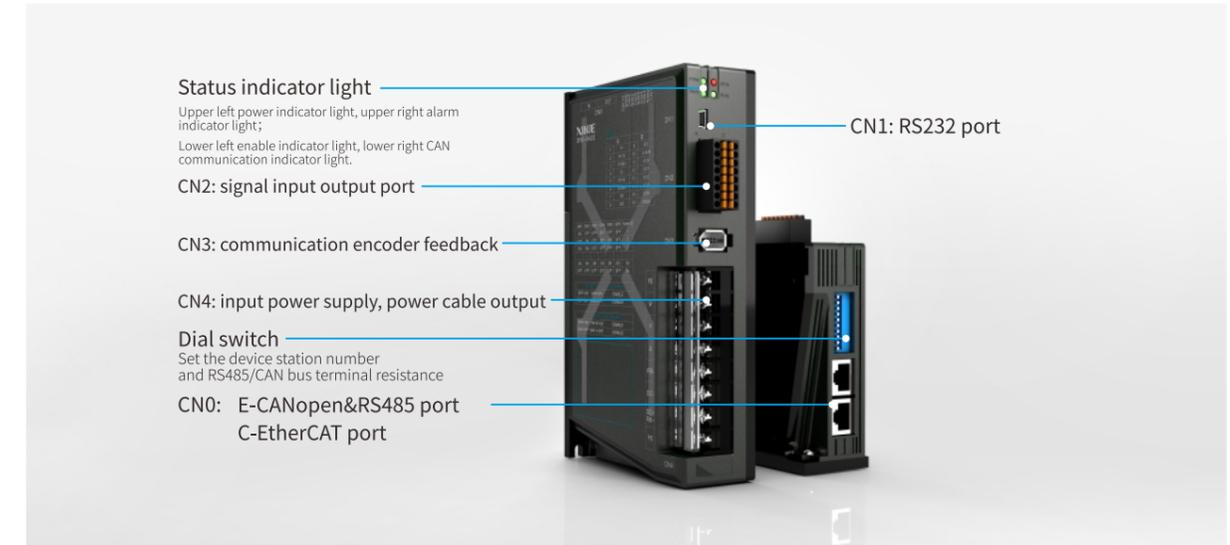
Item		DF3E-0206	DF3E-0410	DF3E-0720	DF3E-1540	
Basic specification	Power	200W	400W	750W	1500W	
	Input power supply	DC24V-70V				
	Rated output current	Maximum continuous output current (Arms)	6	10	20	40
		Peak current (PEAK)	18	30	60	120
	Encoder feedback	17-bit communication encoder				
	Communication mode	RS232, RS485, CANopen				
	Using environment	Ambient temperature	Operation:-10°C~40°C (no condensation)/Storage:-20°C~60°C (no condensation)			
		Ambient humidity	Operation/storage: 20%~90% RH (no condensation)			
		Vibration/impact resistance	4.9m/s <sup>2</sup> / 19.6m/s <sup>2</sup>			
		Installation site	A place without dust, dry, vibration, or corrosive substances			
Installation method	Vertical or horizontal installation					
Energy consumption braking	External brake resistor can be connected					
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 variation rate	At 0-100% load: below ±0.1% (at rated speed)					
Voltage variation rate	Rated voltage ±10%: 0.01% (at rated speed)					
Temperature change rate	20±25°C: below ±0.1% (at rated speed)					
I/O signal	Digital input	4 channels digital input (brake models have 3 channels digital input) Servo enable, alarm clear, prohibit forward rotation, prohibit reverse rotation, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, position deviation clearing, internal position step change signal				
	Digital output	3 channels digital output Positioning completed, servo ready, alarm output, speed reached, rotation detection, torque limit output, same speed detection, brake release output				
	Pulse control	Support pulse+direction, AB phase, CW/CCW				

# Technical parameter table

## Motor technical parameters

Voltage level		DC48V			
Motor model MF	3S-130	5H-60	5H-60	5H-80	
	130CM30B(Z)2	CM30B(Z)1	CM30B(Z)1	CM30B(Z)2	
	515	502	504	507	
Rated power (W)	1500	200	400	750	
Rated current (A)	31.5	6	11	20	
Rated speed (PRM)	3000	3000	3000	3000	
Maximum speed (PRM)	3500	3500	3500	3500	
Rated torque (N · M)	4.8	0.64	1.27	2.39	
Maximum torque (N · M)	14.4	1.92	3.81	7.17	
Rotor inertia (10 <sup>-4</sup> · KG)	15018(15275)	320(332)	556(562)	1437(1500)	
Axial force of bearing (N)	300	74	74	147	
Radial force of bearing (N)	600	245	245	392	
Inertia type	Low inertia	High inertia	High inertia	High inertia	
Pole pairs	5	5	5	5	
Encoder bit	17	17	17	17	
Encoder type	Magnetic	Magnetic	Magnetic	Magnetic	
Cooling method	Natural cooling				
Motor insulation grade	CLASSF(155°C)				
Protection level	IP66	IP67		IP65	
Using environment	Ambient temperature	-10°C~+40°C (not frozen)			
	Ambient humidity	20%~90% RH (non condensing)			

# Terminal definition



### CN0 port (E type port)

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

### CN1 port

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

### CN2 port (taking DF3E-0410 as an example)

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 function of CN2 is divided into two types. One is the non brake type, with terminal 10 serving as SI4 and terminal 16 as an empty terminal. Another type is the brake type, where the 10th terminal has a +24VS function and the 16th terminal is GNDS, which can be used for brake control.

### CN4 port (main circuit terminals)

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

### CN3 port (communication encoder feedback)

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

\*Note: ① RB+ and RB- connected to external resistors  
② Taking DF3E-0410 as an example.

Adjust the communication station number of the low-voltage servo by using the DIP switches SW1-SW6 (Excluding DF3E-0410-A, DF3E-0206)

Station number	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

Adjust the communication station number of the low-voltage servo by using the DIP switches SW1-SW4 (Excluding DF3E-0410-A, DF3E-0206)

Station number	SW1	SW2	SW3	SW4
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
...	...	...	...	...
15	ON	ON	ON	ON
16	OFF	OFF	OFF	OFF

SW7 and SW8 control whether the internal terminal resistance of RS485 is turned on

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

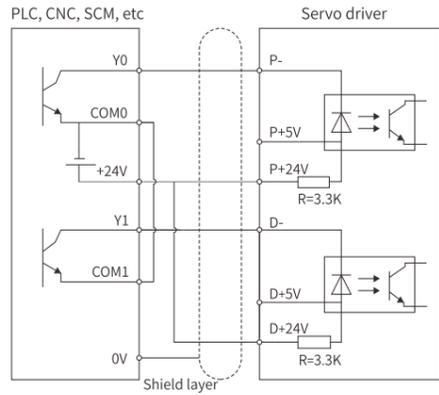
SW9 and SW10 control whether the internal terminal resistance of CAN is turned on

CAN internal terminal resistance			
SW9=ON	SW10=ON	Turn ON	
SW9=OFF	SW10=OFF	Turn OFF	

# Typical wiring diagram

The interface circuit for open collector/differential signal pulse input is shown in the wiring diagram below:

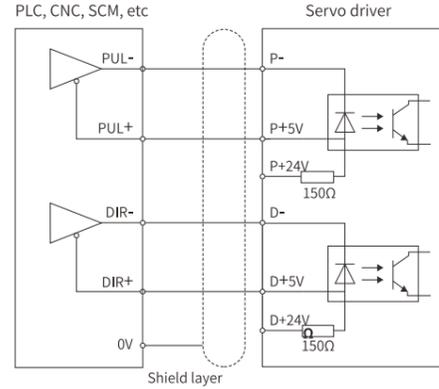
## Open collector type (24V)



When the higher-level device adopts open collector output, please note to suspend P+5V and D+5V when using this connection method.

**Note:** ① The power supply voltage range for P-/P+24V and D-/D+24V is 18V~28V. If it is below 18V, there may be pulse and direction abnormalities.  
② To resist interference, please make sure to use twisted pair shielded wires.

## Differential type (5V)

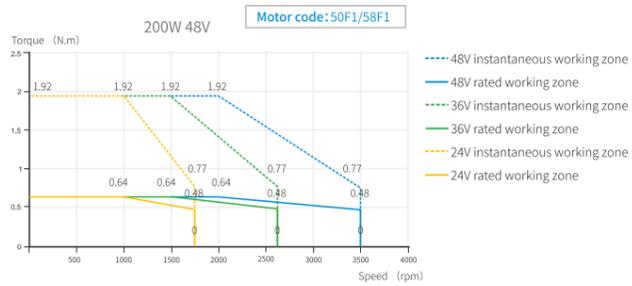


When the higher-level device uses 5V differential signal output, use the diagram connection method. Please note to suspend P+24V and D+24V.

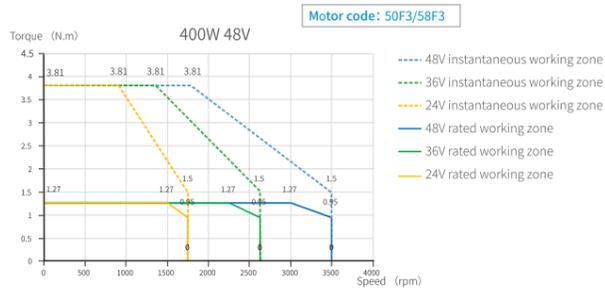
**Note:** ① The power supply voltage range for P-/P+5V and D-/D+5V is 3.3V~5V. If it is lower than 3.3V, there may be pulse and direction abnormalities.  
② To resist interference, please make sure to use twisted pair shielded wires.  
③ The servo pulse input port is conducting at 10mA.

# Torque frequency characteristic curve

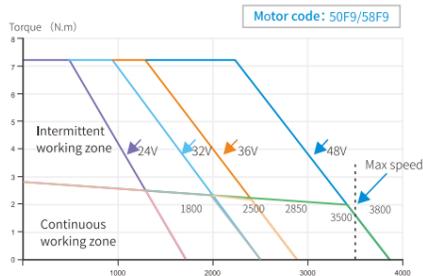
MF5H-60CM30B1-502  
MF5H-60CM30BZ1-502



MF5H-60CM30B1-504  
MF5H-60CM30BZ1-504



MF5H--80CM30B2-507  
MF5H--80CM30BZ2-507



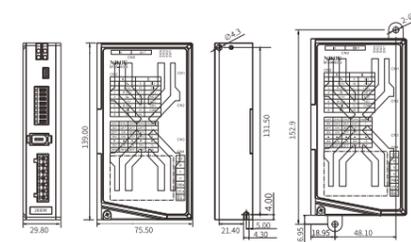
MF3S-130CM30B2-515  
MF3S-130CM30BZ2-515



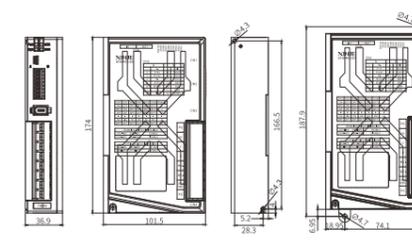
# Installation dimension (unit: mm)

## Low voltage servo driver

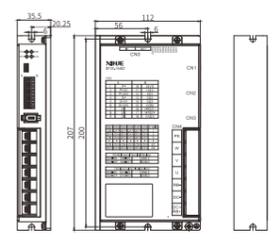
DF3E-0206/ DF3E-0410-A



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

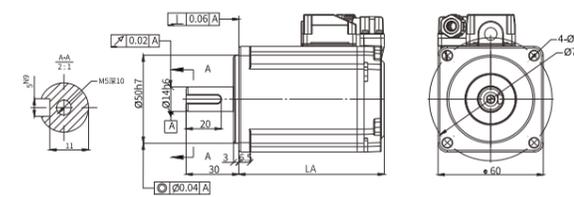


DF3E-1540(Z)



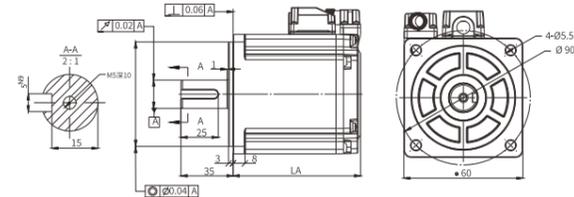
## Low voltage servo motor

### 60 series motor



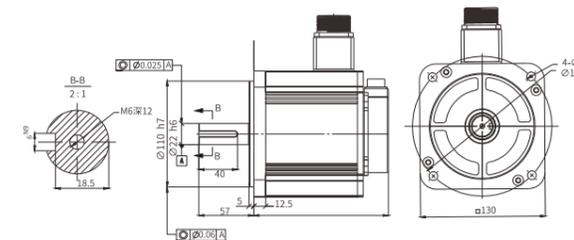
Motor type	Motor model	LA	Inertia type	Series
Non brake type	MF5H-60CM30B1-502	66.9	High inertia	MF5H Series
Brake type	MF5H-60CM30BZ1-502	93.7		
Non brake type	MF5H-60CM30B1-504	82.9	High inertia	MF5H Series
Brake type	MF5H-60CM30BZ1-504	109.65		

### 80 series motor



Motor type	Motor model	LA	Inertia type	Series
Non brake type	MF5H-80CM30B2-507	85.7	High inertia	MF5H Series
Brake type	MF5H-80CM30BZ2-507	117.6		

### 130 series motor



Motor type	Motor model	LA	Inertia type	Series
Non brake type	MF3S-130CM30B2-515	140	Low inertia	MF3S Series
Brake type	MF3S-130CM30BZ2-515	168		