

Industrial automation trust partner

XINJE



SERVO SYSTEM

DS5 Series / DS3 Series

XINJE

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SERVO SYSTEM

DS5 Series / DS3 Series



- Encoder precision is greatly improved and positioning is more accurate
- Gain self-learning, vibration suppression function
- Optimized performance algorithms, reduce positioning time
- Slim and compact, saving installation space
- Debugging software is easy to operate

DS5 Product Features



Item	Low inertia	Medium inertia	High inertia
	MS5S	MS5G	MS5H
100W	40		
200W	60		60
400W	60		60
750W	80		80
850W		130	
1.0Kw	80 / 110		
1.5Kw	110	130	
1.8Kw		130	
2.0Kw	110		
2.3Kw		130	
2.9Kw		180	
4.4Kw		180	
5.5Kw		180	
7.5Kw		180	

*Note: 40/60/80 is motor flange.

● Voltage level 220V models.

● Voltage level 380V models.

● Voltage level 220V/380V models.

Function	Pulse type	Xnet bus type	Full function type	EtherCAT type
	DS5L series	DS5E series	DS5F series	DS5C series
Control mode	Position control	●	●	●
	Speed control	●	●	●
	Torque control	●	●	●
	Closed loop control		●	
	Bus control			●
Interface	Pulse	●	●	●
	Line driver		●	
	Analog input		●	
	External displacement sensor		●	
	RS232	●	●	●
	RS485		●	
	SI input	4	10	4
	SO output	4	8	4

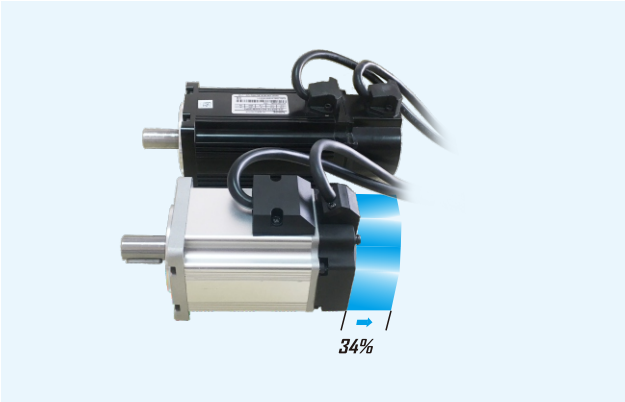
* Note: DS5E, DS5L, DS5C series 750W and below power servo drivers have 3 inputs and 3 outputs.

Product introduction

Motor innovative features

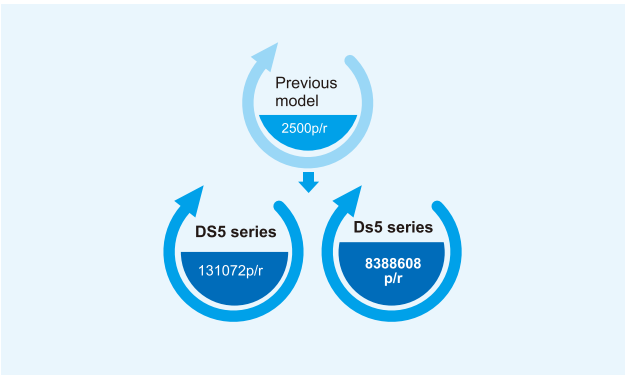
Dimension

The motor is 34% shorter in length and 30% lighter in weight than the previous generation.



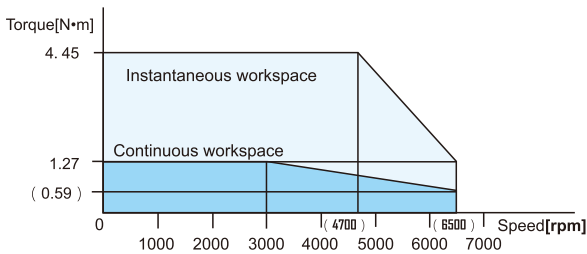
Encoder resolution

17 or 32 bits communication encoder.
Higher precision position control, stable operation at low speed.
Magnetic encoder is more resistant to oil pollution and vibration.



Overspeed capability of matching torque-frequency curve

Speed operation range enlarged.
Short-term overload capacity improved.



*Note: take MS5S-60ST-CS1330B-20P4-S01 as an example.

Driver innovative features

Small size, save space

35% thinner than the previous generation and save installation space.



*Note: take DS5E-20P4-PTA as an example.,

High response and precision positioning

Fast positioning time

- Adaptive mode
 - Small inertia mode Fast and stable operation when load inertia varies within 0-20 times, positioning time 150~200ms.
 - Large inertia mode Inertia range enlarged. When the load inertia changes frequently between 0 ~ 40 times, it can also run smoothly, positioning time 300~400ms.

- Auto-tuning mode The load inertia is identified by software to find the optimal gain. Positioning time is 20ms.

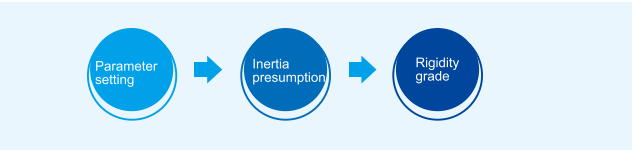
- Manual mode Further gain fine-tuning can shorten the positioning time to 0~10 ms.

Closed loop control 5F model support developing

Reduce the mechanical disturbance and determine the final location of the mechanical load end.

Fast adjustment 3 steps

Driver panel off-line adjustment.
63 rigidity grades.



Operation is more stable

Five notch filters are installed to improve the ability of vibration suppression.
Optimizing friction compensation and disturbance observation algorithms.

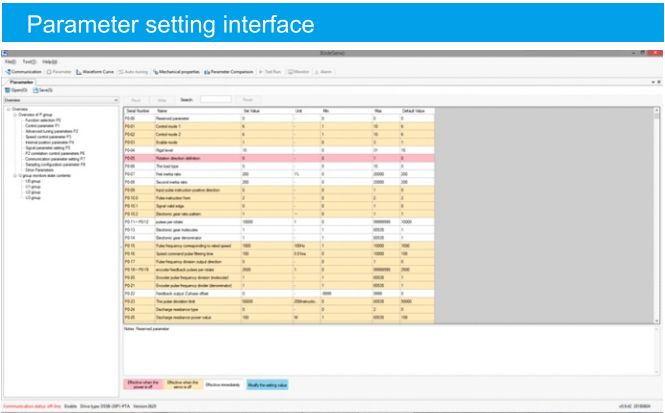
Servo System DS5/DS3 series

Servo Software

- Visual and understandable parameter setting
- Simple and efficient parameter auto-tuning
- Convenient and practical data acquisition
- Accurate real-time monitoring

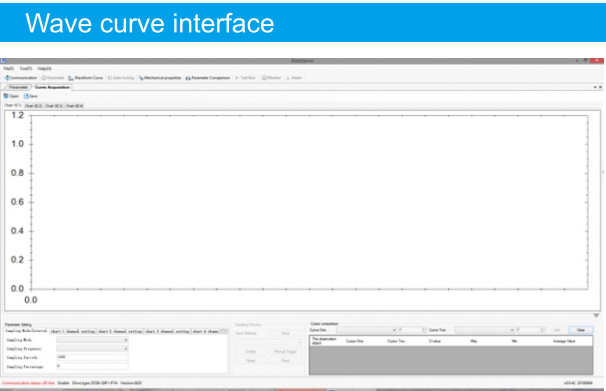
Visual and understandable parameter setting

Xinje Servo Tuner software has the functions of reading, modifying, saving and downloading parameters, and is equipped with detailed parameter descriptions without manual assistance. The parameter list directly identifies the effective time of the parameter with color, which makes the distinction more striking.



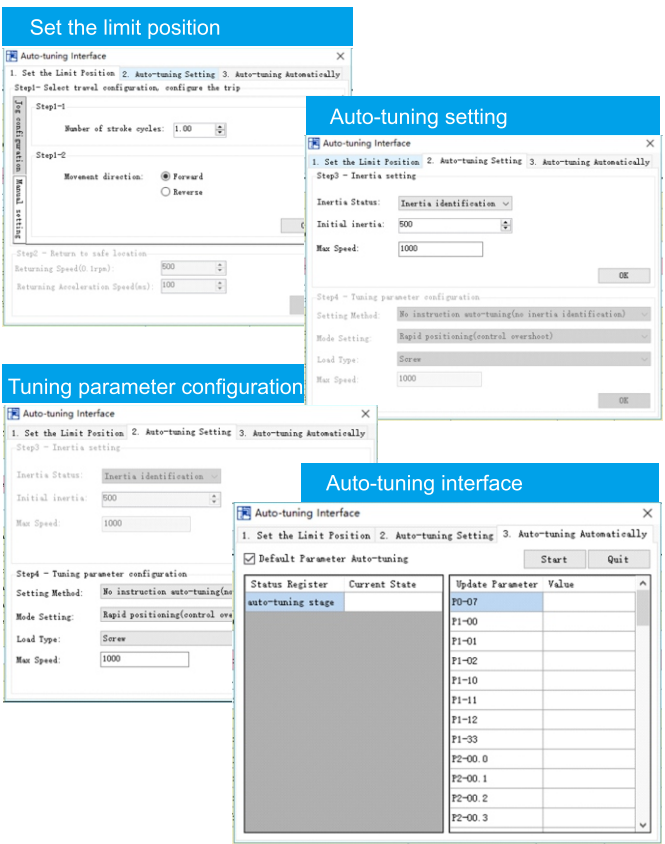
Convenient and practical data acquisition

Xinje Servo Tuner software data acquisition is meticulous and comprehensive, with powerful servo data acquisition function, including basic information such as servo speed, torque, position, current and bus voltage. Help you understand the servo operation state more thoroughly and improve the control scheme.



Simple and efficient parameter auto-tuning

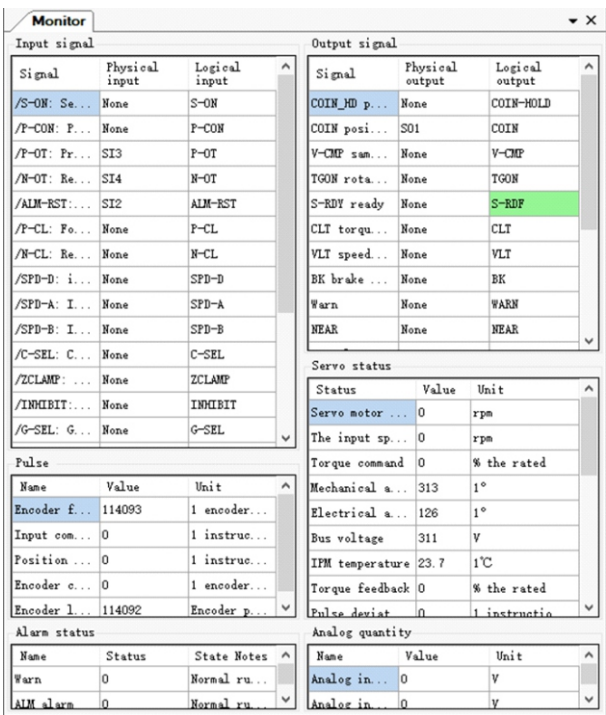
Xinje Servo Tuner software can cooperate with DS5 series servo system for parameter auto-tuning, online load inertia identification, and real-time tuning the best parameters according to the operation of the equipment.



Accurate real-time monitoring

Xinje Servo Tuner software has servo real-time status, alarm monitor, easy to know the servo present status.

Status monitoring interface



Naming Rules

Naming rules of servo motor DS5 series

① Type

Symbol	Inertia
MS5S	Low inertia motor
MS5G	Medium inertia motor
MS5H	High inertia motor

② Base number

Symbol	Base number
60	Base 60
80	Base 80

③ Name

Symbol	Product name
ST	Sine wave driving motor

④ Motor structure

Symbol	Oil seal
Empty	No oil seal
E	With oil seal

⑤ Encoder type

Symbol	Type
C	Magnetic encoder
T	Optical encoder

⑥ Encoder specification

Symbol	Specification
S	Single turn 17-bit
M	Multi-turn 17-bit
U	Single turn 23-bit
L	Multi-turn 23-bit

⑦ Motor specification

Symbol	Rated torque (N·m)	Rated speed (rpm)
00630	0.637	3000
01330	1.3	3000
02430	2.39	3000

⑧ Motor structure

Symbol	Shaft specification
B	With key

⑨ Power-off brake

Symbol	Power-off brake
Empty	No
Z	With

⑩ Voltage specification

Symbol	Voltage specification
2	220V
4	380V

⑪ Motor power

Symbol	Rated power (KW)
0P2	0.2
0P4	0.4
0P7	0.75

⑫ Design order

Symbol	Meaning
S	Standard
01	Design number

*Note: the explanation is for example only.
The detailed model please refer to motor parameters.
Our company has the combination model of CS, CM and TL.

Naming rules of servo motor DS3 series

① Name

Symbol	Product name
MS	motor

② Base number

Symbol	Base number	Symbol	Base number
40	Base 40	110	Base 110
60	Base 60	130	Base 130
80	Base 80	180	Base 180
90	Base 90	220	Base 220

③ Name

Symbol	Product name
ST	Sine wave driving motor

④ Motor structure

Symbol	Oil seal
Empty	Without oil seal (130ST and higher model all have oil seal, so the model without E)
E	With oil seal

⑤ Feedback component

Symbol	Feedback component
M	2500 ppr incremental encoder
T	17-bit absolute encoder

⑥ Motor torque

Symbol	Rated torque (N·m)	Symbol	Rated torque (N·m)
003	0.32	100	10.0
006	0.637	150	15.0
013	1.27	190	19.0
024	2.39	215	21.5
035	3.5	270	27.0
040	4.0	350	35.0
050	5.0	480	48.0
060	6.0	700	70.0
077	7.7	960	96.0

⑦ Rated speed

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

⑧ Motor structure

Symbol	Shaft key
B	With key

⑨ Power-off brake

Symbol	Power-off brake
Empty	Without brake
Z	With brake

⑩ Voltage specification

Symbol	Voltage specification
2	220V
4	380V

⑪ Motor power

Symbol	Rated power(Kw)	Symbol	Rated power(Kw)
0P1	0.1	3P0	3.0
0P2	0.2	4P3	4.3
0P4	0.4	4P5	4.5
0P7	0.75	5P5	5.5
1P2	1.2	7P5	7.5
1P5	1.5	11P0	11.0
2P0	2.0	15P0	15.0
2P3	2.3		

Naming rules of servo driver

① Name

Symbol	Product name
DS	Servo driver

② Type

Symbol	Product series
5E	XNET bus type
5L	Pulse type
5C	EtherCAT bus type
5F	Full function type

③ Voltage specification

Symbol	Rated input voltage
2	AC220V
4	AC380V

④ Driver power

Symbol	Rated output power (KW)
0P1	0.1
0P2	0.2
0P4	0.4
0P7	0.75
1P5	1.5
2P3	2.3
2P6	2.6
3P0	3.0
4P5	4.5
5P5	5.5
7P5	7.5

⑤ Encoder specification

Symbol	Encoder specification
T	Communication encoder

⑥ Pulse voltage

Symbol	Pulse voltage
Empty	24V
5	5V

*Note: only for DS5L small power model.

Naming rules of servo driver

① Name

Symbol	Product name
DS	Servo driver

② Type

Symbol	Product series
3E	XNET bus type
3L	Compact type

③ Voltage specification

Symbol	Rated input voltage
2	AC220V
4	AC380V

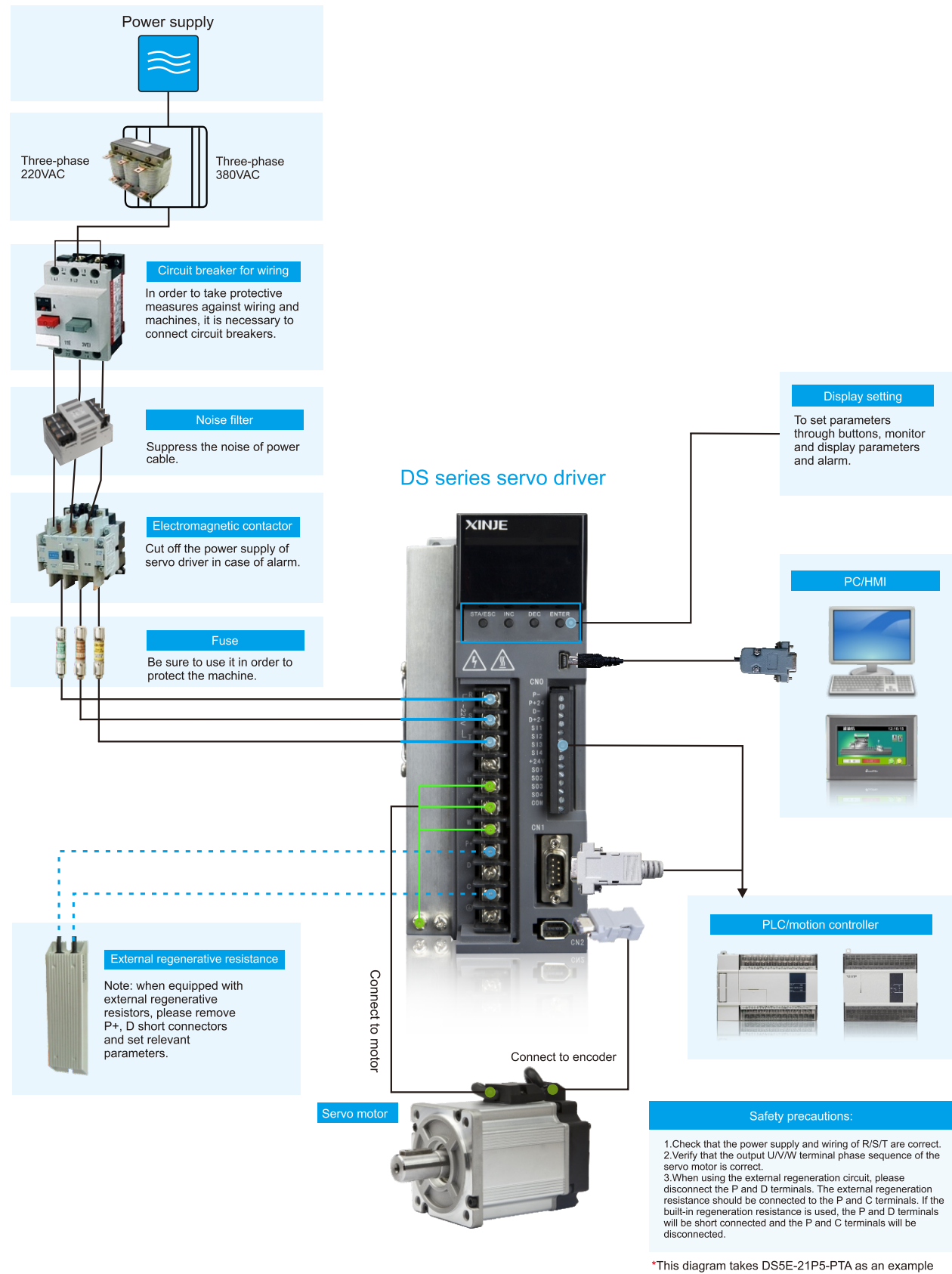
④ Driver power

Symbol	Rated output power
0P1	100w
0P2	200w
0P4	400w
0P7	750w
1P5	1.5Kw
2P3	2.3Kw
2P6	2.6Kw
3P0	3.0Kw
4P5	4.5Kw
5P5	5.5Kw
7P5	7.5Kw
11P0	11Kw
15P0	15Kw

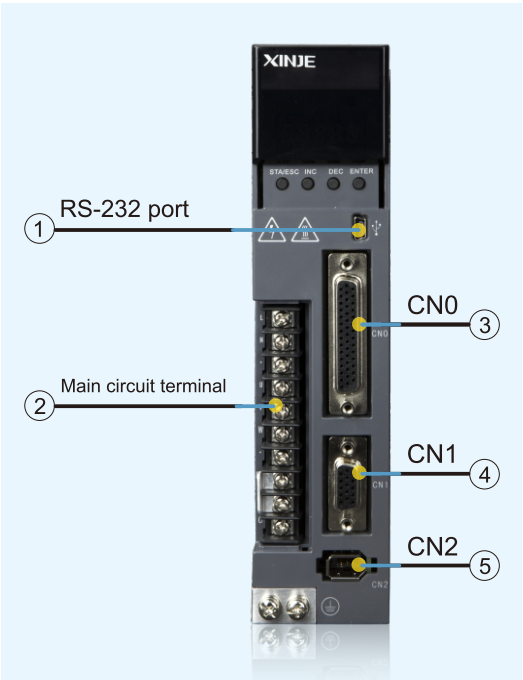
⑤ Encoder specification

Symbol	Encoder specification
F	Incremental encoder

Servo Driver Peripheral Device Connection



Driver Terminal Explanation



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

① RS-232 port

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

② Main circuit terminals

Terminal	Function	Explanation
L/N	Main circuit power supply terminal	Single phase AC200~240V, 50/60Hz
•	Empty terminal	-
U、V、W	Motor terminal	Connect to the motor Note: The ground wire is on the radiator. Please check it before power on.
P+、D、C	Built-in regenerative resistor	Short connect P+ and D, disconnect P+ and C.
	External regenerative resistor	Connect the regenerative resistor to P+ and C, disconnect P+ and D. P0-25 = power, P0-26 = resistor

④ CN1: DB15 female socket

Signal name	Pin number	Function
A+	1	Encoder frequency division output
A-	2	Encoder frequency division output
B+	3	Encoder frequency division output
B-	4	Encoder frequency division output
Z+	5	Encoder frequency division output
A+	6	Fully closed-loop input
A-	7	Fully closed-loop input
B+	8	Fully closed-loop input
B-	9	Fully closed-loop input
Z-	10	Encoder frequency division output
Z+	11	Fully closed-loop input
Z-	12	Fully closed-loop input
GND	13	Encoder power supply
+5V	14	Encoder power supply
	15	Encoder power supply

⑤ CN2: 6-pin bus encoder plug

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

③ CN0: DB44 female socket

Number	Name	Explanation	Number	Name	Explanation
1	PUL-	Pulse -	23	SI4	Input terminal
2	PUL+	Pulse +5V	24	SI5	Input terminal
3	PUL+	Pulse +24V	25	SI6	Input terminal
4	DIR-	Direction -	26	SI7	Input terminal
5	DIR+	Direction +5V	27	SI8	Input terminal
6	DIR+	Direction +24V	28	SI9	Input terminal
7	SO1	Output terminal	29	SI10	Input terminal
8	SO2	Output terminal	30	+24V	Input common 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	SO6	Output terminal	34	V-REF	External speed analog differential input -
13	SO7	Output terminal	35	-	Empty terminal
14	SO8	Output terminal	36	-	Empty terminal
15	COM	Output commonterminal	37	-	Empty terminal
16	485+	Communication terminal +	38	-	Empty terminal
17	485-	Communication terminal -	39	-	Empty terminal
18	GND	Communication terminal ground	40	GND	Line driver signal ground
19	GND	Analog output ground	41	HPUL+	Line driver high speed pulse +
20	SI1	Input terminal	42	HPUL-	Line driver high speed pulse -
21	SI2	Input terminal	43	HDIR+	Line driver high speed direction +
22	SI3	Input terminal	44	HDIR-	Line driver high speed direction -

Driver Specification

Item		Xnet bus type	Pulse type	EtherCAT type	Full function type	
		DS5Eseries	DS5Lseries	DS5Cseries	DS5Fseries	
Basic specification	Power range	0.1KW~15KW		0.1KW~7.5KW		
	Input power supply	Single phase/three-phase AC200~240V, 50Hz/60Hz; three-phase AC340~420V, 50Hz/60Hz				
	Encoder feedback	17-bit/23-bit communication encoder				
	Control mode	Three-phase full-wave rectifier IPM PWM control, sine wave current driving mode				
	Using environment	Environment temperature	Operation: -10℃~40℃(no condensation)/storage: -20℃~60℃ (no condensation)			
		Environment humidity	Operation/storage: below 90%RH (no condensation)			
		Vibration and shock resistance	4.9m/s ² / 19.6m/s ²			
	Function	Protection function	Over voltage, under voltage, over heat, over current, overload, over speed, analog input error, position offset too large, output short circuit, encoder error, regenerative error protection, over range protection, vibration protection, operation disconnection protection			
		Dynamic brake	No			
		Communication function	RS232: standard Modbus RTU protocol Rs485: standard Modbus RTU protocol, support Xnet bus communication (max 20 axes)	RS232: standard Modbus RTU protocol	RS232: standard Modbus RTU protocol EtherCAT: support EtherCAT bus communication (max 32 axes)	RS232: standard Modbus RTU protocol RS485: standard Modbus RTU protocol
		Brake resistor	Built-in brake resistor, external brake resistor			
		Display and operation	5-bit LED light, power indicator, 4 buttons			
	I/O signal	Position output	Output form	No		ABZ differential feedback output
			Frequency division	No		Support
			Collector Z phase output	Support		
Analog input		No		2 channels of input		
Digital input		750W and below: 3 channels of SI input; above 750W: 4 channels of SI input		10 channels of SI input		
		Servo enable, alarm clear, forward prohibition, reverse prohibition, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, zero speed lock, position offset clear, internal position step change signal, internal control mode direction switching				
Digital output	750W and below: 3 channels of SO output; above 750W: 4 channels of SO output		8 channels of SO output			
	Positioning complete, servo ready, alarm output, torque limit output, same speed detection, rotation detection, speed reached, brake release output, warn output					
Position control mode	Max input pulse frequency	Open collector: 200kpps			Open collector: 200kpps< Photocoupler> differential input: 500kpps< Photocoupler> line receive: 2Mpps	
	Pulse command mode	Can receive 18~24V pulse+direction, AB phase pulse, CW/CCW signal			3.3V~24V pulse + direction, AB phase pulse, CW/CCW signal	
	Control mode	External pulse/built-in position/ Xnet motion bus	External pulse/built-in position	External pulse/ built-in position/ EtherCAT motion bus	External pulse/built-in position	
	Feedforward compensation	0~100% (resolution is 1%)				
	Positioning complete width	0~65535 command unit (resolution is 1 command unit)				
	Electronic gear ratio	1/10000≤B/A/≤10000				
Speed control mode	Control mode	Internal 3-segment speed, external speed mode			Internal 3-segment speed, external analog, external speed mode	
	Command smooth mode	Low-pass filter, smoothing filter				
	Analog input	Voltage range	No		-10V~+10V (resolution is 12-bit)	
		Input resistance	No		72KΩ	
	Torque limit	Internal parameters			Internal parameters/external analog	
	Speed change rate	External load rated change 0~100: below ±0.01% (rated speed)				
Rated voltage ±10%: 0.01% (rated speed)						
Environment temperature 20±25℃: below ±0.01% (rated speed)						
Torque control mode	Control mode	Internal torque			Internal 3-segment speed/external analog	
	Command smooth mode	Low-pass filter, smooth filter				
	Analog input	Voltage range	No		-10V~+10V (resolution is 12-bit)	
Input resistance		No		72KΩ		
Bus control mode	Speed limit	Internal parameters			Internal parameters/external analog	
	Control axis	20 axes	No	32 axes	No	
	Communication protocol	Xnet protocol	No	EtherCAT protocol	No	

Item		Basic type	Compact type	Bus type	Absolute type	
		DS3-PQA series	DS3L series	DS3E series	DS3-PTA/PNA series	
Basic specification	Power range	0.1~15KW		0.1~3KW	0.1~7.5KW	0.2~2.3KW
	Input power supply	Single phase/three-phase AC200~240V, 50Hz/60Hz; three-phase AC340~420V, 50Hz/60Hz				
	Encoder feedback	Support			Not support	
	Control mode	Three-phase full-wave rectifier IPM PWM control, sine wave current driving mode				
	Using environment	Environment temperature	Operation: -10℃~40℃(no condensation)/storage: -20℃~60℃ (no condensation)			
		Environment humidity	Operation/storage: below 90%RH (no condensation)			
		Vibration and shock resistance	4.9m/s ² / 19.6m/s ²			
	Function	Protection function	Over voltage, under voltage, over heat, over current, overload, over speed, analog input error, position offset too large, output short circuit, encoder error, regenerative error protection, over range protection			
		Dynamic brake	No			
		Communication function	RS232: standard Modbus RTU protocol Rs485: standard Modbus RTU protocol, support Xnet bus communication (max 3 axes)	RS232: standard Modbus RTU protocol	RS232: standard Modbus RTU protocol Rs485: standard Modbus RTU protocol, support Xnet bus communication (max 20 axes)	RS232: standard Modbus RTU protocol Rs485: standard Modbus RTU protocol, support Xnet bus communication (max 20 axes)
		Brake resistor	Built-in brake resistor, external brake resistor			
		Display and operation	5-bit LED light, power indicator, 4 buttons			
I/O signal	Position output	Output form	ABZ differential feedback output		No	
		Frequency division	Support	No		
		Collector Z phase output	Support			
	Analog input	2 channels input		No		
	Digital input	4 channels of SI input*				
		Servo enable, alarm clear, forward prohibition, reverse prohibition, torque limit selection, internal speed selection, gear ratio switching, mode switching, gain switching, pulse input prohibition, zero speed lock, position offset clear, internal position step change signal, internal control mode direction switching				
Digital output	2 channels of SO output*					
	Positioning complete, servo ready, alarm output, torque limit output, same speed detection, rotation detection, speed reached, brake release output, warn output					
Position control mode	Max input pulse frequency	Open collector: 200kpps, differential: 500kpps				
	Pulse command mode	Can receive 3.3~24V pulse+direction, AB phase pulse, CW/CCW signal	Can receive 3.3~24V pulse+direction, AB phase pulse		Can receive 3.3~24V pulse+direction, AB phase pulse, CW/CCW signal	
	Control mode	External pulse	External pulse/built-in position	External pulse/built-in position/ Xnet motion bus		External pulse/Xnet motion bus
	Feedforward compensation	0~100% (resolution is 1%)				
	Positioning complete width	0~250 command unit (resolution is 1 command unit)				
	Electronic gear ratio	1/100≤B/A/≤100				
Speed control mode	Control mode	Internal 3-segment speed/external analog/ external speed mode	Internal 3-segment speed/external speed mode			
	Command smooth mode	Low-pass filter, smooth filter				
	Analog input	Voltage range	-10V~+10V (resolution is 12-bit)	No		
		Input resistance	13KΩ	No		
	Torque limit	Internal parameters/external analog		Internal parameters		
	Speed change rate	External load rated change 0~100: below ±0.01% (rated speed)				
Rated voltage ±10%: 0.01% (rated speed)						
Environment temperature 20±25°C: below ±0.01% (rated speed)						
Torque control mode	Control mode	Internal parameters/external analog		Internal parameters		
	Command smooth mode	Low-pass filter, smooth filter				
	Analog input	Voltage range	-10V~+10V (resolution is 12-bit)	No		
		Input resistance	13KΩ	No		
	Speed limit	Internal parameters/external analog		Internal parameters		
	Control axis	3 axes		No	20 axes	20 axes
Communication protocol	Xnet protocol		No	Xnet protocol	Xnet protocol	

*Note1: DS3-PQA models (21P5, 22P3, 22P6, 43P0) support 5 inputs, 3 outputs.

Servo Motor Specification

MS5 series servo motor parameters Match DS5 series servo driver

Voltage level	220V								
Motor model MS	5S-40ST	5S-60ST		5H-60ST		60ST-	5S-80ST		5H-80ST
	C□00330	C□00630	C□01330	C□00630	C□01330	T01330	C□02430	C□03230	C□02430
	□□-20P1	□□-20P2	□□-20P4	□□-20P2	□□-20P4	□□-20P4-D01	□□-20P7	□□-21P0	□□-20P7
Motor code	5022/5822	5003/5803	5004/5804	50C3/58C3	50C4/58C4	4004	5011/5811	5012	50D1/58D1
Rated power[KW]	0.1	0.2	0.4	0.2	0.4	0.4	0.75	1	0.75
Rated current[mA]	950	1900	2800	1900	2800	2200	4000	4000	4000
Rated speed[RPM]	3000	3000	3000	3000	3000	3000	3000	3000	3000
Max speed[RPM]	6000	6500	6500	6500	6500	5000	5200	4000	5200
Rated torque[N·m]	0.32	0.64	1.27	0.64	1.27	1.27	2.39	3.18	2.39
Max torque[N·m]	0.96	1.92	4.45	1.92	4.45	4.45	7.17	8	7.17
Rotor inertia [10 ^{^-7} kg·m ²]	44/53	137/159	258/272	537/557	648/661	343	902/1000	1286	1655/1659
Inertia type	Low inertia	Low inertia	Low inertia	High inertia	High inertia	-	Low inertia	-	High inertia
Polar logarithm	5	5	5	5	5	4	5	5	5
Encoder bits	17	17	17	17	17	17	17	17	17
Encoder type	Magnetic	Magnetic	Magnetic	Magnetic	Magnetic	Photoelectric	Magnetic	Magnetic	Magnetic
Insulation grade of motor	ClassF(155℃)								
Protection level	IP65								
Using environment	Environment temperature	-15℃~+40℃							
	Environment humidity	Relative humidity < 90% (no condensation)							

Voltage level	220V									
Motor model MS	5H-80ST	80ST		5S-110ST						110ST
	C□03230	T02430	T03520	C□03230	TL03230	C□04830	TL04830	C□06030	TL06030	T04030
	□□-21P0	□□-20P7	□□-20P7	□□-21P0	□□-21P0	□□-21P5	□□-21P5	□□-21P8	□□-21P8	□□-21P2
Motor code	50D2	4011	4012	5033	9033	5034	9034	5037	9037	4031
Rated power[KW]	1	0.75	0.75	1	1	1.5	1.5	2	2	1.2
Rated current[mA]	4000	3200	3000	7500	7500	7500	7500	9500	7500	5000
Rated speed[RPM]	3000	3000	2000	3000	3000	3000	3000	3000	3000	3000
Max speed[RPM]	4000	4000	2500	6000	6000	4500	4500	4500	4500	3500
Rated torque[N·m]	3.8	2.39	3.5	3.18	3.18	4.77	4.77	6.0	6.0	4
Max torque[N·m]	8.0	7.17	10.5	7.95	7.95	9.54	9.54	12.0	12.0	12
Rotor inertia [10 ^{^-7} kg·m ²]	2021	1023	2630	2869	2869	3360	3360	4170	4170	5400
Inertia type	High inertia	-	-	Low inertia	Low inertia	Low inertia	Low inertia	Low inertia	Low inertia	-
Polar logarithm	5	4	4	5	5	5	5	5	5	4
Encoder bits	17	17	17	17	23	17	23	17	23	17
Encoder type	Magnetic	Photoelectric	Photoelectric	Magnetic	Photoelectric	Magnetic	Photoelectric	Magnetic	Photoelectric	Photoelectric
Insulation grade of motor	ClassF(155℃)									
Protection level	IP65									
Using environment	Environment temperature	-15℃~+40℃								
	Environment humidity	Relative humidity < 90% (no condensation)								

Voltage level	220V								
Motor model MS	110ST	5G-130ST							
	T05030	C□05415	TL05415	C□07220	TL07220	C□11515	TL11515	C□14615	TL14615
	□□-21P5	□□-20P8	□□-20P8	□□-21P5	□□-21P5	□□-21P8	□□-21P8	□□-22P3	□□-22P3
Motor code	4032	5072/5872	9072/9872	5077/5877	9077/9877	5074/5874	9074/9874	5075/5875	9075/9875
Rated power[KW]	1.5	0.85	0.85	1.5	1.5	1.8	1.8	2.3	2.3
Rated current[mA]	6000	4200	4200	7500	7500	9000	9000	9000	9000
Rated speed[RPM]	3000	1500	1500	2000	2000	1500	1500	1500	1500
Max speed[RPM]	3500	2000	2000	3000	3000	2000	2000	2000	2000
Rated torque[N·m]	5	5.41	5.41	7.16	7.16	11.5	11.5	14.6	14.6
Max torque[N·m]	15	15.15	15.15	17.9	17.9	23	23	29.2	29.2
Rotor inertia [10 ^{^-7} kg·m ²]	6300	8480/9717	8480/9717	11780/13130	11780/13130	17710/19060	17710/19060	22324/23560	22324/23560
Inertia type	-	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia
Polar logarithm	4	5	5	5	5	5	5	5	5
Encoder bits	17	17	23	17	23	17	23	17	23
Encoder type	Photoelectric	Magnetic	Photoelectric	Magnetic	Photoelectric	Magnetic	Photoelectric	Magnetic	Photoelectric
Insulation grade of motor	ClassF(155℃)								
Protection level	IP65								
Using environment	Environment temperature	-15℃~+40℃							
	Environment humidity	Relative humidity < 90% (no condensation)							

Voltage level	220V			
Motor model MS	130ST			
	T06025	T10015	T07730	TL10025
	□□-21P5	□□-21P5	□□-22P4	□□-22P6
Motor code	4042	4044	404B	9045
Rated power[KW]	1.5	1.5	2.4	2.6
Rated current[mA]	7400	8000	10500	10000
Rated speed[RPM]	2500	1500	3000	2500
Max speed[RPM]	3000	2000	4000	3000
Rated torque[N·m]	6	10	7.7	10
Max torque[N·m]	15	25	19.25	25
Rotor inertia [10 ^{^-7} kg·m ²]	7628	10294	10294	19400
Inertia type	-	-	-	-
Polar logarithm	4	4	4	4
Encoder bits	17	17	17	23
Encoder type	Photoelectric	Photoelectric	Photoelectric	Photoelectric
Insulation grade of motor	Class B(130℃)			
Protection level	IP65			
Using environment	Environment temperature	-15℃~+40℃		
	Environment humidity	Relative humidity < 90% (no condensation)		

Product introduction

Voltage level		380V								
Motor model MS	130ST	5G-130ST				5G-180ST				220ST
	TL10030	C□11515B□	TL11515B□	C□14615B□	TL14615B□	TL19015	TL28015	TL35015	TL48015	TL96015
	□□-43P0	41P8	41P8	42P3	42P3	□□-42P9	□□-44P4	□□-45P5	□□-47P5	□□-415P0
Motor code	9148	5174/9174	9174/9974	5175/9175	9175/9975	9166	9161	9162	9163	916B
Rated power[KW]	3	1.8	1.8	2.3	2.3	2.9	4.4	5.5	7.5	15.0
Rated current[mA]	6400	6800	6700	8500	8500	9000	14000	16000	16100	35000
Rated speed[RPM]	3000	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max speed[RPM]	3500	3000	3000	3000	3000	2500	2500	2500	2000	2200
Rated torque[N·m]	10	11.5	11.5	14.6	14.6	19	28	35	48	96
Max torque[N·m]	30	28.75	28.75	36.5	36.5	51.3	56	70	96	240
Rotor inertia [10 ⁻⁴ kg·m ²]	12723	17710/18974	17710/18974	22320/23560	22320/23560	40443	55139	68342	95424	159500
Inertia type	-	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	-
Polar logarithm	5	5	5	5	5	5	5	5	5	4
Encoder bits	23	17	23	17	23	23	23	23	23	23
Encoder type	Photoelectric	Magnetic	Photoelectric	Photoelectric	Photoelectric	Photoelectric	Photoelectric	Photoelectric	Photoelectric	Photoelectric
Insulation grade of motor	ClassF(155℃)									
Protection level	IP65									
Using environment	Environment temperature	-15℃~+40℃								
	Environment humidity	Relative humidity < 90% (no condensation)								

Voltage level		220V								
Motor model MS	90ST-	110ST					130ST			
	M02430	M04030		M05030			M04025	M04030	M06025	
	□□-20P7	□□-21P5					□□-21P0	□□-21P2	□□-21P5	
Motor code	0021	1033	0031	0032	1032	1034	0040	1031	1042	0042
Rated power[KW]	0.75	1.2		1.5			1	1.2	1.5	
Rated current[A]	3.0	7.5	5.0	6.0	6.5	7.5	4.0	6.7	7.4	6.0
Rated speed[RPM]	3000	3000	3000	3000	3000	3000	2500	3000	2500	2500
Max speed[RPM]	4000	6000	3500	3500	4000	4000	3000	4000	3000	3000
Rated torque[N·m]	2.4	4	4	5	5	5	4	4	6	6
Max torque [N·m]	7.1	12	12	15	15	7.5	12	10	15	18
EMF constant [V/krpm]	51	36.33	54	62	51	33	72	33	82	65
Torque coefficient[N·m/A]	0.8	0.53	0.8	0.83	0.77	0.67	1.0	0.54	0.81	1.0
Rotor inertia[kg·m ²]	2.45×10 ⁻⁴	2.868×10 ⁻⁴	0.54×10 ⁻³	0.63×10 ⁻³	0.63*10 ⁻³	0.44×10 ⁻³	0.85*10 ⁻³	0.54×10 ⁻³	0.84×10 ⁻³	1.26×10 ⁻³
Electrical time constant[ms]	2.19	18.36	3.03	3.33	10.4	20.73	2.32	4.62	7.24	3.2
Encoder line number[ppr]	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Polar logarithm	4	5	4	4	4	5	4	4	4	4
Insulation grade of motor		Class B(130℃)								
Protection level		IP65								
Using environment	Environment temperature	-15℃~+40℃								
	Environment humidity	Relative humidity < 90% (no condensation)								

MS series servo motor parameters Match DS3 series servo driver

Voltage level		220V								
Motor model MS	40ST-	60ST					80ST			
	M00330	M00630		M01330			M02430			M03520
	□□-20P1	□□-20P2		□□-20P4			□□-20P7			
Motor code	A002	1003	F003	1004	0004	F004	1011	0011	F011	0012
Rated power[KW]	0.1	0.2	0.2	0.4	0.4	0.4	0.75			
Rated current[A]	1.0	1.8	1.7	2.2	2.5	2.5	3.2	3.0	3.5	3.0
Rated speed[RPM]	3000	3000	3000	3000	3000	3000	3000	3000	3000	2000
Max speed[RPM]	4000	4000	5000	4000	4000	4000	4000	4000	5000	2500
Rated torque[N·m]	0.32	0.637	0.637	1.27	1.27	1.27	2.39	2.39	2.4	3.5
Max torque [N·m]	0.96	1.91	1.91	3.8	3.8	3.82	7.1	7.1	7.2	10.5
EMF constant [V/krpm]	11	26	34	53.7	28	36	56.6	48	36	71
Torque coefficient[N·m/A]	0.18	0.37	0.38	0.68	0.5	0.51	0.92	0.8	0.51	1.17
Rotor inertia[kg·m ²]	0.04×10 ⁻⁴	0.18×10 ⁻⁴	0.18×10 ⁻⁴	0.53×10 ⁻⁴	0.438×10 ⁻⁴	0.34×10 ⁻⁴	1.05×10 ⁻⁴	1.82×10 ⁻⁴	1.08×10 ⁻⁴	2.63×10 ⁻⁴
Electrical time constant[ms]	0.8	2.38	6.5	3.03	2.43	3.6	2.3	2.22	3.6	2.41
Encoder line number[ppr]	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Polar logarithm	4	4	4	4	4	4	4	4	4	4
Insulation grade of motor		Class B(130℃)								
Protection level		IP65								
Using environment	Environment temperature	-15℃~+40℃								
	Environment humidity	Relative humidity < 90% (no condensation)								

Voltage level		220V							380V	
Motor model MS	130ST								110ST	
	M10015		M10015G	M07725	M07730	M15015	M15015G	M10025	M04030	M05030
	□□-21P5		□□-21P5	□□-22P0	□□-22P4	□□-22P3	□□-22P3	□□-22P6	□□-41P2	□□-41P5
Motor code	1044	0044	104A	0043	104B	0046	1046	0045	0131	0132
Rated power[KW]	1.5		1.5	2.0	2.4	2.3	2.3	2.6	1.2	1.5
Rated current[A]	8.0	6.0	8.9	7.5	10.5	9.5	9	10	3.0	3.9
Rated speed[RPM]	1500	1500	1500	2500	3000	1500	1500	2500	3000	3000
Max speed[RPM]	2000	2000	2000	3000	4000	2000	2000	3000	3500	3500
Rated torque[N·m]	10	10	10	7.7	7.7	15	15.1	10	4	5
Max torque [N·m]	20	25	20	21.56	16	30	30.2	25	12	15
EMF constant [V/krpm]	61	103	73.3	68	52.8	114	101	70	89	90
Torque coefficient[N·m/A]	1.25	1.67	1.12	1.03	0.76	1.58	1.68	1	1.33	1.11
Rotor inertia[kg·m ²]	1.272×10 ⁻³	1.94×10 ⁻³	1.94×10 ⁻³	1.53×10 ⁻³	1.53×10 ⁻³	2.77×10 ⁻³	2.63×10 ⁻³	1.94×10 ⁻³	0.54×10 ⁻³	0.63×10 ⁻³
Electrical time constant[ms]	4.3	3.93	15.7	2.91	14.2	4.05	17.5	3.36	2.66	3.25
Encoder line number[ppr]	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Polar logarithm	4	4	4	4	4	4	4	4	4	4
Insulation grade of motor	Class B(130℃)									
Protection level	IP65									
Using environment	Environment temperature	-15℃~+40℃								
	Environment humidity	Relative humidity < 90% (no condensation)								

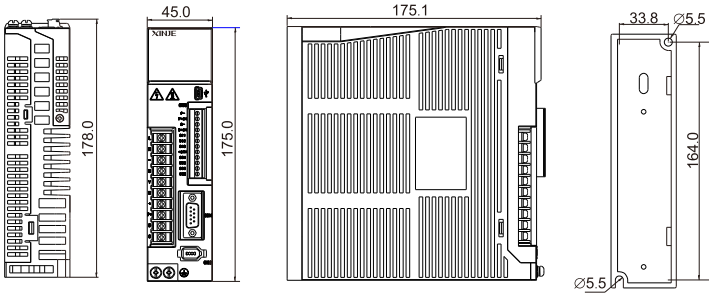
Product introduction

Voltage level	380V										
Motor model MS	130ST						180ST				
	M06025	M10015			M07725	M15015		M10030	M19015		
	□□-41P5			□□-42P0	□□-42P3		□□-43P0			□□-44P5	
Motor code	0142	0144	2144	1143	1146	0146	1148	1052	0156	1166	0150
Rated power[KW]	1.5			2.0	2.3	2.3	3.0				4.5
Rated current[A]	3.7	3.5	5.6	6.4	7.3	5	6.4	8.5	7.5	9	9.5
Rated speed[RPM]	2500	1500	1500	2500	1500	1500	3000	1500	1500	1500	2000
Max speed[RPM]	3000	2000	2000	3000	2000	2000	3500	2000	2000	3000	2500
Rated torque[N·m]	6	10	10	7.7	15	15	10	19	19	19	21.5
Max torque [N·m]	18	25	20	19.25	45	30	25	38	47.5	38	53
EMF constant [V/krpm]	110	177	61	61	124	124	88.3	138	138	135.3	140
Torque coefficient [N·m/A]	1.62	2.86	1.25	1.2	2.0	2.0	1.56	2.56	2.56	2.1	2.26
Rotor inertia [kg·m ²]	1.26×10 ⁻³	1.94×10 ⁻³	1.272×10 ⁻³	1.272×10 ⁻³	2.44×10 ⁻³	2.77×10 ⁻³	1.13×10 ⁻³	2.8×10 ⁻³	3.8×10 ⁻³	3.75×10 ⁻³	4.7×10 ⁻³
Electrical time constant[ms]	3.07	3.46	4.3	4.3	6.44	6.44	3.33	4	5.63	3.79	5.63
Encoder line number[ppr]	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Polar logarithm	4	4	4	4	4	4	4	4	4	5	4
Insulation grade of motor	Class B(130℃)										
Protection level	IP65										
Using environment	Environment temperature	-15℃~+40℃									
	Environment humidity	Relative humidity < 90% (no condensation)									

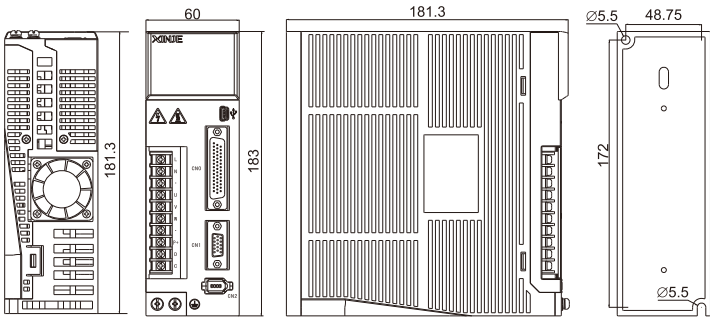
Voltage level	380V										
Motor model MS	180ST						220ST				
	M27015			M35015			M48015			M70015	M96015
	□□-44P3			□□-45P5			□□-47P5			□□-41P0	□□-415P0
Motor code	2151	0151	1161	1152	0152	1162	0153	1153	1163	6160	6161
Rated power[KW]	4.3			5.5			7.5			11.0	15
Rated current[A]	8.0	10	14	8.5	12	16	20	15.6	16.1	25	35
Rated speed[RPM]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max speed[RPM]	2000	2000	3000	2000	2000	2500	2000	1800	2000	2000	2000
Rated torque[N·m]	27	27	27	35	35	35	48	48	48	70	96
Max torque [N·m]	54	67	54	87.5	70	70	96	72	96	140	144
EMF constant [V/krpm]	210	172	132	250	181	142.6	156	196.7	183	170	176
Torque coefficient [N·m/A]	3.37	2.7	1.93	4.1	2.92	2.18	2.4	3.07	2.98	2.8	2.74
Rotor inertia[kg·m ²]	7.2×10 ⁻³	6.1×10 ⁻³	5.28×10 ⁻³	9.18×10 ⁻³	8.6×10 ⁻³	6.65×10 ⁻³	9.5×10 ⁻³	9.5×10 ⁻³	9.55×10 ⁻³	13.7×10 ⁻³	15.5×10 ⁻³
Electrical time constant[ms]	24.4	6.07	4.44	13.7	6.45	4.48	7.84	34.11	6.39	12	25.5
Encoder line number[ppr]	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
Polar logarithm	4	4	5	4	4	5	4	5	5	4	4
Insulation grade of motor	Class B(130℃)										
Protection level	IP65										
Using environment	Environment temperature	-15℃~+40℃									
	Environment humidity	Relative humidity < 90% (no condensation)									

Servo Driver Dimension (unit: mm)

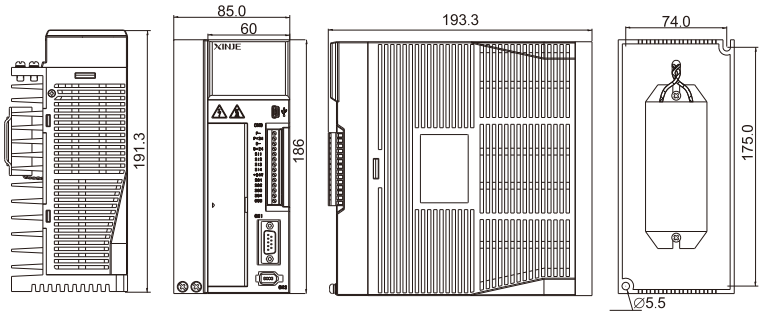
DS5 servo driver



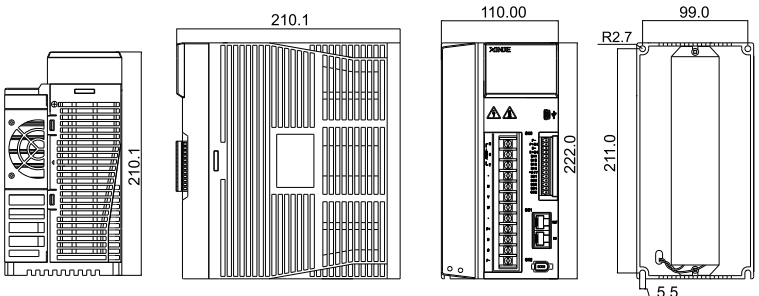
DS5E-20P1/20P2/20P4-PTA
DS5L-20P1/20P2/20P4-PTA
DS5C-20P1/20P2/20P4-PTA
DS5F-20P1/20P2/20P4-PTA



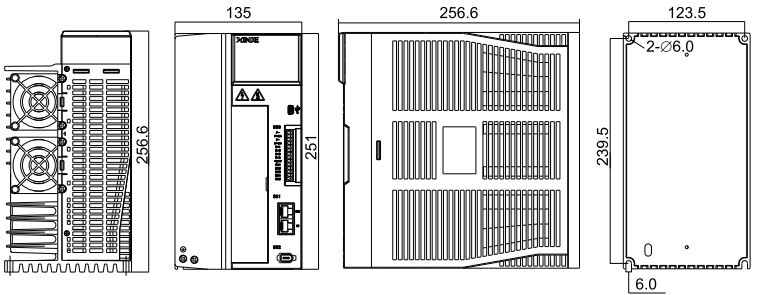
DS5E-20P7-PTA
DS5L-20P7-PTA
DS5C-20P7-PTA
DS5F-20P7-PTA



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



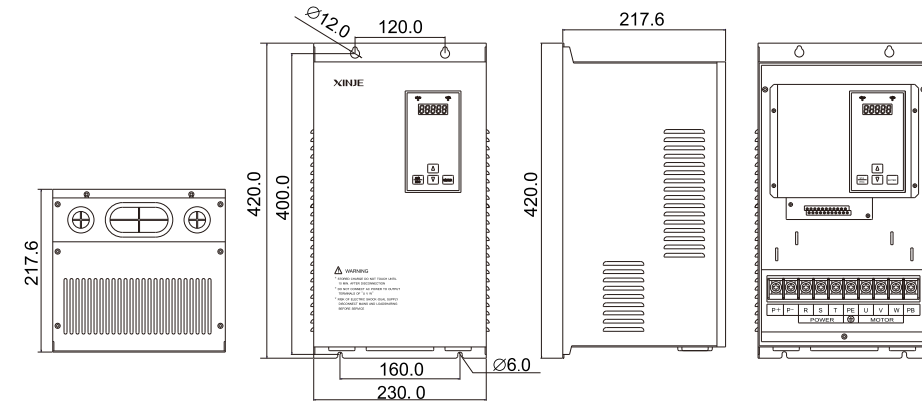
DS5E-43P0-PTA
DS5C-43P0-PTA
DS5F-43P0-PTA



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

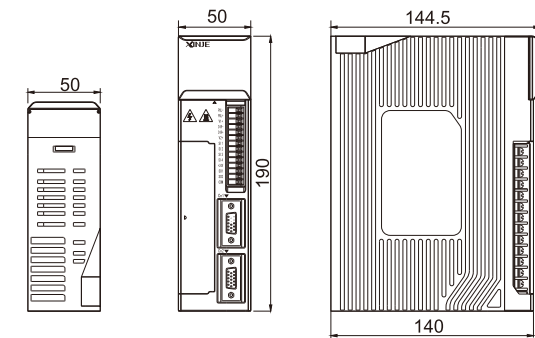
Product introduction

Servo System *DS5/DS3 series*

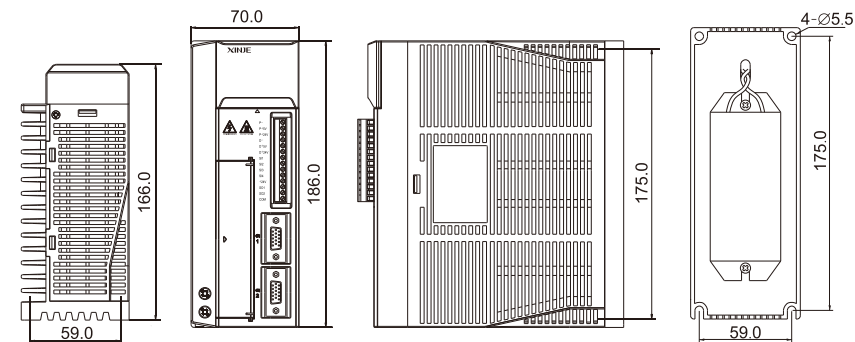


DS5E-415P0-PTA

DS3 servo driver



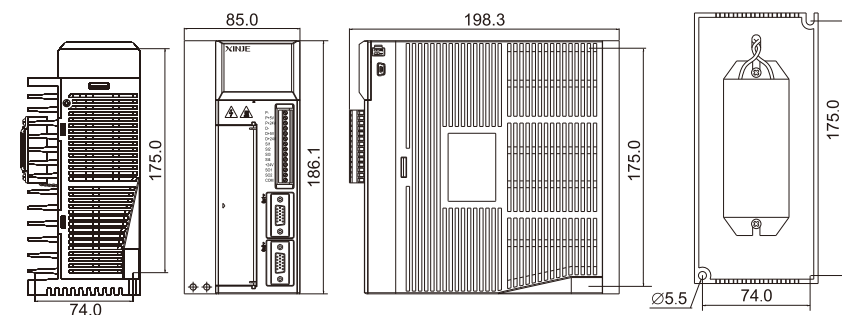
DS3L-20P1/20P2-PFB



DS3-20P1/2/4/7-PFA
DS3-20P2/4-PNA
DS3-20P7-PTA

DS3E-20P2/4/7-PFA
DS3E-21P0-PFA

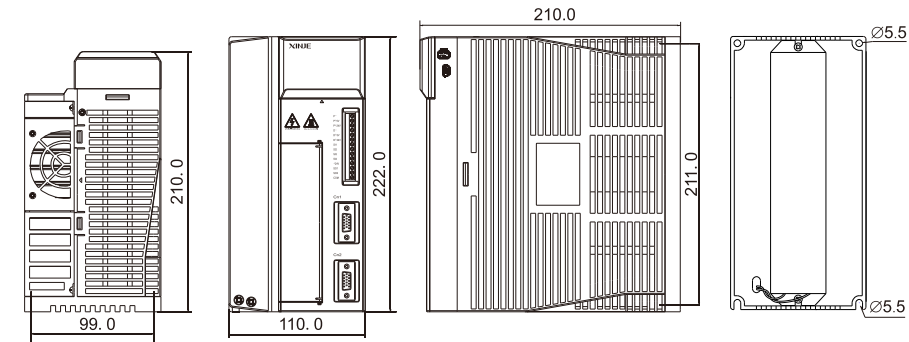
DS3L-20P1/2/4/7-PFA



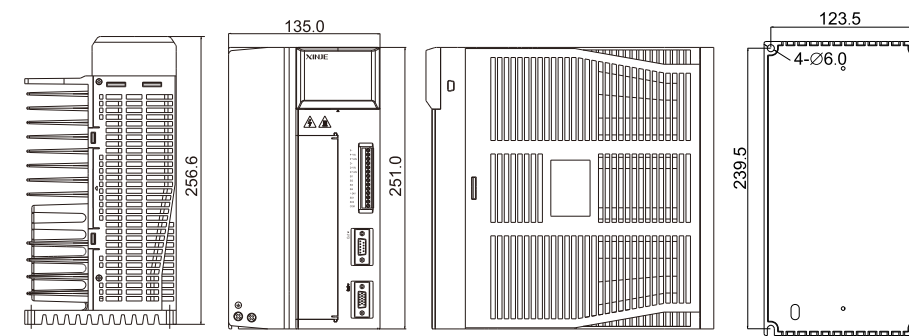
DS3L-21P5-PFA
DS3L-22P3-PFA
DS3L-22P6-PFA

DS3-21P5-PTA
DS3-22P3-PTA
DS3-21P5-PQA
DS3-22P3-PQA

DS3E-21P5-PFA
DS3E-41P5-PFA
DS3E-22P3-PFA
DS3E-22P6-PFA

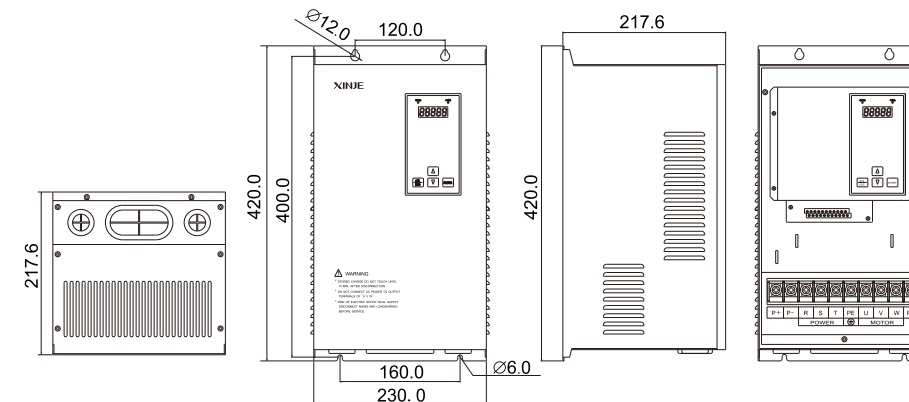


DS3E-43P0-PFA
DS3-43P0-PQA



DS3-45P5-PQA
DS3-47P5-PQA

DS3L-45P5-PQA
DS3L-47P5-PQA



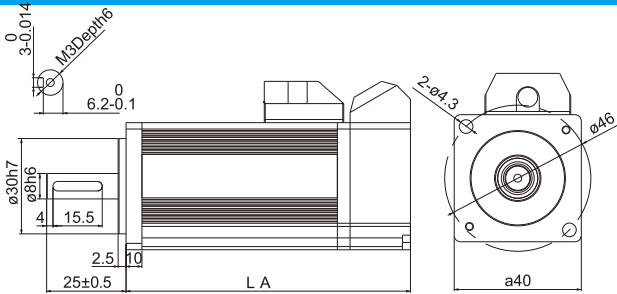
DS3-411P/415P-PQA

Servo Motor Dimension (unit: mm)

MS5 motor dimension

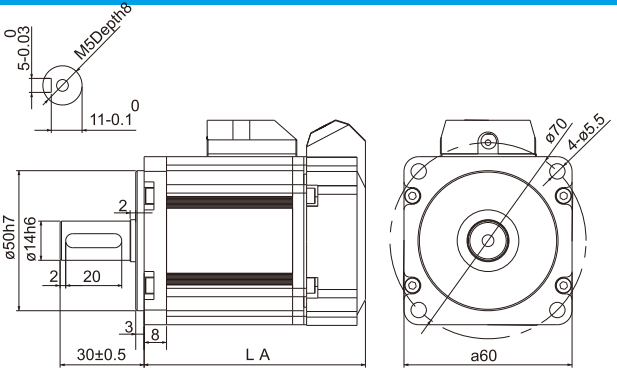
Match DS5 series servo driver

40 series motor



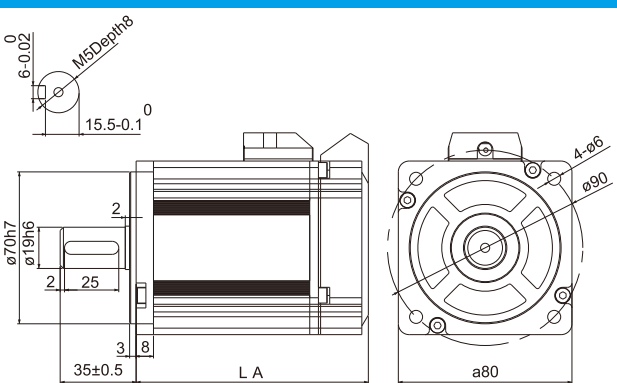
Motor model	LA±1		Inertia level
	Normal	With brake	
MS5S-40ST-C□□00330□□-20P1-S01/S02	89.5	119	Low inertia

60 series motor



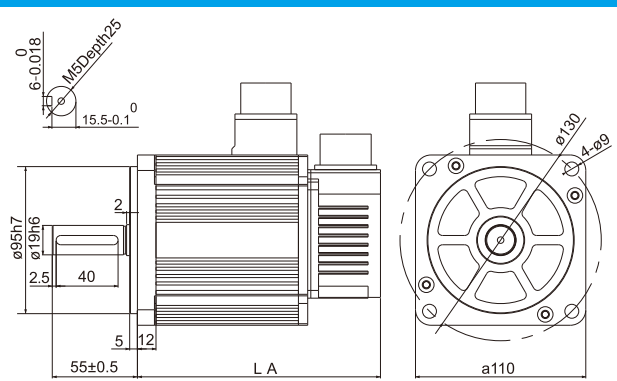
Motor model	LA±1		Inertia level
	Normal	With brake	
MS5S-60ST-C□□00630□□-20P2-S01/S02	79	114	Low inertia
MS5S-60ST-C□□01330□□-20P4-S01/S02	99	134	
MS5H-60ST-C□□00630□□-20P2-S01/S02	91	126	High inertia
MS5H-60ST-C□□01330□□-20P4-S01/S02	111	146	
MS-60ST-T01330-20P4-D01	145	189	-

80 series motor



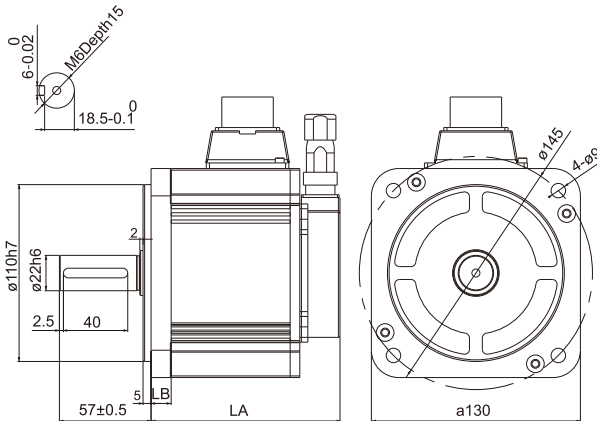
Motor model	LA±1		Inertia level
	Normal	With brake	
MS5S-80ST-C□□02430□□-20P7-S01/S02	107	144	Low inertia
MS5S-80ST-C□□03230□□-21P0-S01/S02	128	165	
MS5H-80ST-C□□02430□□-20P7-S01/S02	119	156	High inertia
MS5H-80ST-C□□03230□□-21P0-S01/S02	140	177	
MS-80ST-T02430□□-20P7	150	199	-
MS-80ST-T03520□□-20P7	179	219	

110 series motor



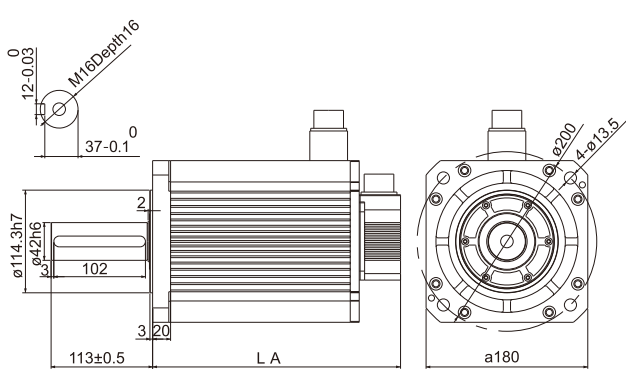
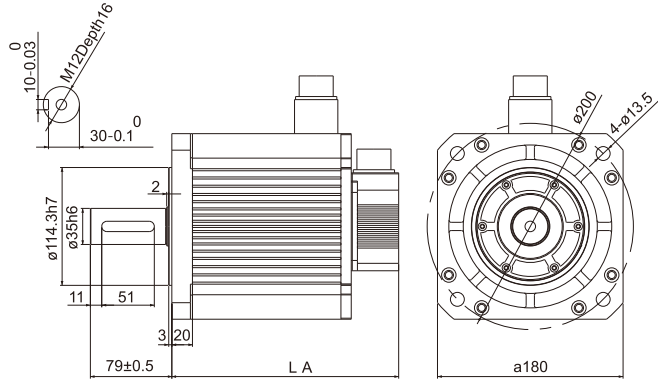
Motor model	LA±1		Inertia level
	Normal	With brake	
MS5S-110ST-C□□03230□□-21P0-S01	157	205	Low inertia
MS5S-110ST-C□□04830□□-21P5-S01	166	214	
MS5S-110ST-C□□06030□□-21P8-S01	181	229	
MS5S-110ST-TL03230□□-21P0-S01	157	205	
MS5S-110ST-TL04830□□-21P5-S01	166	214	
MS5S-110ST-TL06030□□-21P8-S01	181	229	
MS-110ST-T04030B-21P2	189	263	-
MS-110ST-T05030B-21P5	181	229	-

130 series motor



Motor model	LA±1		LB	Inertia level
	Normal	With brake		
MS5G-130STE-C□□05415□□-20P8-S01	117.5	147.0	12.5	Medium inertia
MS5G-130STE-C□□07220□□-21P5-S01	132.5	162.5		
MS5G-130STE-C□□11515□□-□1P8-S01	159.5	189.5		
MS5G-130STE-C□□14615□□-□2P3-S01	180.5	210.5		
MS5G-130STE-TL05415□□-20P8-S01	134.5	164.5		
MS5G-130STE-TL07220□□-21P5-S01	149.5	179.5		
MS5G-130STE-TL11515□□-□1P8-S01	176.5	206.5	14	-
MS5G-130STE-TL14615□□-□2P3-S01	197.5	227.5		
MS-130ST-T04030B-21P2	164	223		
MS-130ST-T06025□□-21P5	179	238		
MS-130ST-T10015□□-21P5	205	264		
MS-130ST-T07730□□-22P4	205	264		
MS-130ST-T15015□□-22P3	235	294		
MS-130ST-TL10025□□-22P6	209	290		
MS-130ST-TL10030□□-43P0	225	284		

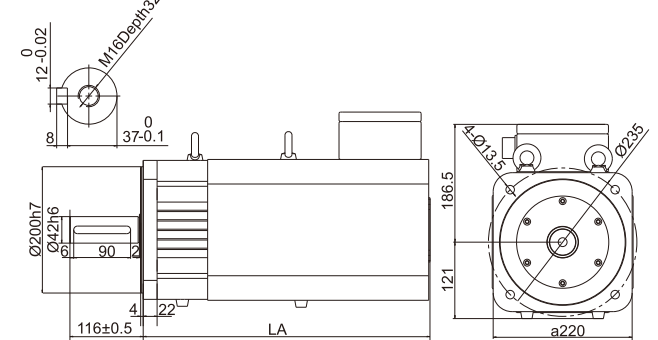
180 series motor



Motor model	LA±1		Inertia level
	Normal	With brake	
MS5G-180ST-TL19015□□-42P9-S01	221	303	Medium inertia
MS5G-180ST-TL28015□□-44P4-S01	247	329	

Motor model	LA±1		Inertia level
	Normal	With brake	
MS5G-180ST-TL35015□□-45P5-S01	277	359	Medium inertia
MS5G-180ST-TL48015□□-47P5-S01	318	400	

220 series motor



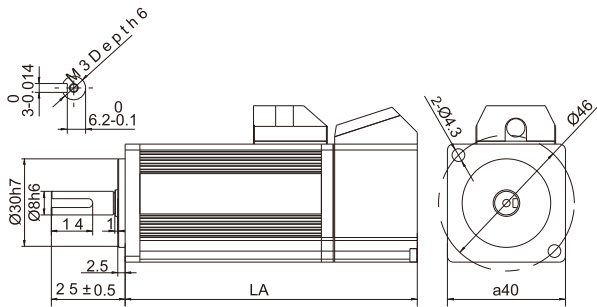
Motor model	LA±1	
	Normal	With brake
MS-220ST-TL96015□□-415P0	507	607.5

Product introduction

MS motor dimension

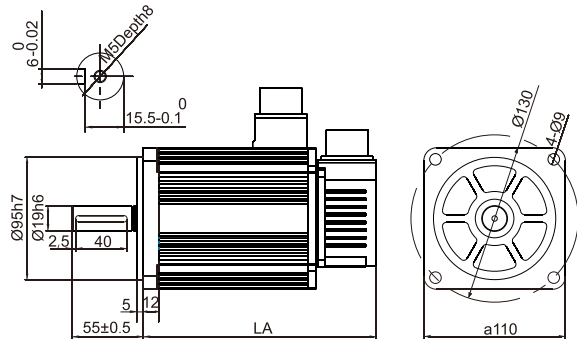
Match DS3 series servo driver

40 series motor



Motor model	Motor code	LA±1	
		Normal	With brake
X2-40ST-M00330□□-20P1	A002	99	129.5

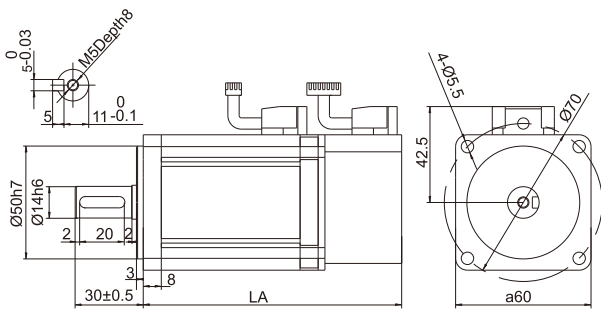
110 series motor



Motor model	Motor code	LA±1	
		Normal	With brake
MS-110ST-M04030-21P2	0031	189	263
MS-110ST-M04030-41P2	0131		
MS-110ST-M05030-21P5	1032	204	278
MS-110ST-M05030-41P5	0132		

*Note: specification of shaft ribbed holes for motor code beginning with 0: M6 depth is 60.

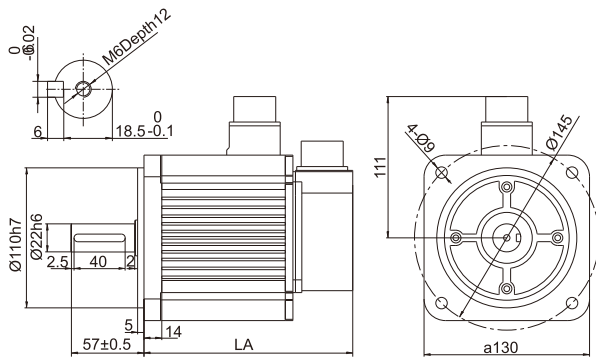
60 series motor



Motor model	Motor code	LA±1	
		Normal	With brake
MS-60ST-M00630□□-20P2	1003	115.5	159.5
MS-60ST-M00630□□S-20P2	F003	90	127
MS-60ST-M01330□□-20P4	0004	141	189
	1004	145	189
X2-60ST-M01330□□-20P4	1004	133	/
MS-60ST-M01330□□S-20P4	F004	112	149

*Note: □□S short body high-speed motor.

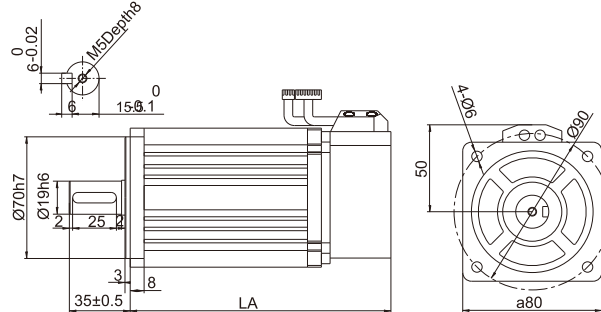
130 series motor



Motor model	Motor code	LA±1	
		Normal	With brake
MS-130ST-M04025-21P0	0040	166	223
MS-130ST-M10010-21P0	1040	193	264
MS-130ST-M04030-21P2	1031	164	223
MS-130ST-M06025-21P5	1042	179	238
	0042	179	236
MS-130ST-M06025-41P5	0142	179	236
MS-130ST-M10015-21P5	1044	205	264
	0044	213	294
MS-130ST-M10015-41P5	2144	205	264
	0144	213	294
MS-130ST-M10015G-21P5	104A	193	264
MS-130ST-M07725-22P0	0043	192	249
MS-130ST-M07725-42P0	1143	205	264
MS-130ST-M15015-22P3	0046	241	322
MS-130ST-M15015-42P3	1146	225	284
	0146	241	322
MS-130ST-M15015G-22P3	1046	235	294
MS-130ST-M07730-22P4	104B	205	264
MS-130ST-M10025-22P6	0045	209	290
MS-130ST-M10030-43P0	1148	225	284

*Note: specification of shaft ribbed holes for motor code beginning with 0: M6 depth is 60.

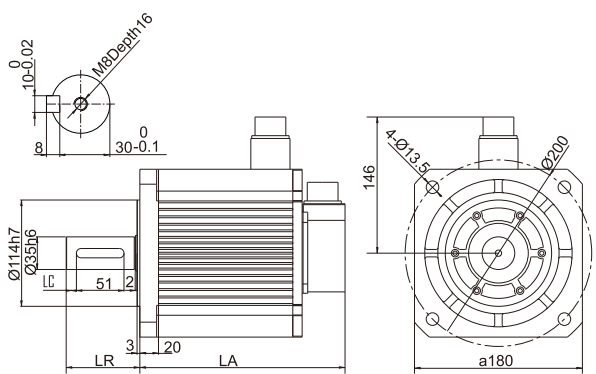
80 series motor



Motor model	Motor code	LA±1	
		Normal	With brake
MS-80ST-M02430□□-20P7	0011	151	191
	1011	151	199
X2-80ST-M02430□□-20P7	1011	151	/
MS-80ST-M03520□□-20P7	0012	179	219
MS-80ST-M02430□□S-20P7	F011	121	162

*Note: □□S short body high-speed motor.

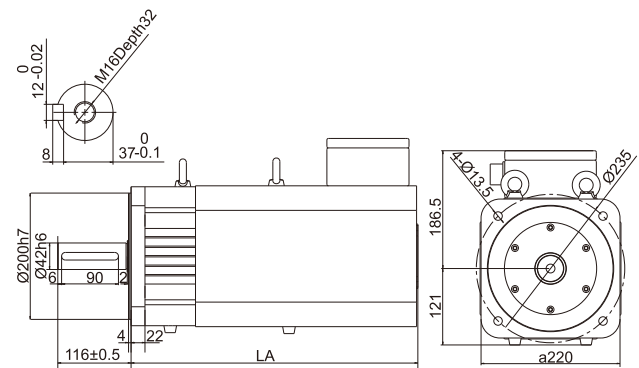
180 series motor



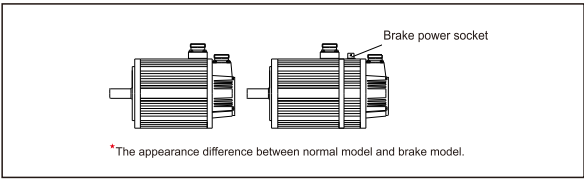
Motor model	Motor code	LR	LC	LA±1	
				Normal	With brake
MS-180ST-M19015□□-43P0	1160	79	11	221	303
MS-180ST-M19015□□-43P0-S	1052	65	3	221	303
	0156	65	3	232	304
MS-180ST-M21520□□-44P5	0150	65	3	243	315
MS-180ST-M27015□□-44P3	2151	79	11	247	329
MS-180ST-M27015□□-44P3-S	2151	65	3	247	329
	0151	65	3	262	334
MS-180ST-M35015□□-45P5	1152	79	11	277	359
MS-180ST-M35015□□-45P5-S	1152	65	3	277	359
	0152	65	3	292	364
MS-180ST-M48015□□-47P5	1153	79	11	308	390
MS-180ST-M48015□□-47P5-S	1153	65	3	308	390
	0153	65	3	346	418

*Note: specification of shaft ribbed holes for motor code beginning with 0: M9 depth is 30.

220 series motor



Motor model	Motor code	LA±1	
		Normal	With brake
MS-220ST-M70015□□-411P0	6160	454	554.5
MS-220ST-M96015□□-415P0	6161	507	607.5



Accessories List

Fast connector	Power cable	Encoder cable	Absolute battery box

- | | | | |
|---|---|---|--|
| <ul style="list-style-type: none">■ Provide convenient wiring terminals■ For 100W~15KW driver■ Adapt DS5F series 44-bit terminal: CNT-DB-44M-welding type | <ul style="list-style-type: none">■ Standard cable length: 3/5/8/12/16/20 meters■ Customizable lengthening■ Cable with or without brake | <ul style="list-style-type: none">■ Standard cable length: 3/5/8/12/16/20 meters■ Customizable lengthening | <ul style="list-style-type: none">■ Normal cable battery: CP-B-BATT■ High flexibility cable battery: CPT-B-BATT■ Batteries cannot be recharged |
|---|---|---|--|

DB9 cable	Bus module JA-NE-L	Differential module	Regenerative resistor

- | | | | |
|--|--|--|--|
| <ul style="list-style-type: none">■ Cable length 1.5 meters■ Connect to PC, control the servo by software | <ul style="list-style-type: none">■ Extend bus function■ Built-in terminal resistance | <ul style="list-style-type: none">■ Convert between collector signal and differential signal■ Collector to differential card: JC-ID-AB■ Collector to differential card: JC-ID-AB | <ul style="list-style-type: none">■ Release the regenerative voltage of bus capacitor■ The details please refer to regenerative resistor list |
|--|--|--|--|

Regenerative Resistor List

Servo driver specification		Recommended external regenerative resistor specification		Wiring method of external regenerative resistor	
Voltage level	Power	Resistor	Power	P+, PB interface	P+, D, C interface
220V	100W	50Ω—100Ω	above 200W	Connect external regenerative resistor between P+ and PB. Ds3 series parameter setting P0-24=1, P0-25=power, P0-26=resistor. Ds5 series parameter setting P0-25=power, P0-26=resistor.	Remove the short connector between P+ and D, connect external regenerative resistor between P+ and C.
	200W	50Ω—100Ω	above 200W		
	400W	40Ω—100Ω	above 500W		
	750W	40Ω—100Ω	above 600W		
	1KW	40Ω—100Ω	above 600W		
	1.2KW	25Ω—50Ω	above 1000W		
	1.5KW	25Ω—50Ω	above 1000W		
	2.3KW	25Ω—50Ω	above 1000W		
380V	2.6KW	25Ω—50Ω	above 1000W		Ds3 series parameter setting P0-24=1, P0-25=power, P0-26=resistor. Ds5 series parameter setting P0-25=power, P0-26=resistor.
	1.2KW	55Ω—100Ω	above 1000W		
	1.5KW	55Ω—100Ω	above 1000W		
	3KW	55Ω—75Ω	above 1000W		
	5.5KW	25Ω—65Ω	above 2000W		
	7.5KW	25Ω—50Ω	above 2000W		
	11KW	18Ω—45Ω	above 3000W		
	15KW	20Ω—45Ω	above 3000W		

*Note: (1) If there is frequent startup and stop, frequent forward reverse run, large load inertia, vertical motion, please install external regenerative resistor.
(2) Users need to purchase the external regenerative resistor by themselves.