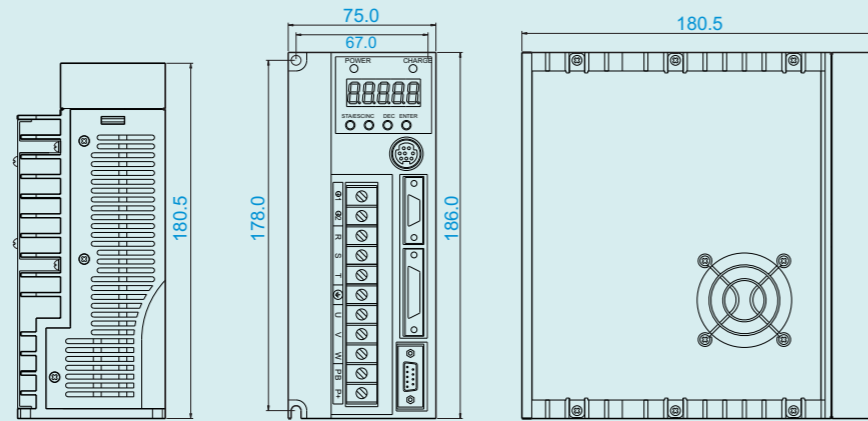
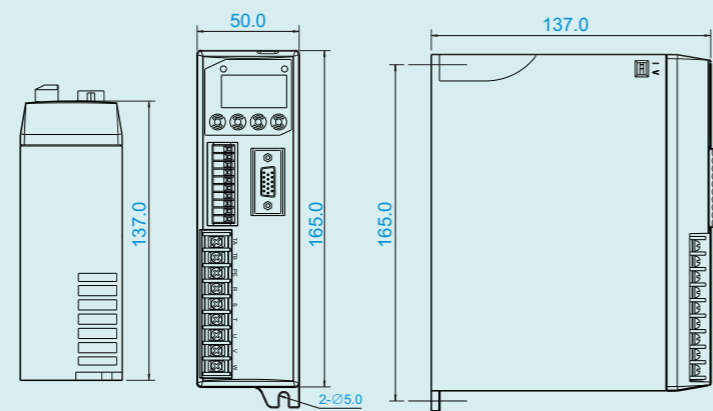


Installation dimension: (unit:mm)

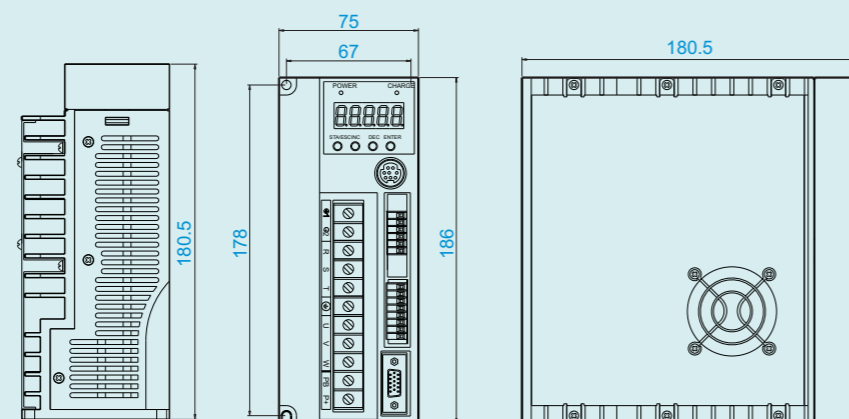
• DS3-21P8



• DS2-20P4/20P7



• DS2-21P0/21P5/22P0/23P0

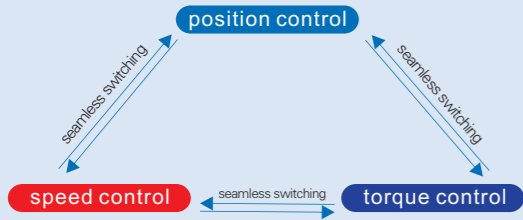


DS series servo driver

Stable Performance, Easy Operation

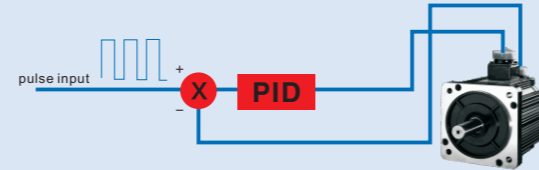
High performances

Support position control, speed control, torque control, switch seamless between any two modes.



High precision positioning

Advanced digital control method, fast and precision positioning for current loop, speed loop and position loop.



High response frequencies

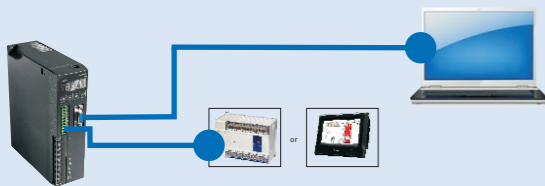
Response frequency ups to 400Hz.

Flexible configuration

- 2 channels high speed pulse input, the highest frequency is 500KHz; 2 channels 12bits -10~10V voltage output.
- 7 channels SI input, 3 channels SO output. 3 channels encoder differential signal output, 1 channel Z phase origin signal output.

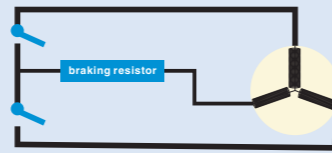
Two communication ports

- COM1 supports debugging in PC with servo software.
- COM2 supports RS232, RS485 and Modbus-RTU protocol. (DS2 only has RS485)



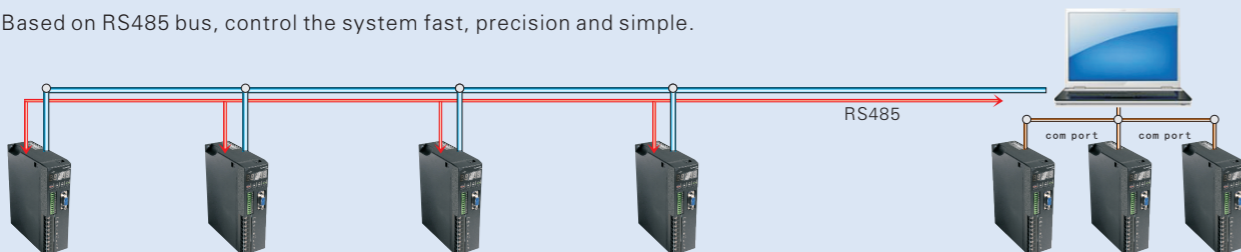
Braking function

Built-in braking transistor, suitable for big inertia load or short decelerate time device. DS3 series has DB brake inside, can brake immediately when power cutting or alarming.



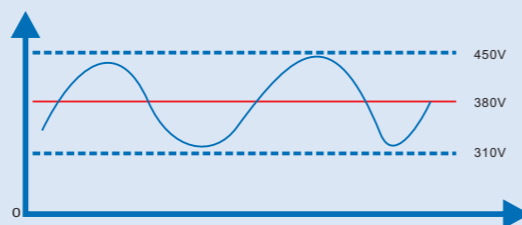
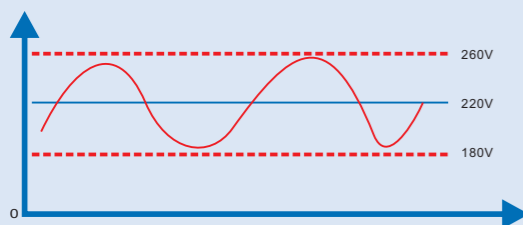
RS485 bus

Based on RS485 bus, control the system fast, precision and simple.



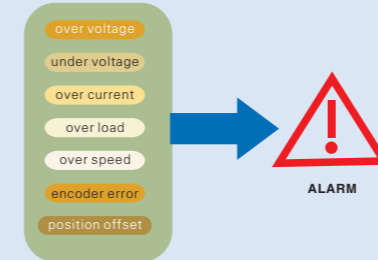
Safe and reliable

IGBT module can endure the high voltage up to 1200V; high speed DSP controlling, improve the reliability; wide voltage input range: 180V~260V, 310V~450V; excellent anti-interference ability, suitable for fierce electromagnetism environment.



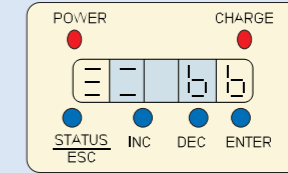
Perfect protections

Over voltage, under voltage, over current, over speed, over load, encoder error, position offset, etc.



Humanized operating interface

Display the servo status, 16 parameters and error message via the operating panel, easy to debug.



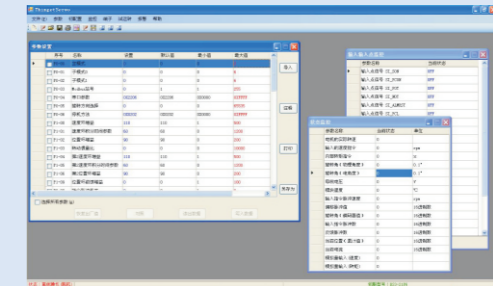
Meet the needs of various industries

Multiple control modes, perfect interfaces, strong communication functions, can be used in different industries such as lathe, grinder, engraving, packing, shearing and bending machines.



Perfect debugging software

- Debug the servo system via PC
- Support Chinese/English versions.
- Support parameter reading and writing, status monitoring, gain adjustment, jog running, etc.
- Support simulation digital oscilloscope, record the motor running curve, easy to analyze motor characteristics.



Naming rules for cables and braking resistors

● motor cables

CM-L 15 02

sign	connector on motor side
L	L-type plug
P	straight-type plug

sign	wire sectional area
15	15mm ²

sign	length
02	2m
03	3m
05	5m

● encoder cables

CP-D P-02

sign	connector on driver side
D	DB15
S	SM

sign	length
02	2m
03	3m
05	5m

sign	connector on motor side
L	L-type plug
P	straight-type plug

● braking resistor

SBR 40-10

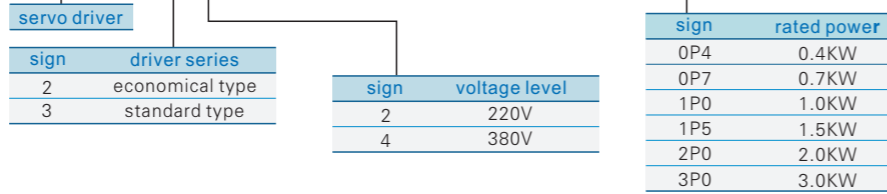
sign	resistance
40	40Ω

sign	power
10	100w
30	300w
50	500w

Servo driver naming rules



DS2 - 2 0P7



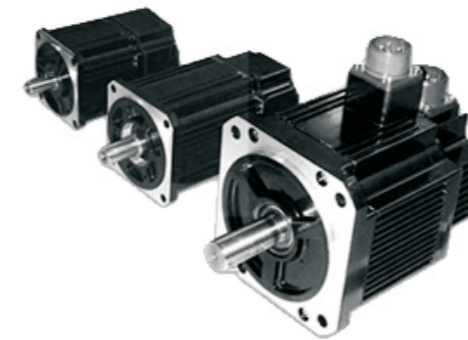
Servo driver performance

Servo unit type	DS2-20P4	DS2-20P7	DS2-21P0	DS2-21P5	DS2-22P0	DS2-23P0	DS3-21P8	
Appearance								
Max suitable motor capacity(KW)	0.4	0.75	1.0	1.5	2.0	3.0	1.8	
Continuous output current(Arms)	2.5	3	4	6	7.5	12	6	
Max output current (Arms)	7.5	9	12	18	21	30	18	
Input current	single-phase AC200~240V, 50/60Hz						three-phase or single-phase AC 200~240V, 50/60Hz	
Control mode	three-phase full-wave rectifier IPM PWM control sine current drive mode						three-phase full-wave rectifier IGBT PWM control sine current drive mode	
Using condition	temperature	0 ~ +50 °C/-20 ~ +85 °C						
	humidity	Below 90% RH (no condensation)						
	vibration resistance/shock strength	4.9m/s ² / 19.6m/s ²						
Configuration	base installation							

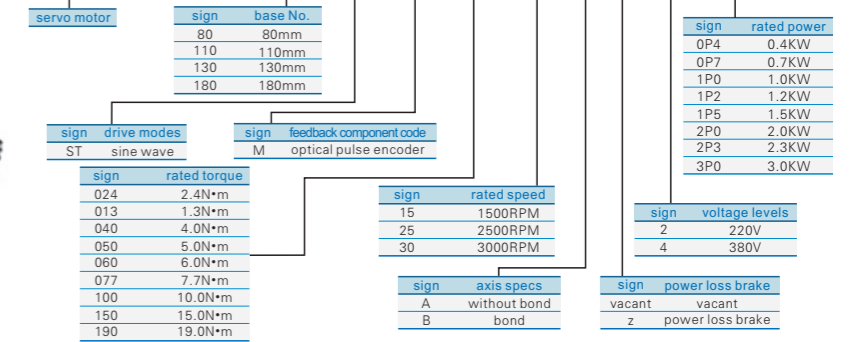
Type selection table

rated power(KW)	rated speed(rpm)	rated torque(N.m)	motor types	suitable drivers
0.4	3000	1.27	MS-60ST-M01330□□-20P4	DS2-20P4
0.75	3000	2.4	MS-80ST-M02430□□-20P7	DS2-20P7
1.0	2500	4	MS-80ST-M04025□□-21P0	DS2-21P0
1.2	3000	4	MS-110ST-M04030□□-21P2	DS2-21P5
1.5	3000	5	MS-110ST-M05030□□-21P5	DS3-21P8
1.5	2500	6	MS-130ST-M06025□□-21P5	DS2-12P5
				DS3-21P8
1.5	1500	10	MS-130ST-M10015□□-21P5	DS2-12P5
				DS3-21P8
2.0	2500	7.7	MS-130ST-M07725□□-22P0	DS2-22P0
2.3	1500	15	MS-130ST-M15015□□-22P3	DS2-23P0
3.0	1500	19	MS-180ST-M19015□□-23P0	

Servo motor naming rules



MS-110 ST-M 05030 A Z- 2 1P5

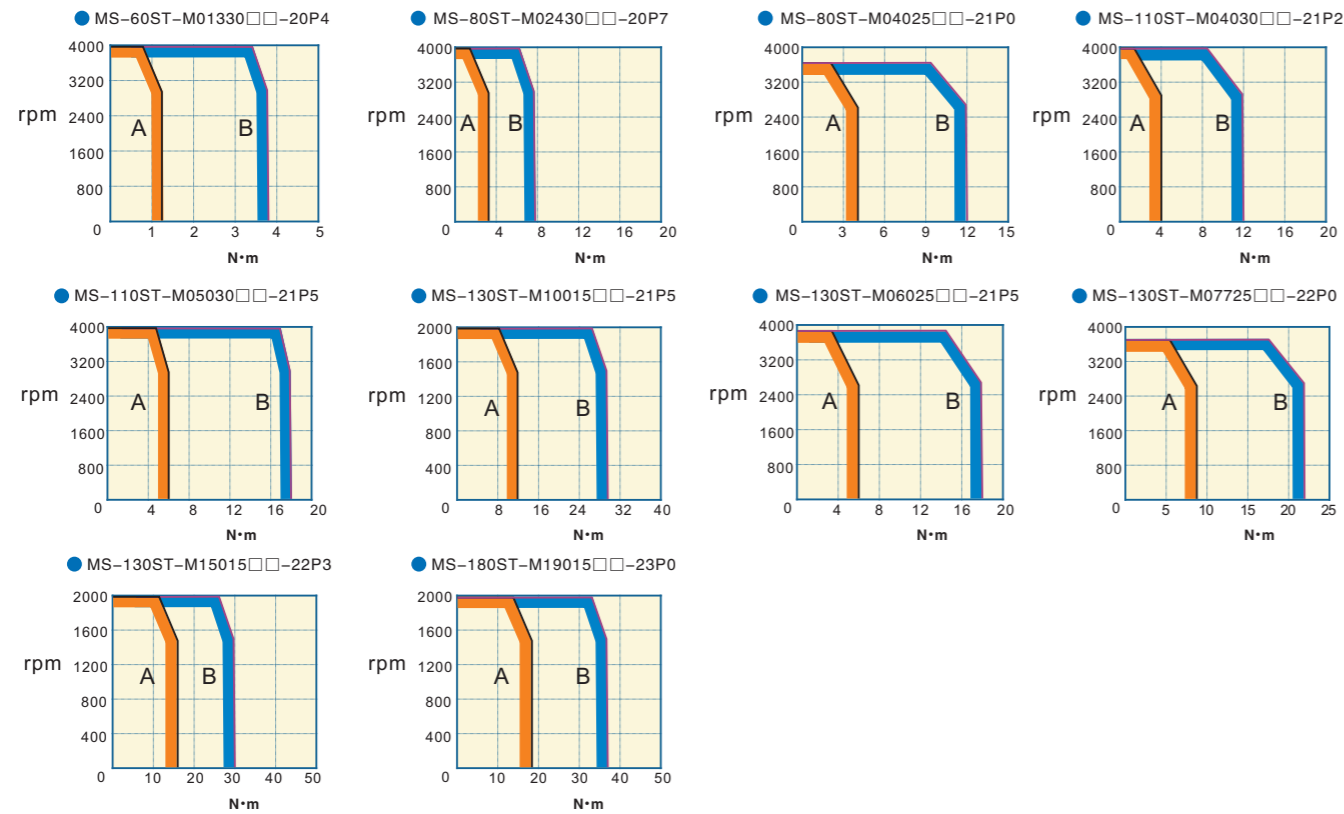


Servo motor characteristics

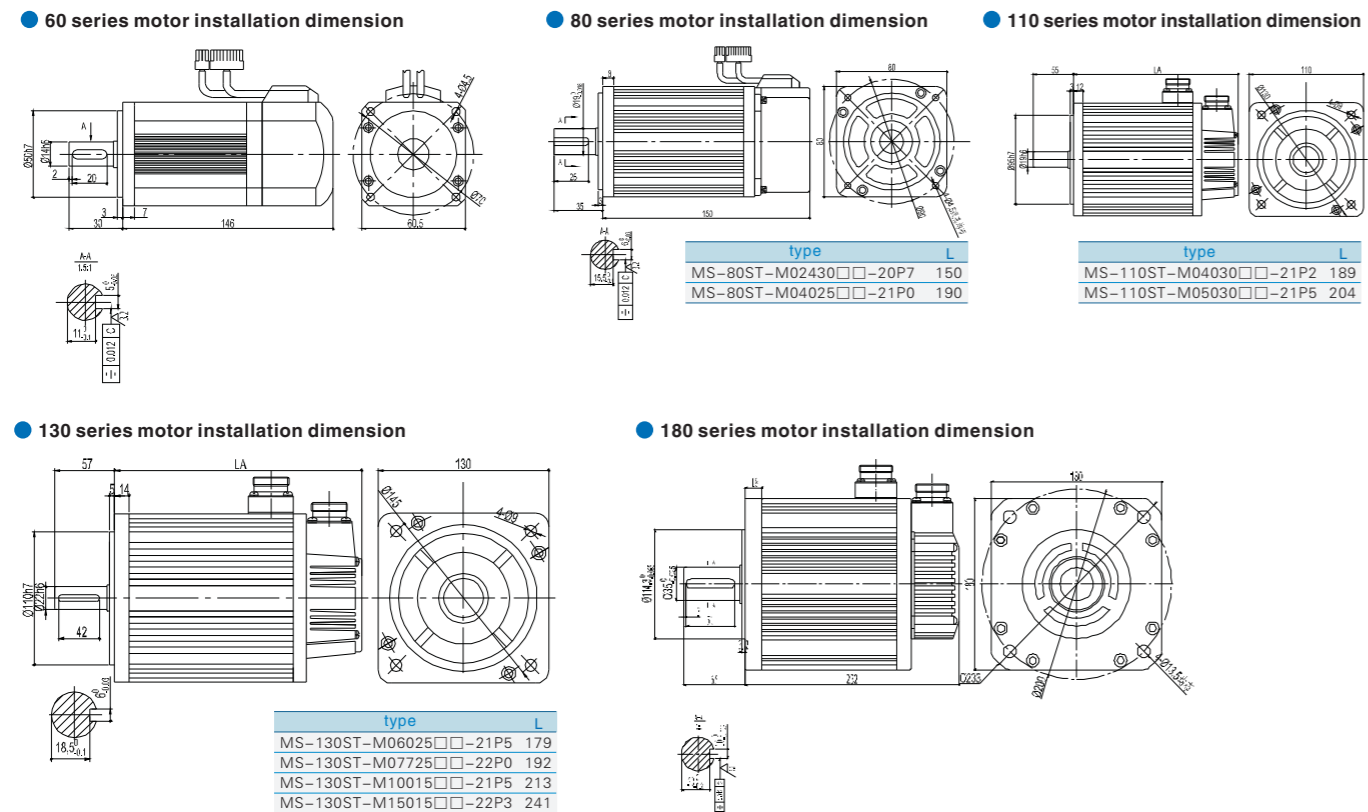
Servo type MS-	60ST-M01330□□-20P4	80ST-M02430□□-20P7	80ST-M04025□□-21P0	110ST-M04030□□-21P2	110ST-M05030□□-21P5
Appearance					
Voltage level	220V				
Rated power (KW)	0.4	0.75	1.0	1.2	1.5
Rated current (A)	2.5	3.0	4.4	5.0	6.0
Rated speed (rpm)	3000	3000	2500	3000	3000
Rated torque (N.m)	1.3	2.39	4	4	5
Peak torque (N.m)	3.9	7.1	12	12	15
Back EMF constant (V/krpm)	28	48	56	54	62
Moment coefficient (N.m/A)	0.5	0.8	0.9	0.8	0.83
Rotor inertia (Kg · m ²)	0.438 × 10 ⁻⁴	0.24 × 10 ⁻³	0.35 × 10 ⁻³	0.54 × 10 ⁻³	0.63 × 10 ⁻³
Winding resistor (Ω)	3.49	2.88	1.83	1.09	1.03
Winding inductance (mH)	8.47	6.4	4.72	3.3	3.43
Electrical time constant(ms)	2.4	2.22	2.58	3.0	3.33
Weight (without contracting brake) (Kg)	1.78	2.86	3.8	5.5	6.1
Encoder lines (PPR)	2500				
Pole-pairs	4				
Motor insulated class	Class B (130°C)		Class F (155°C)		
Protection class	IP64		IP65		
Using environment	ambient temperature	0°C ~ 40°C			-20°C ~ +50°C
	ambient humidity	relative humidity <90% (no condensation)			

Servo type MS-	130ST-M06025□□-21P5	130ST-M07725□□-22P0	130ST-M10015□□-21P5	130ST-M15015□□-22P3	180ST-M19015□□-23P0
Appearance					
Voltage level	220V				
Rated power (KW)	1.5	2.0	1.5	2.3	3.0
Rated current (A)	6.0	7.5	6.0	9.5	12.0
Rated speed (rpm)	2500	2500	1500	1500	1500
Rated torque (N.m)	6	7.7	10	15	19
Peak torque (N.m)	18	22	25	30	47
Back EMF constant (V/krpm)	65	68	103	114	97
Moment coefficient (N.m/A)	1.0	1.03	1.67	1.58	1.58
Rotor inertia (Kg · m ²)	1.26 × 10 ⁻³	1.53 × 10 ⁻³	1.94 × 10 ⁻³	2.77 × 10 ⁻³	3.8 × 10 ⁻³
Winding resistor (Ω)	1.21	1.01	1.34	1.1	0.4
Winding inductance (mH)	3.87	2.94	5.07	4.45	2.42
Electrical time constant(ms)	3.26	3.80	3.78	4.05	6
Weight (without contracting brake) (Kg)	8.9	10.0	11.5	14.4	20.5
Encoder lines (PPR)	2500				
Pole-pairs	4				
Motor insulated class	Class B (130°C)				
Protection class	IP65				
Using environment	ambient temperature	-20°C ~ +50°C			
	ambient humidity	relative humidity <90% (no condensation)			

Torque-speed features (A: continuous-use area B: repeated-use area)



Servo motor installation dimension (unit:mm)



Peripheral equipments

