

XINJE

DS5L1

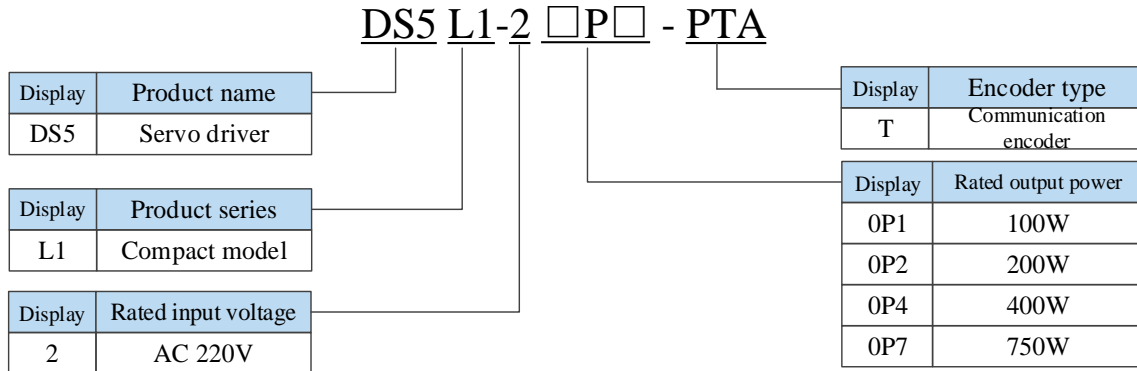
WUXI XINJE ELECTRIC CO., LTD.

Data No. SC5 05 20210829 1.0

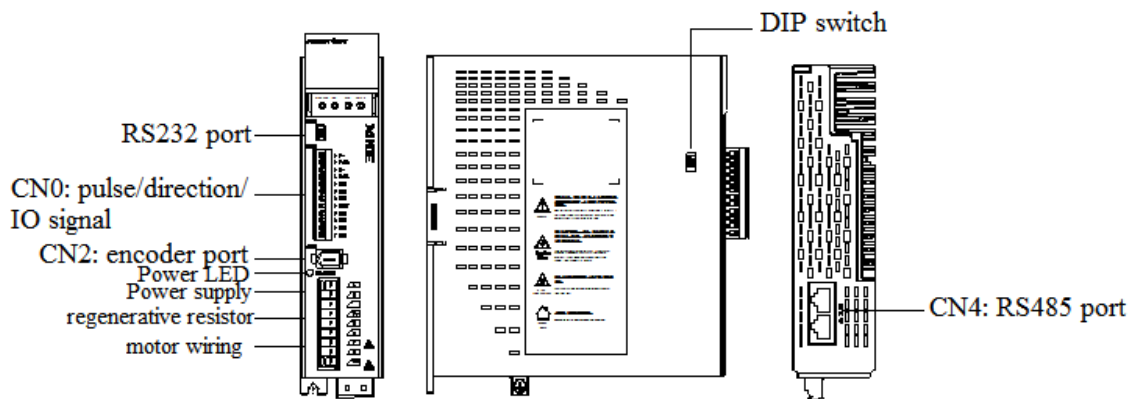
1 Selection of servo system

1.1 Selection of servo driver

1.1.1 Model name



1.1.2 Description of each part



1.1.3 Performance specification

Servo unit	DS5L1 series servo driver	
Applicable encoder	Standard: 17-bit/23-bit communication encoder	
Input power supply	DS5L1-2□P□-PTA: single phase AC200-240V, 50/60Hz	
Control mode	Three-phase full-wave rectifier IPM PWM control sinusoidal current drive mode	
Using condition	Using temperature	-10~+40 °C
	Storage temperature	-20~+60 °C
	Environment humidity	Below 90%RH (no condensation)
	Vibration resistance	4.9m/s ²
Structure	Pedestal installation	

1.2 Servo motor selection

1.2.1 Model name

MS5S – 80 ST E – C S 02430 B Z – 2 0P7 – S01

Name	Inertia
MS5S	Low inertia
MS5G	Middle inertia
MS5H	High inertia

Name	Design number
S01	standard
S02	Small Aviation Plug Type

Name	Seat number
60	60 seat
80	80 seat

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

Name	Product name
ST	Sine drive motor

Name	Voltage level
2	220V
4	380V

Name	Product name
empty	No oil seal
E	With oil seal

Name	Power-off brake
Empty	without
Z	with

Name	Encoder type
C	Magnetic encoder
T	Photoelectric encoder

Name	Shaft
A	No key
B	With key

Name	Encoder accuracy
S	Single circle 17-bit
M	Multi-circle 17-bit
U	Single circle 23-bit
L	Multi-circle 23-bit

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

MS6S–60 C S 30 B Z 1 – 2 0P4

Display	Inertia
MS6S	Low inertia
MS6G	Medium inertia
MS6H	High inertia

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

Symbol	Product name
C	Magnetic Encoder
T	Photoelectric encoder

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

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

Symbol	Shaft
A	Key, no oil seal, with threaded hole
B	With key, oil seal and threaded hole
C	No key, no oil seal, with threaded hole
D	No key, with oil seal and threaded hole

Display	Power-loss brake
Z	With brake
Empty	No brake

Display	Connector
1	Standard 1
2	Standard 2
D	Customized machine

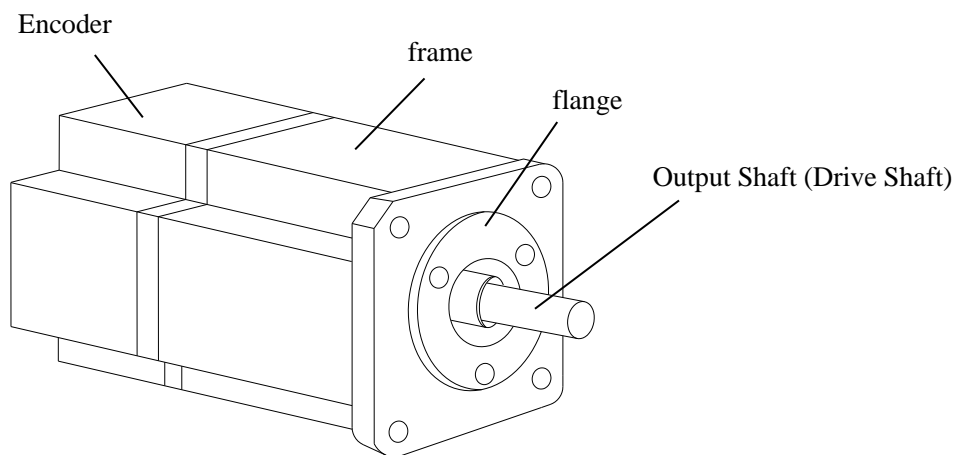
Display	Power supply
2	220V
4	380V

Display	Rated output
0P1	100W
0P2	200W
0P4	400W
0P7	750W

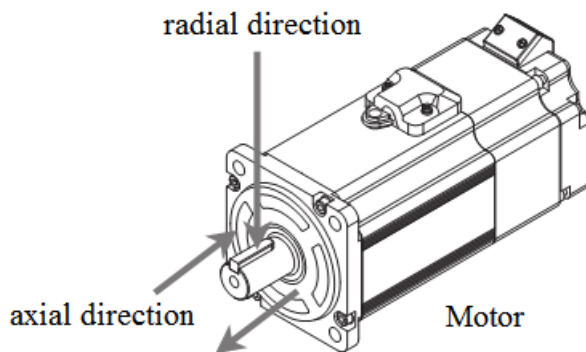
Note: At present, only the combination of CS, CM, TL and T is selected for the type of encoder.
Standard type 1: 80 flange and below amp plug.

Standard type 2: 80 flange and below small aviation plug.

1.2.2 Description of each part



1.2.3 Axial force and radial force

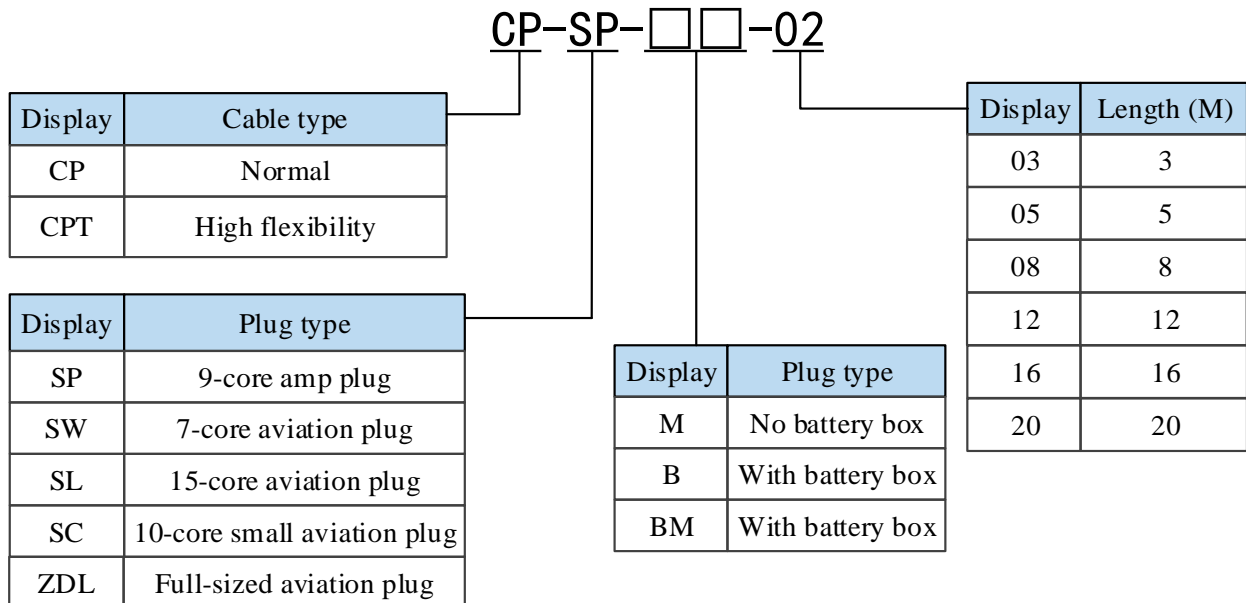


Base no.	40ST	60ST	80ST	100ST	110ST	130ST	180ST	220ST/265ST
Axial force	54N	74N	147N	≤200N	250N	300N	400N	≤500N
Radial force	78N	245N	392N	500N	500N	600N	800N	1000N

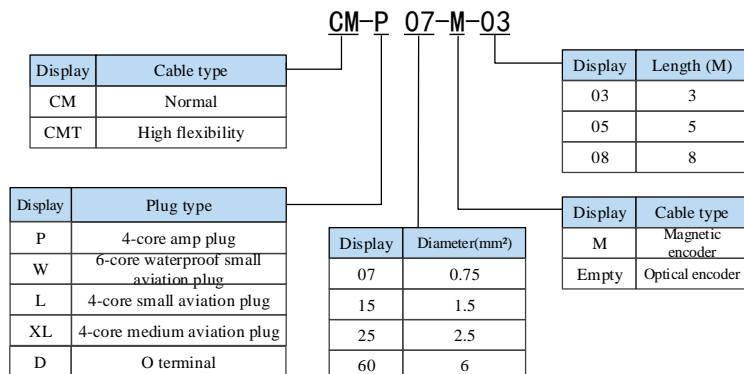
1.3 Cable selection

1.3.1 Model name

■ Encoder cable



■ Power cable



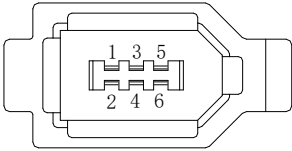
■ Brake cable explanation

- For 80 and below flange motors with suffix S01, the brake cable model shall be selected: CB-P03-length.
- The standard wiring length of Xinje is 3m, 5m, 8m, 12m, 16m and 20m.

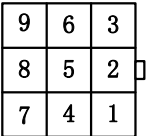
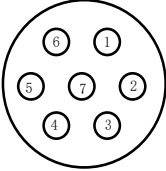
1.3.2 Description of each part

■ Encoder cable

(1) Pin definition of encoder on servo driver side

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

(2) Cable connection of encoder on motor side

Connector pins	Pin definition		Suitable model
	No.	Definition	
	1	Battery +	MS5-40, 60, 80 flange -S01 motor MS6-40, 60, 80 flange motor
	2	Battery -	
	3	Shielded cable	
	4	485-A	
	5	485-B	
	6	/	
	7	5V	
	8	GND	
	9	/	
	No.	Definition	MS5-40, 60, 80 flange -S02 motor
	1	Shielded cable	
	2	Battery +	
	3	Battery -	
	4	485-A	
	5	485-B	
	7	5V	
	8	GND	

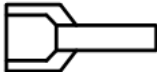
Battery box description:

1) The encoder including the cable definition of battery +, battery- is for the absolute motor, and the non-absolute motor cable has no such pin.



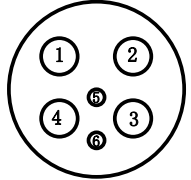
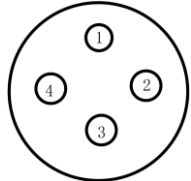
2) Only the cable of absolute value motor has external battery box, which contains a 3.6V/2.7Ah large capacity battery, and has the function of replacing batteries when power cut. The using life is more than two years. Please refer to chapter 5.6.2 change battery.

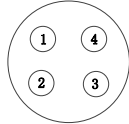
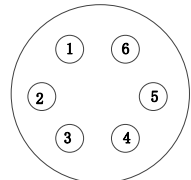
■ Power cable

(1) Pin definition of power cable on servo driver side

Connector appearance	Pin definition	
	Color	Definition
	Brown	U
	Black	V
	Blue	W
	Yellow-green	PE

(2) Power cable connection on motor side

Connector pins	Pin definition		Suitable model
	No.	Definition	
	1	U	Applicable to 40, 60, 80 flange S01 / B1 motors
	2	W	
	3	V	
	4	PE	
	No.	Definition	Applicable to 40, 60 and 80 flange S01 / B1 brake motors
	1	BK+	
	No.	Definition	Applicable to 40, 60 and 80 flange S02 motors
	1	PE	
	2	U	
	3	V	
	4	W	
	5	BK+	
6	BK-		
	No.	Definition	Applicable to 130 flange non middle inertia motor
	1	PE	
	2	U	
	3	V	
	4	W	

	No.	Definition	Suitable for 40, 60, 80 flange B2 motors
	1	U	
	2	W	
	3	V	
	No.	Definition	Suitable for 40, 60 and 80 flange B2 brake motors
	1	U	
	2	W	
	3	V	
	4	PE	
	5	BK+	
6	BK-		

Brake pins:

The cable including pin BK+, BK- is used for the brake motor. The cable of the non-brake motor has no BK pins.