

XINJE

DS5K

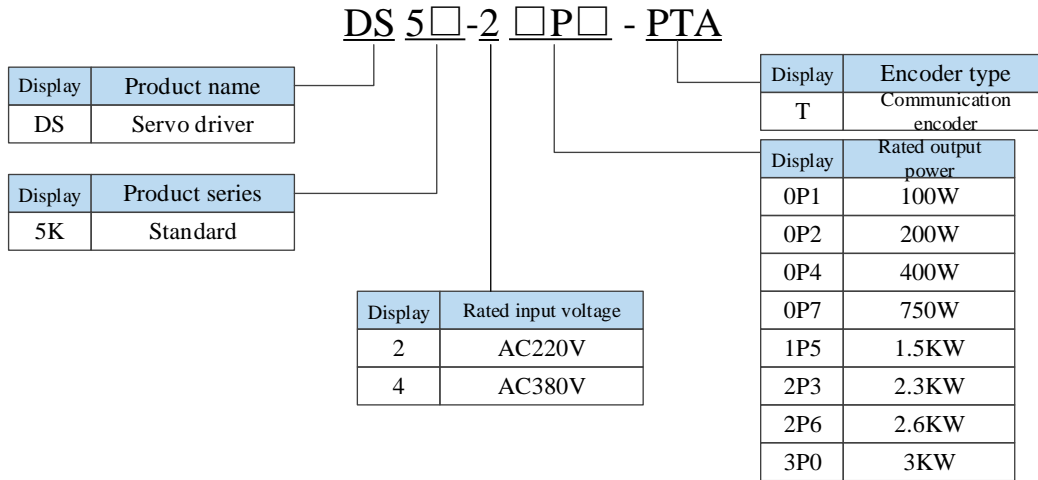
WUXI XINJE ELECTRIC CO., LTD.

Data No. SC5 03 20200217 1.1

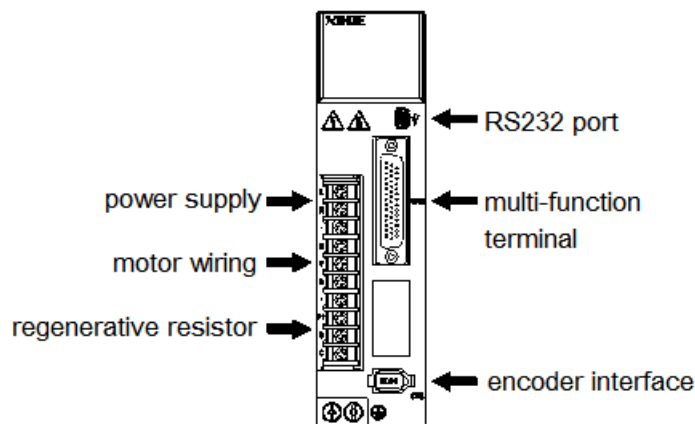
1 Selection of servo system

1.1 Selection of servo driver

1.1.1 Model name



1.1.2 Description of each part



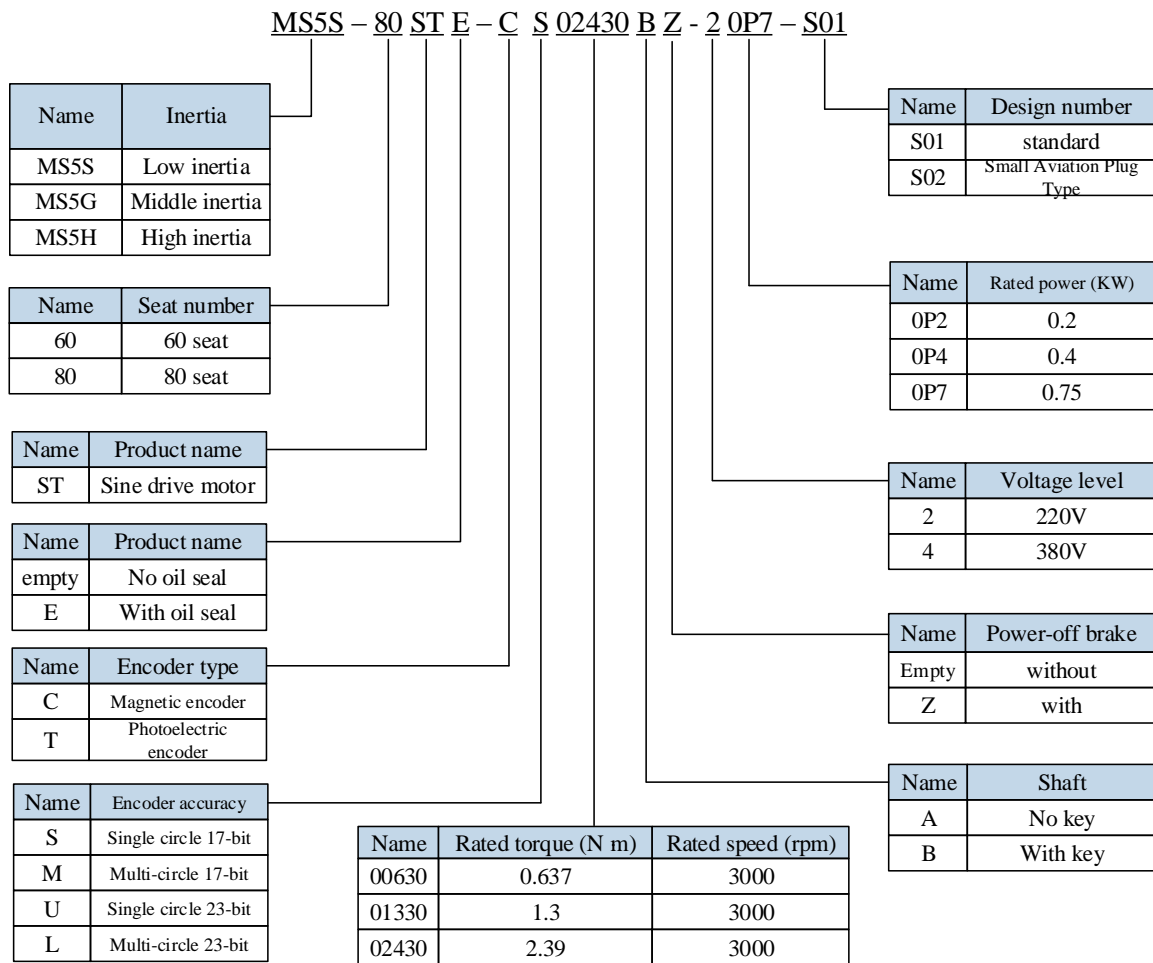
1.1.3 Performance specification

Servo unit	DS5K series servo drive	
Applicable encoder	Standard: 17-bit/23-bit communication encoder	
Input power supply	DS5□-2□P□-PTA: Single/three phases AC200-240V, 50/60Hz [single phase AC200-240V 50/60Hz is used for less than 1.5KW (excluding 1.5KW); Three phase AC200-240V 50/60Hz is recommended for 1.5KW and above. (if single-phase power supply, please connect it to R and T, otherwise, the parameter memory will be affected in case of power failure)	
	DS5□-4□P□-PTA: three-phase AC340~420V, 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	

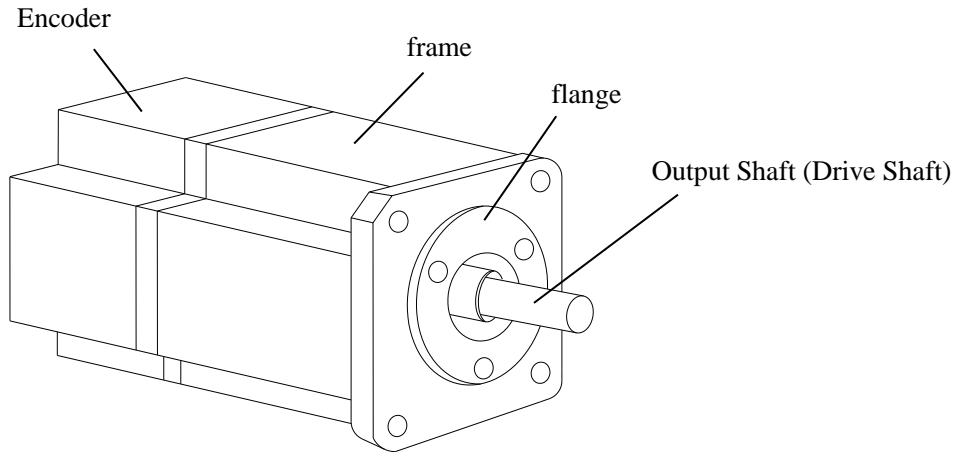
1.2 Servo motor selection

1.2.1 Model name



Note: At present, only the combination of CS, CM, TL and T is selected for the type of encoder.

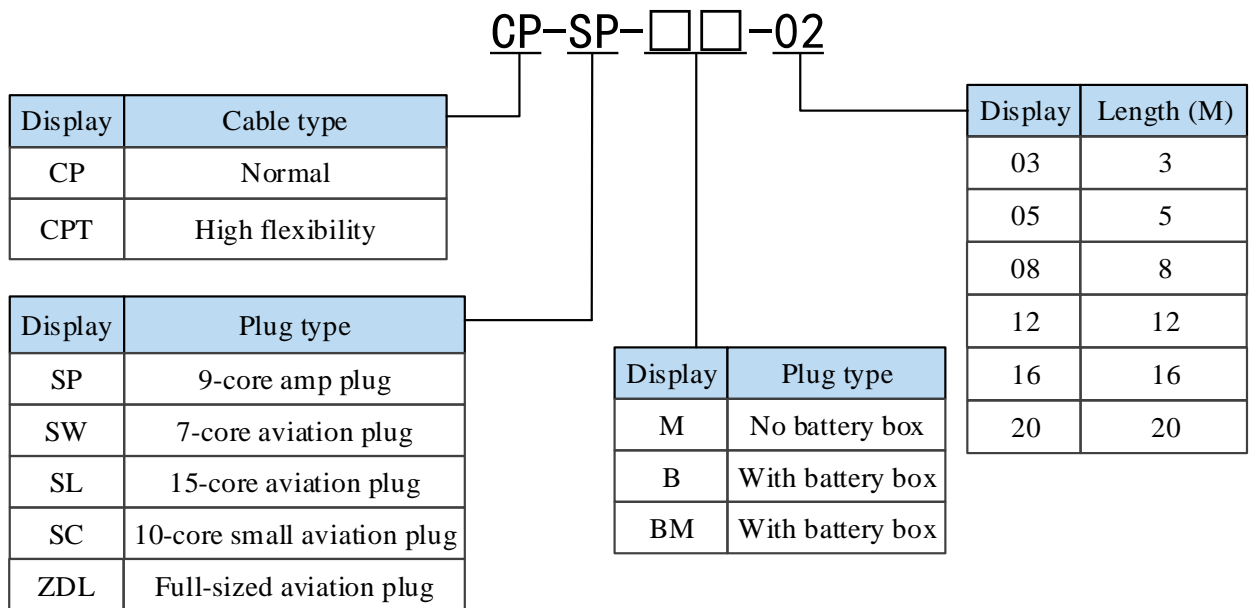
1.2.2 Description of each part



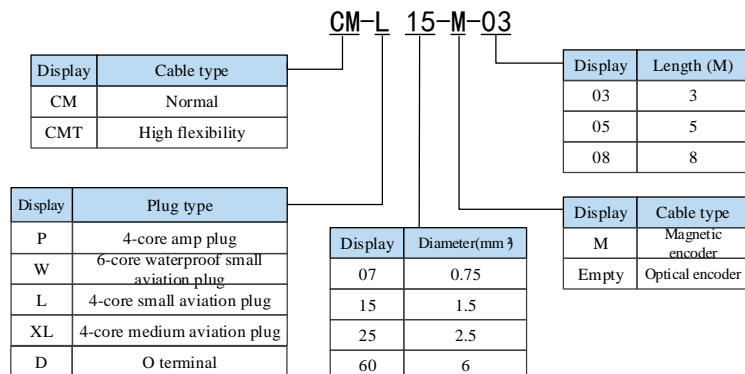
1.3 Cable selection

1.3.1 Model name

■ Encoder cable



■ Power cable



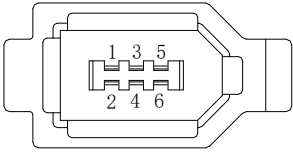
■ Brake cable explanation

- For 80 and below flange motors with suffix S01, the brake cable model shall be selected: CB-P03-length (common material) / CBT-P03-length (high flexible material).
- Suitable for 750W and below motor with suffix S02: CMBT-W07-M-length.
- For the MS5G 130 flange medium inertia brake motor, the cable shall be selected integrated power cable and brake cable type.
- The standard wiring length of Xinje is 2m, 3m, 5m, 8m, 10m, 12m, 16m and 20m.

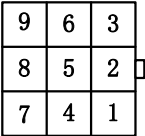
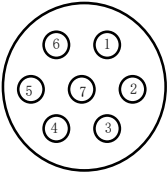
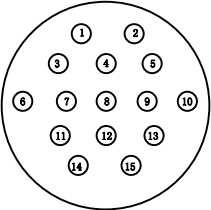
1.3.2 Description of each part

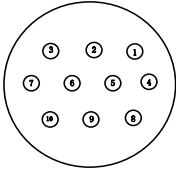
■ Encoder cable

(1) Pin definition of encoder on servo driver side

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

(2) Cable connection of encoder on motor side

Connector pins	Pin definition		Suitable model
	No.	Definition	
	1	Battery +	40, 60, 80 flange -S01 motor
	2	Battery -	
	3	Shielded cable	
	4	485+	
	5	485-	
	6	/	
	7	5V	
	8	GND	
	9	/	
	No.	Definition	40, 60, 80 flange -S02 motor
	1	Shielded cable	
	2	Battery +	
	3	Battery -	
	4	485+	
	5	485-	
	7	5V	
	8	GND	
	No.	Definition	110 and above flange motor
	1	Shielded cable	
	2	/	
	3	485-	
	4	485+	
	5	/	
	6	GND	
	7	Battery -	
	8	5V	
9	Battery +		

Connector pins	Interface definition		Suitable model
	No.	definition	
	1	/	130 flange medium inertia motor
	2	5V	
	3	GND	
	4	485+	
	5	485-	
	6	Battery +	
	7	Battery -	
	8	/	
	9	/	
	10	Shielded cable	


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.



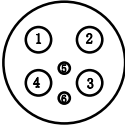
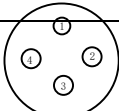
2) Only the cable of absolute value motor has external battery box, which contains a 3.6V/2.7Ah large capacity battery, and has the function of replacing batteries when power cut. The using life is more than two years. Please refer to chapter 5.7.2 change battery.

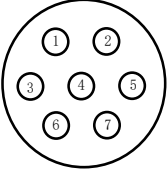
■ Power cable

(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	40, 60, 80 flange -S01 motor
	2	W	
	3	V	
	4	PE	
	No.	Definition	40, 60, 80 flange -S01 motor brake
	1	BK	
	No.	Definition	750W and below S02 small aviation plug motor
	1	PE	
	2	U	
	3	V	
	4	W	
	5	BK	
6	BK		
	No.	Definition	110 and above motor (include 130 flange)

	1	PE	medium inertia motor without brake)
	2	U	
	3	V	
	4	W	
Connector pins	Interface definition		Suitable model
	No.	Definition	
	1	PE	130 flange medium motor with brake
	2	U	
	3	V	
	4	W	
	5	BK+	
	6	BK-	
	7	/	

Brake pins:

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

- The deceleration stop period during acceleration and deceleration operation;
- Running vertically and axially;
- When the external load drives the motor to rotate.

Servo driver model	Regenerative resistance connection terminals
DS5□-□□P□-PTA	<p>(1) Using built-in regenerative resistance, short P + and D terminals, P + and C are disconnected.</p> <p>(2) Use external regenerative resistance, connect regenerative resistance to P + and C terminals, remove P + and D short wiring, P0-25 = power value, P0-26 = resistance value.</p> <p>Note: if software version U2-07 < 3700, the parameter P0-24 should be set. The value of 0 is for the built-in resistance to take effect, and the value of 1 is for the external resistance to take effect.</p> <p>It no needs to set P0-24 for the firmware version U2-07 ≥ 3700, just keep default value.</p>