

# XINJE

## DS5F

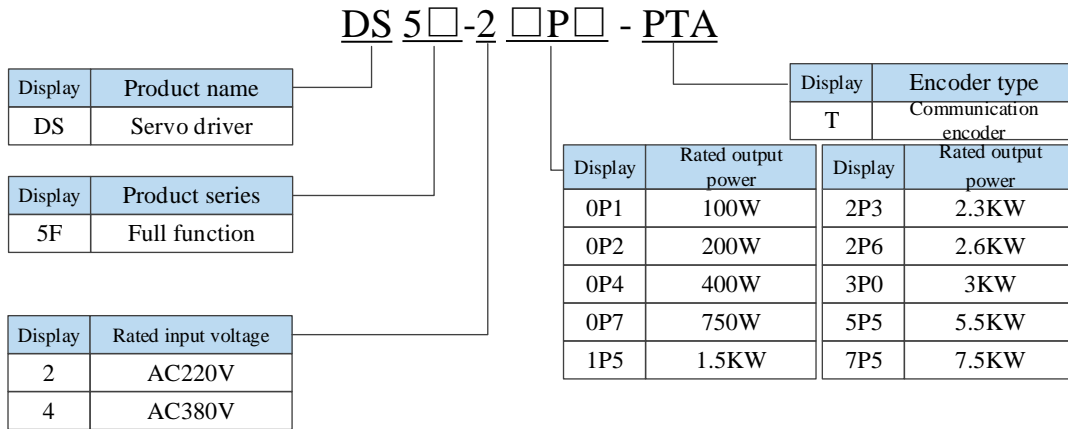
**WUXI XINJE ELECTRIC CO., LTD.**

Data No. SC5 02 20200217 2.3

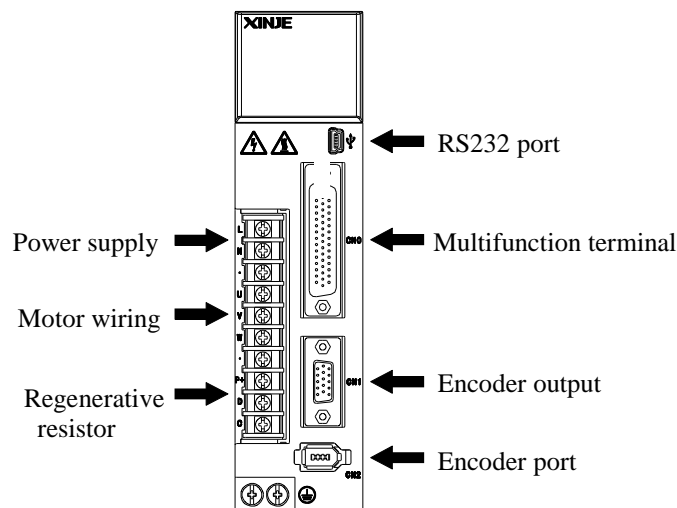
# 1 Selection of servo system

## 1.1 Selection of servo driver

### 1.1.1 Model name



### 1.1.2 Description of each part



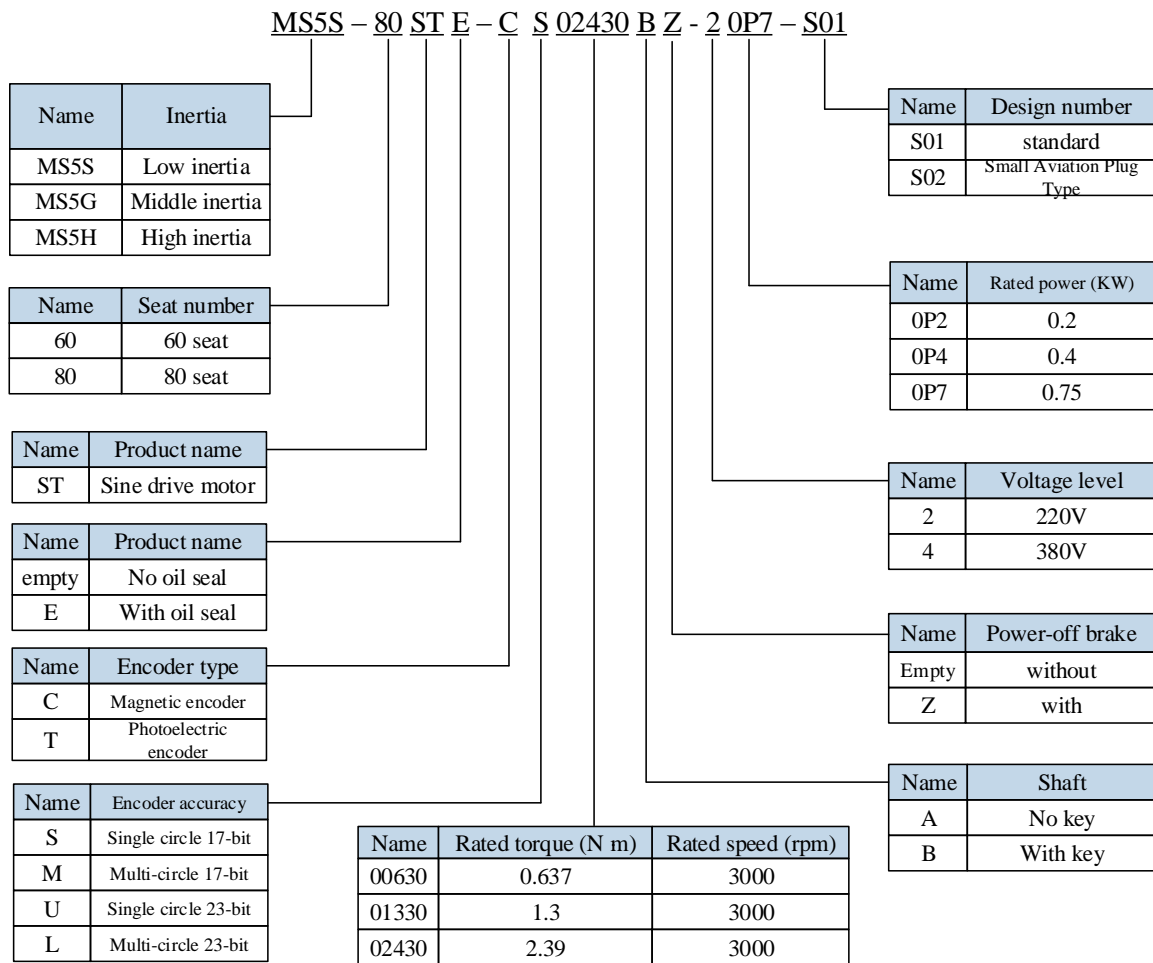
### 1.1.3 Performance specification

Servo unit	DS5F 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 <sup>2</sup>
Structure	Pedestal installation	

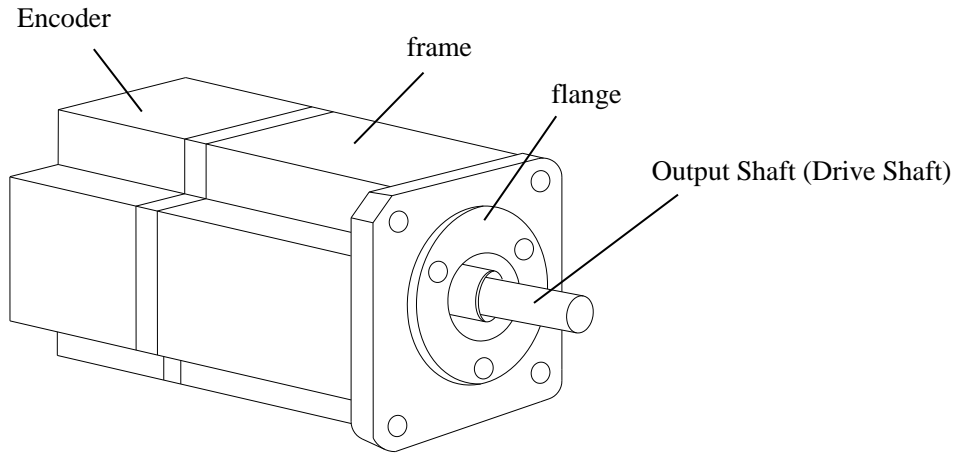
## 1.2 Servo motor selection

### 1.2.1 Model name



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

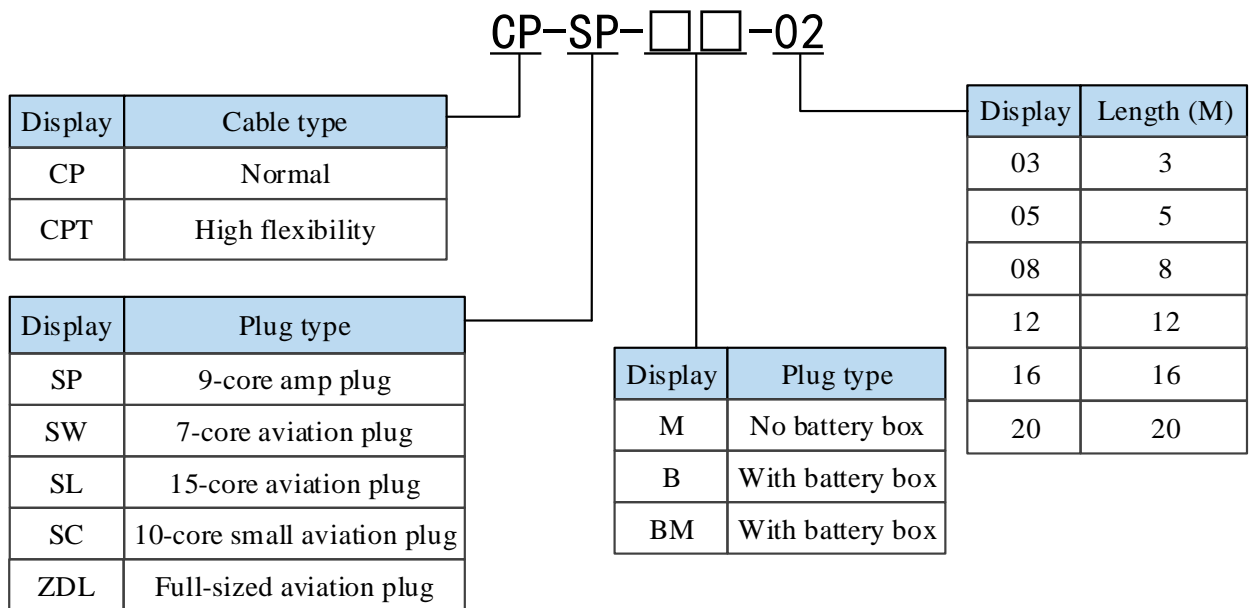
## 1.2.2 Description of each part



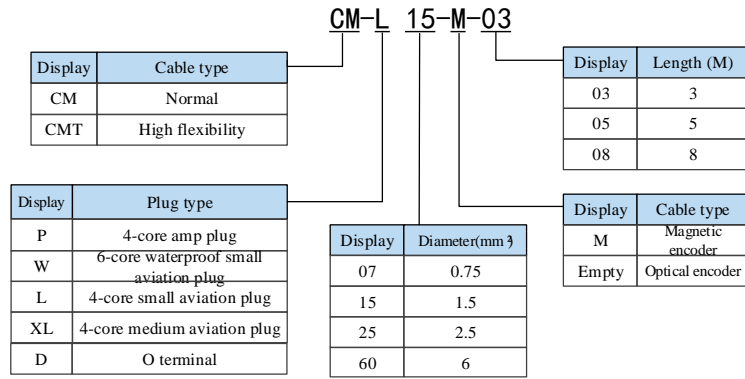
## 1.3 Cable selection

### 1.3.1 Model name

- Encoder cable model



■ Power cable model



■ 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

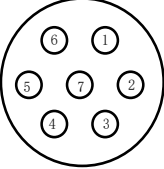
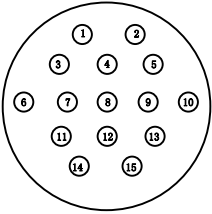
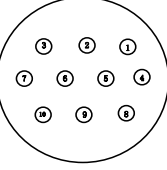
■ Encoder cable

(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.



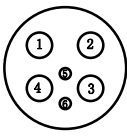
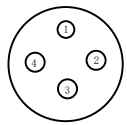
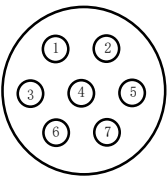
2) Only the cable of absolute value motor has external battery box, which contains a 3.6V/2.7Ah large capacity battery, and has the function of replacing batteries when power cut. The using life is more than two years. Please refer to chapter 5.7.2 change battery.

### ■ 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	
	2	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 medium inertia motor without brake)
	1	PE	
	2	U	
	3	V	
	Interface definition		130 flange medium motor with brake
	No.	Definition	
	1	PE	
	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.