

XINJE

DS5N1

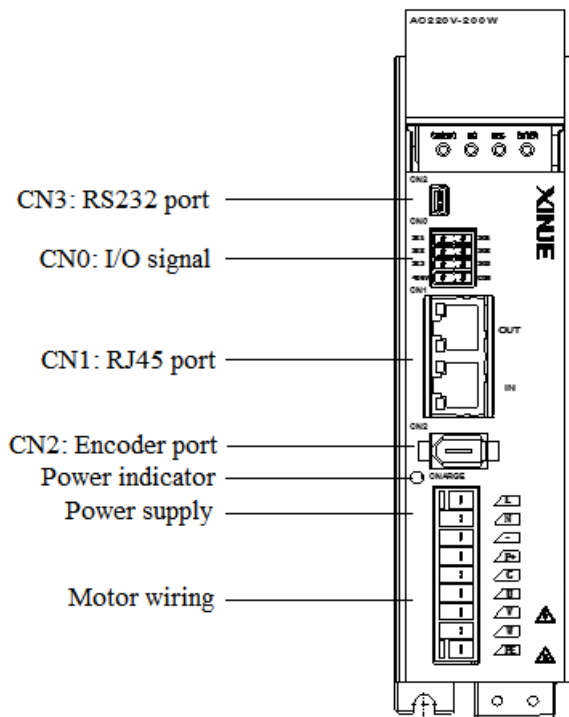
Wuxi Xinje Electric Co., Ltd.

Data No. SC5 09 20210818EN 1.0

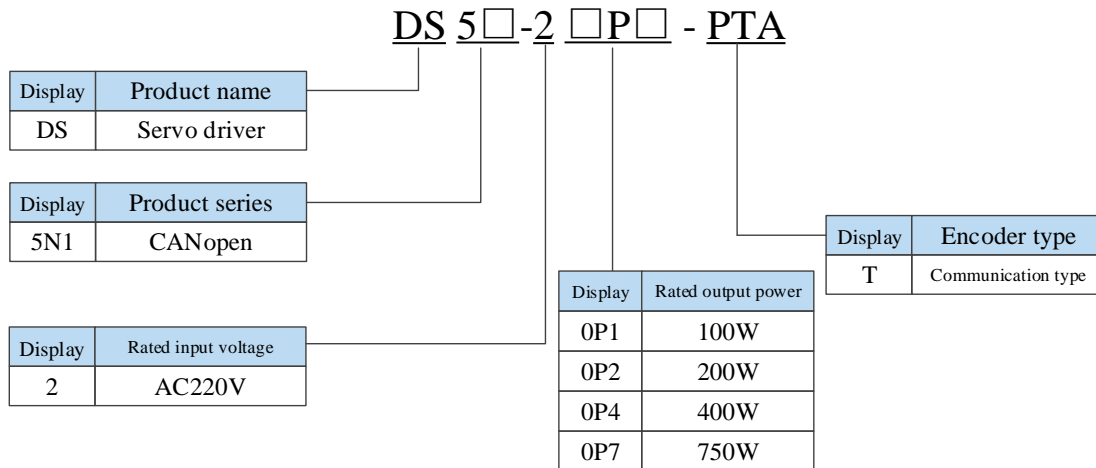
1 Selection of servo system

1.1 selection of servo driver

1.1.1 Part description



1.1.2 Naming rule

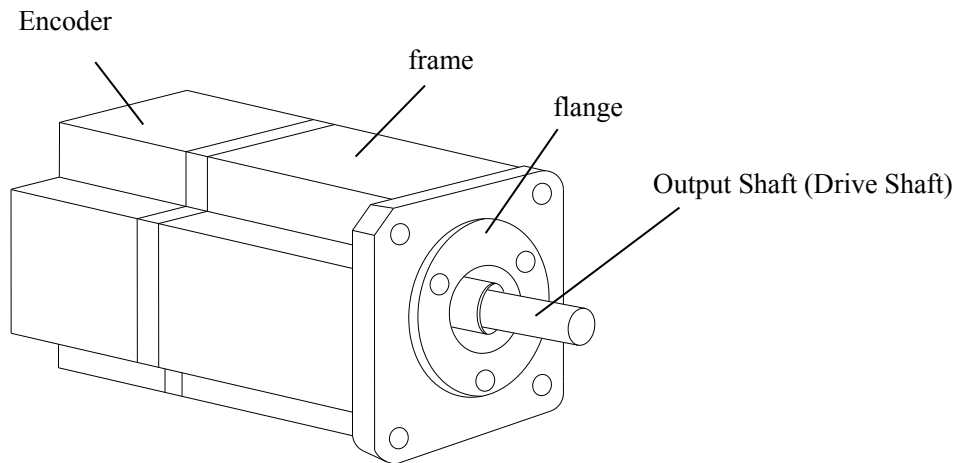


1.1.3 Performance specification

Servo unit		DS5N1 series servo driver
Applicable encoder		Standard: 17-bit/23-bit communication encoder
Input power supply		DS5N1-2□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	0~+50 °C
	Storage temperature	-20°C~+60°C
	Environment humidity	Below 90% RH (no condensation)
	Vibration resistance	4.9m/s ²
Structure		Pedestal installation

1.2 Selection of servo motor

1.2.1 Part description



1.2.2 Naming rule

■ MS5 series motor

MS5S - 80 ST E - C S 02430 B Z - 2 OP7 - S01

Name	Inertia
MS5S	Low inertia
MS5G	Middle inertia
MS5H	High inertia

Name	Seat number
60	60 seat
80	80 seat

Name	Product name
ST	Sine drive motor

Name	Product name
empty	No oil seal
E	With oil seal

Name	Encoder type
C	Magnetic encoder
T	Photoelectric encoder

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

Name	Design number
S01	standard
S02	Small Aviation Plug Type

Name	Rated power (KW)
OP2	0.2
OP4	0.4
OP7	0.75

Name	Voltage level
2	220V
4	380V

Name	Power-off brake
Empty	without
Z	with

Name	Shaft
A	No key
B	With key

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

■ MS6 series motor

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

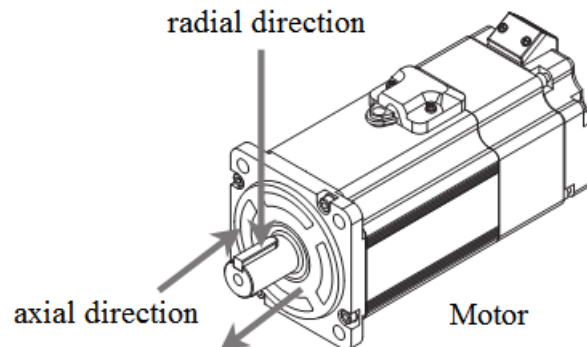
Display	Connector
1	Standard 1
2	Standard 2
D	Customized machine

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.

1.2.3 Axial force and radial force

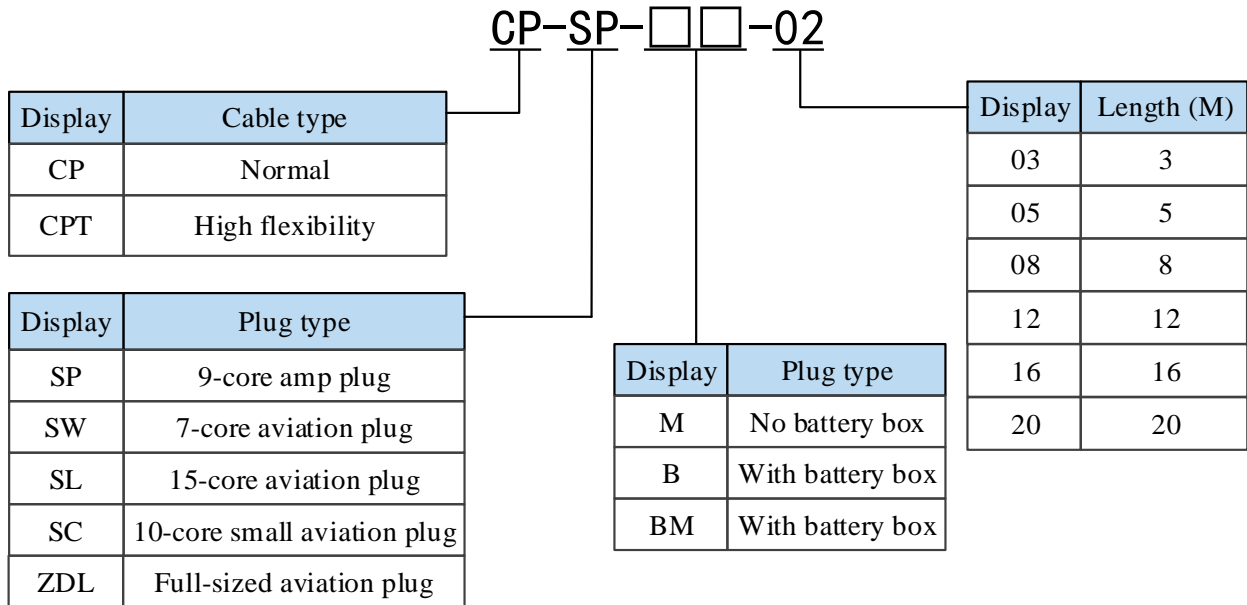


Base no.	40ST	60ST	80ST	100ST	110ST	130ST	180ST	220ST/265ST
Axial force	54N	74N	147N	≤200N	250N	300N	400N	≤500N
Radial force	78N	245N	392N	500N	500N	600N	800N	1000N

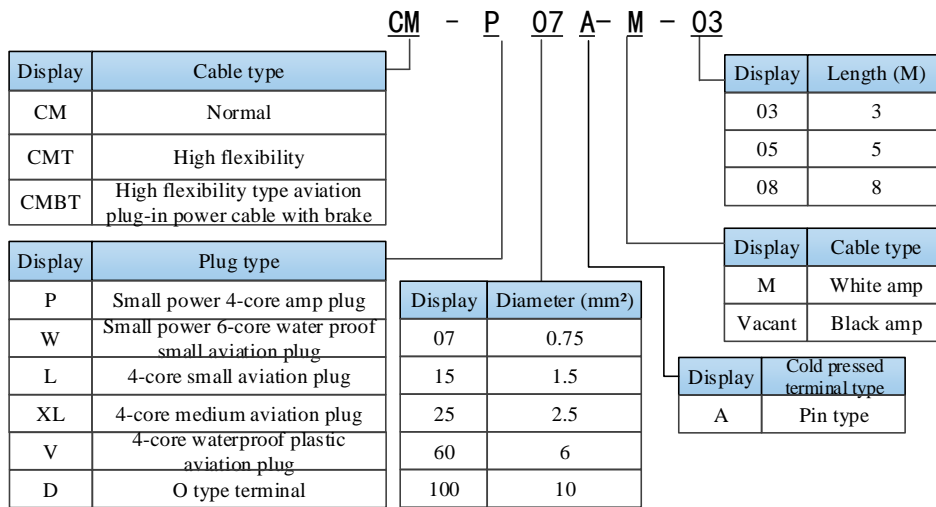
1.3 Cable selection

1.3.1 Naming rule

Encoder cable



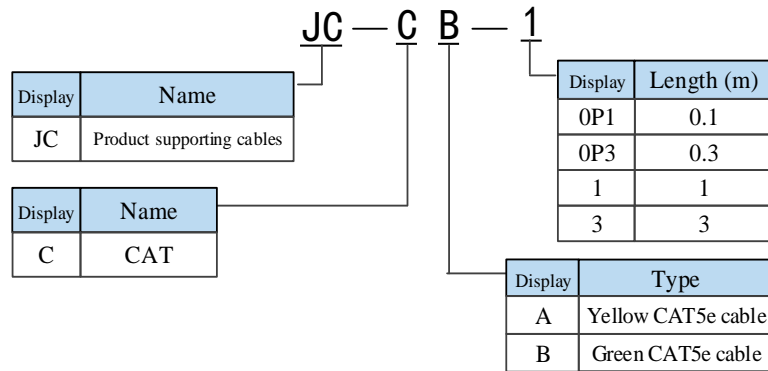
Power cable



Brake cable explanation

- ◆ Applicable to flange motors of 80 and below with motor suffix S01, brake cable model shall be selected: CB-P03-length (ordinary material) / CBT-P03-length (high flexible material).
- ◆ Applicable to 750W and below motors with motor suffix S02: CMBT-W07-M-length.
- ◆ For the MS5G series 130 flange medium inertia brake motor, the cable shall be selected the power cable and brake cable in one.
- ◆ The standard wiring length of Xinje is 2m, 3m, 5m, 8m, 10m, 12m, 16m and 20m.
- ◆ Non high flexible cables are 25m and 30m.

■ CANopen communication cable



1.3.2 Cable terminal definition

■ Encoder cable

(1) Pin definition of encoder on servo driver side

Connector appearance	Pin definition		
	No.	Definition	Note
	1	5V	Encoder 5V
	2	GND	Encoder GND
	3	/	
	4	/	
	5	485-A	RS485 B
	6	485-B	RS485 A

(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 B1 motor
	2	Battery -	
	3	Shielded cable	
	4	485-A	
	5	485-B	
	6	/	
	7	5V	
	8	GND	
	9	/	
	1	Shielded cable	MS5-40, 60, 80 flange -S02 motor MS6-40, 60, 80 flange B2 motor
	2	Battery +	
	3	Battery -	
	4	485-A	
	5	485-B	
	6	5V	
	7	GND	
	1	/	Flange 130 850W medium inertia motor
	2	5V	
	3	GND	
	4	485-A	
	5	485-B	
	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.


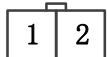
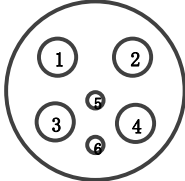
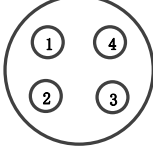
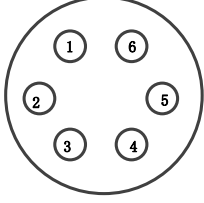
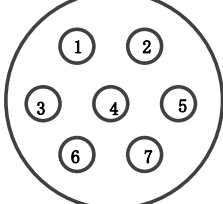
(2) Only the cable of absolute value motor has external battery box, which contains a 3.6V/2.7Ah large capacity battery, and has the function of replacing batteries when power cut. The using life is more than two years.

■ 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	
	2	BK	
	No.	Definition	Applicable to 40, 60 and 80 flange S02 motors
	1	PE	
	2	U	
	3	V	
	4	W	
	5	BK	
	No.	Definition	Applicable to 40, 60 and 80 flange B2 motors
	1	U	
	2	W	
	3	V	
	No.	Definition	Applicable to 40, 60 and 80 flange B2 brake motors
	1	U	
	2	W	
	3	V	
	4	PE	
	5	BK+	
	No.	Definition	Applicable to flange 130 850W medium inertia brake motors
	1	PE	
	2	U	
	3	V	
	4	W	
	5	BK+	
	6	BK-	
7	/		

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.