YAKOTEC®

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Version No: V1.0

Cost-effective

High Reliability

Fast Response

ES2 Series AC Servo System

Version No: V1.0

Make equipment smarter, more efficient and reliable

YAKO Tech

YAKO has been the main provider of Chinese motion control products and solutions for more than ten years, with our spirit of independent innovation.

We effectively improve the performance of key components of motion control and save design costs for customers:

■ Established long-term partnership with 3,000+ automation equipment manufacturers and distributors a mong the world.

■ More than 3 million sets of products are stable running in all kinds of high-precision grasping, conveying, feeding and other automation equipment and production lines.

Based on precision-controlled stepping and servo motor drive technology, YAKO integrates the most advanced precision control algorithms, multi-axis cooperative communication technology, pulse signal optimization technology, reliability design method, testing and whole process quality control technology into products and services. We continuously developed a series of motion control solutions and products with various precision and multiple control processes.

Contents

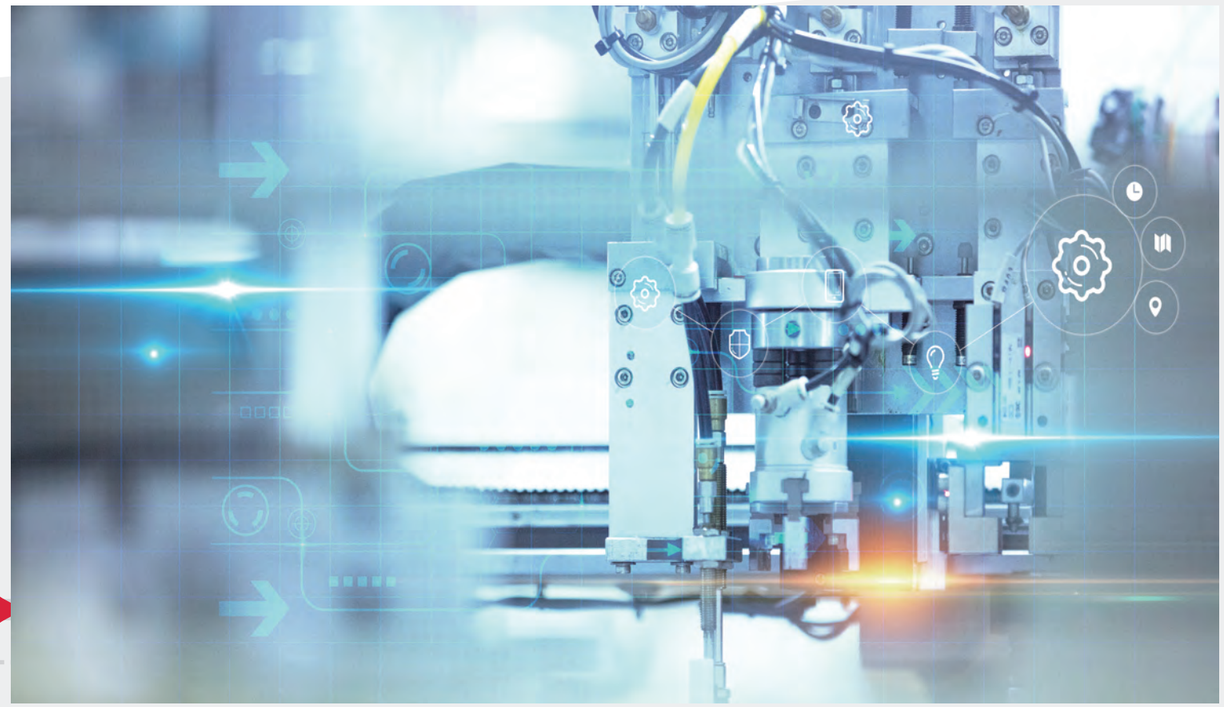
History of YAKO Servo

2011
PSDD Series
AC Servo Drive System

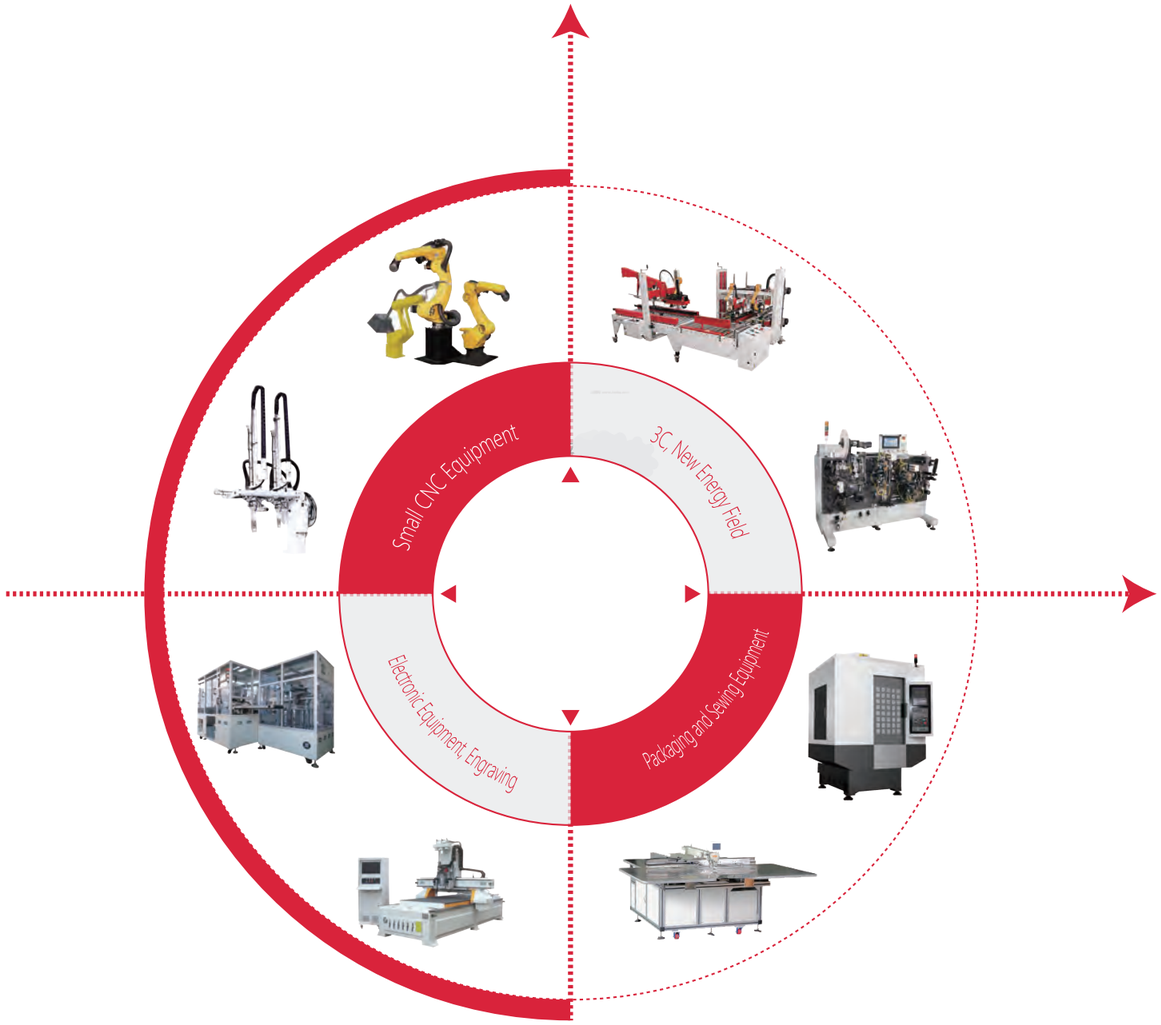
2015
AS1 Series
AC Servo Drive System

2017
ES1 Series
Easy
AC Servo Drive System

2018
ES2 Series
Highly Reliable
Economical
AC Servo Drive System



Industry Application



Electronic equipment, packaging equipment, advertising spray carving equipment, laser equipment, electronic processing, labeling machine, small CNC machine, LED equipment, printing machinery, food production lines, etc.

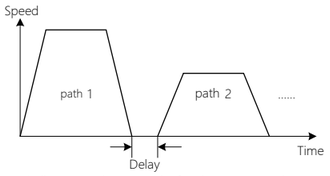
Features

Motor Encoder Specifications

- ES2 series servo drive power range is 200W~3kW
- Rigidity table setting, inertia identification, making servo drive easy to use
- Quiet and smooth operation with high response servo motor of 2500 lines incremental encoder

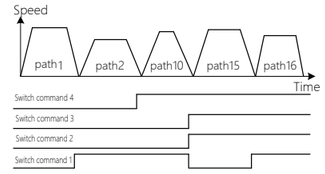
Multi-segment Position Control

- Up to 16 internal position control can be performed by function code internal setting or external DI terminal switching.
- In the multi-segment position mode, each segment has a position arrival signal output, thus to realize multiple servo series motion.



Automatically execute the next path after the previous path is completed

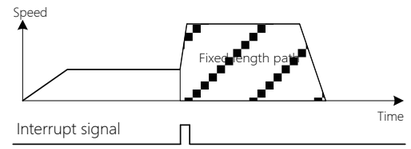
Internal sequential mode



DI switching mode

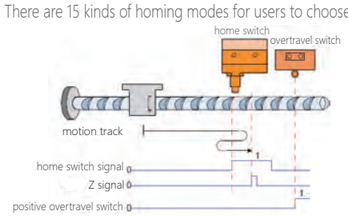
Interrupted Position Fixed Length Control

- Two high-speed DI interrupt fixed length function
- The interrupt trigger servo continues to run the set length in the previous speed direction. This function has the highest priority, the fastest execution and guaranteed minimum delay. It can make up for PLC processing and response delay. The interrupt execution does not respond to any other positional instructions, preventing normally sent instructions from affecting it.

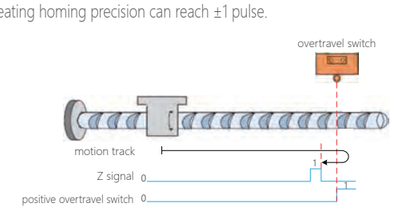


Multiple Internal Homing Mode

- Simplify the design of host computer, the servo can actively find the home point to complete the positioning function through the limit switch or home switch.
- There are 15 kinds of homing modes for users to choose, and the repeating homing precision can reach ±1 pulse.

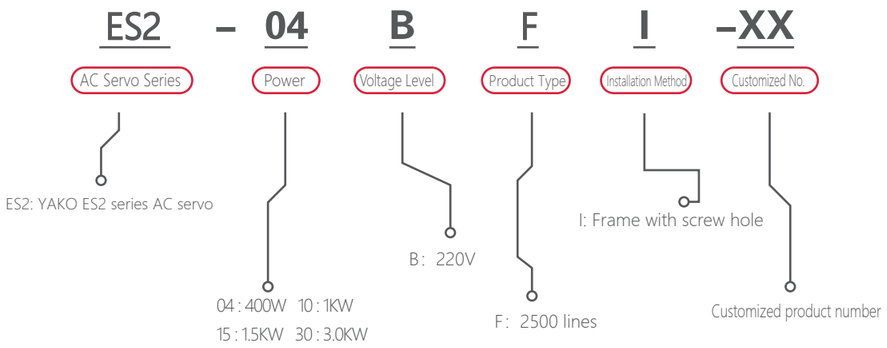


deceleration point = home switch, home point = motor Z signal.

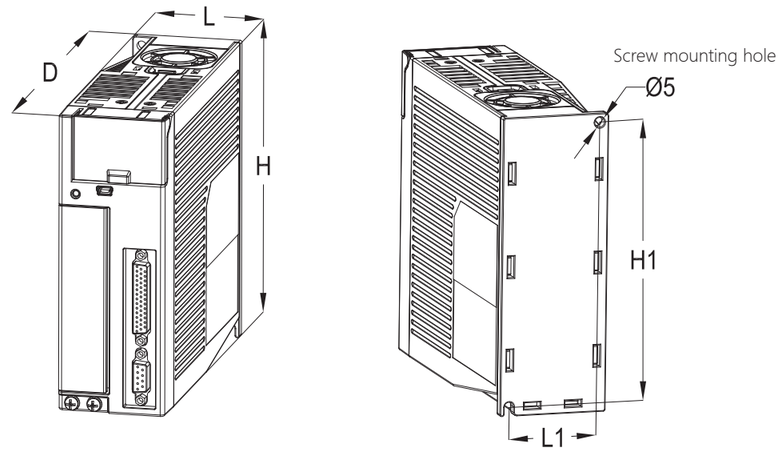


deceleration point = forward overtravel switch, home point = Z signal.

Servo Drive Naming Rules



ES2 Series Drive Shape and Installation Dimensions



■ Servo Drive Appearance, Installation Dimensions and Basic Specifications

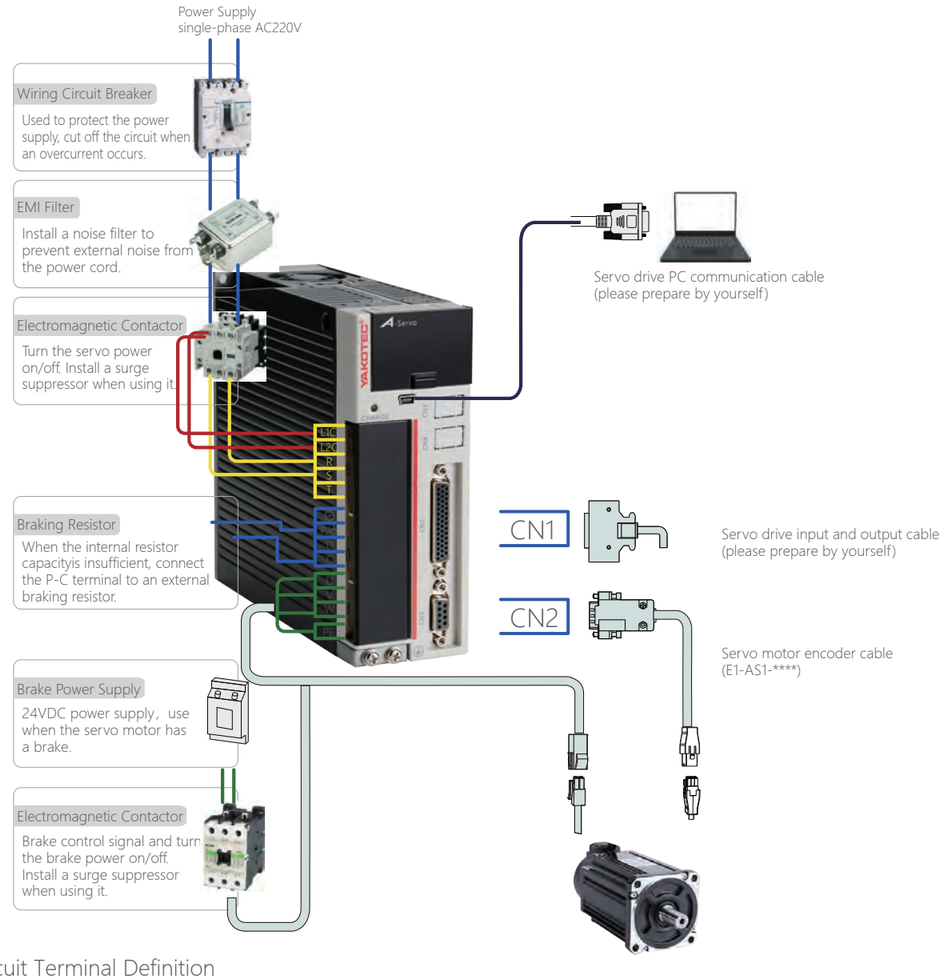
Model	L(mm)	H(mm)	D(mm)	L1(mm)	H1(mm)	D1(mm)	Screw Hole
ES2 Frame B	58	160	177	48	150	75	2-M4
ES2 Frame C	90	160	188	80	150	75	2-M4

Servo Drive Basic Specifications

Structure Size	SIZE-B		SIZE-C	
Drive Model	ES2-04BFI	ES2-10BFI	ES2-15BFI	ES2-30BFI
Output Current Arms	2.8	5.5	7.6	11.6
Maximum Output Current Arms	10	17	17	28
Regenerative Loop Function	External brake resistor	Built-in braking resistor		
Main Circuit Power Supply	Single-phase AC220-240V	3-phase AC220-240V, +10% ~ -15%, 50/60Hz		
Control Circuit Power Supply	Single-phase AC220-240V, +10% ~ -15%, 50/60Hz			

■ Functions Specifications			
Power Input	220VAC	Main Power	Single-phase / 3-phase, AC200 ~ 230V, 50/60HZ
		Control Power Supply	Single-phase, AC200~230V, 50/60HZ
Working Environment		Temperature	Operating: 0℃ ~ 50℃ Storage: -20℃ ~ 85℃
		Humidity	<0 ~ 90% RH (No dew environment)
		Working Altitude	<1000m above sea level
		Vibration/Shock	<1G
		IP Rating/Pollution degree	IP20/Pollution degree 2
Control Method			IGBT PWM space vector control
Encoder			2500 lines incremental type
Input and output port	IO Signal	Input	8 (General)
		Output	5 (General)
	Pulse Signal	Input	2 (Low speed pulse port)
		Output	4 (3 frequency divide outputs, 1 open collector output)
Communication Function		USB	Connect to PC
Panel Operator			LED display
Regenerative Loop Function			Built-in braking resistor for ≥1Kw models
Protect Function			Over current, overload, over voltage, low voltage, over speed, over temperature, encoder abnormality, communication abnormality, excessive position deviation, etc.
Control mode			Position control

Servo Drive Connected to Peripheral Devices



■ Main Circuit Terminal Definition

Name	Terminal Mark	Function Specification
Main Circuit Power Input Terminal	R、S	Single-phase power input, input according to specifications
	R、S、T	Three-phase power input
Control Power Input Terminal	L1C、L2C	Control circuit power, input according to specifications
External Regenerative Resistor Connection Terminal	P⊕、D、C	The external regenerative resistor defaults to short wiring between P⊕-D. When the braking capacity is insufficient, make an open circuit between P⊕-D (remove the short wiring) and connect an external braking resistor between P⊕-C. Please purchase an external braking resistor separately.
Common DC Bus Terminal	P⊕、⊖	
Servo Motor Connection Terminal	U、V、W	Servo motor connection terminal, connected to U, V, W.
Ground Terminal	PE	Two grounding terminals, connected to power grounding terminal and motor grounding terminal. Be sure to ground the entire system.

Servo Drive Terminal Definition

■ CN1 Control Terminal Definition

Definition		Pin	Function Specification	
Position Command	PULS+	41	Low speed pulse command (≤2Mpps): Pulse, CW, A Phase	Differential drive input or open collector input
	PULS-	43	Low speed pulse command (≤2Mpps): Pulse, CW, A Phase	
	SIGN+	37	Low speed pulse command (≤2Mpps): Dir, CCW, B Phase	
	SIGN-	39	Low speed pulse command (≤2Mpps): Dir, CCW, B Phase	
	PULLHI	35	COM+, power input port, internal current limiting resistor connected	
	GND	29	Differential signal ground	
Encoder Output	PAO+	21	Encoder pulse division output	
	PAO-	22	Encoder pulse division output	
	PBO+	25	Encoder pulse division output	
	PBO-	23	Encoder pulse division output	
	PZO+	13	Encoder pulse division output	
	PZO-	24	Encoder pulse division output	
	PZ-OUT	44	Home point pulse open collector output	
	GND	29	Home point pulse collector open circuit output signal ground; differential signal ground	
	+5V	15	Internal 5V power supply, maximum output current 200mA	

■ CN1 Control Terminal Definition

Definition		Pin	Function Specification	
Encoder Output	GND	16	Internal 5V power supply, maximum output current 200mA	
	PE	Shell		
General Output Input Signal			Default function	Function description
	DI1	9	P-OT	Forward drive forbidden
	DI2	10	N-OT	Backward drive forbidden
	DI3	34	INHIBIT	Pulse inhibit
	DI4	8	ALM-RST	Alarm reset (edge valid function)
	DI5	33	S-ON	Servo enable
	DI6	32	ZCLAMP	Zero fixed
	DI7	31	GAIN-SEL	Gain select
	DI8	30	Home Switch	Home switch
	DI9	12	Reserved	N/A

Servo Drive Terminal Definition

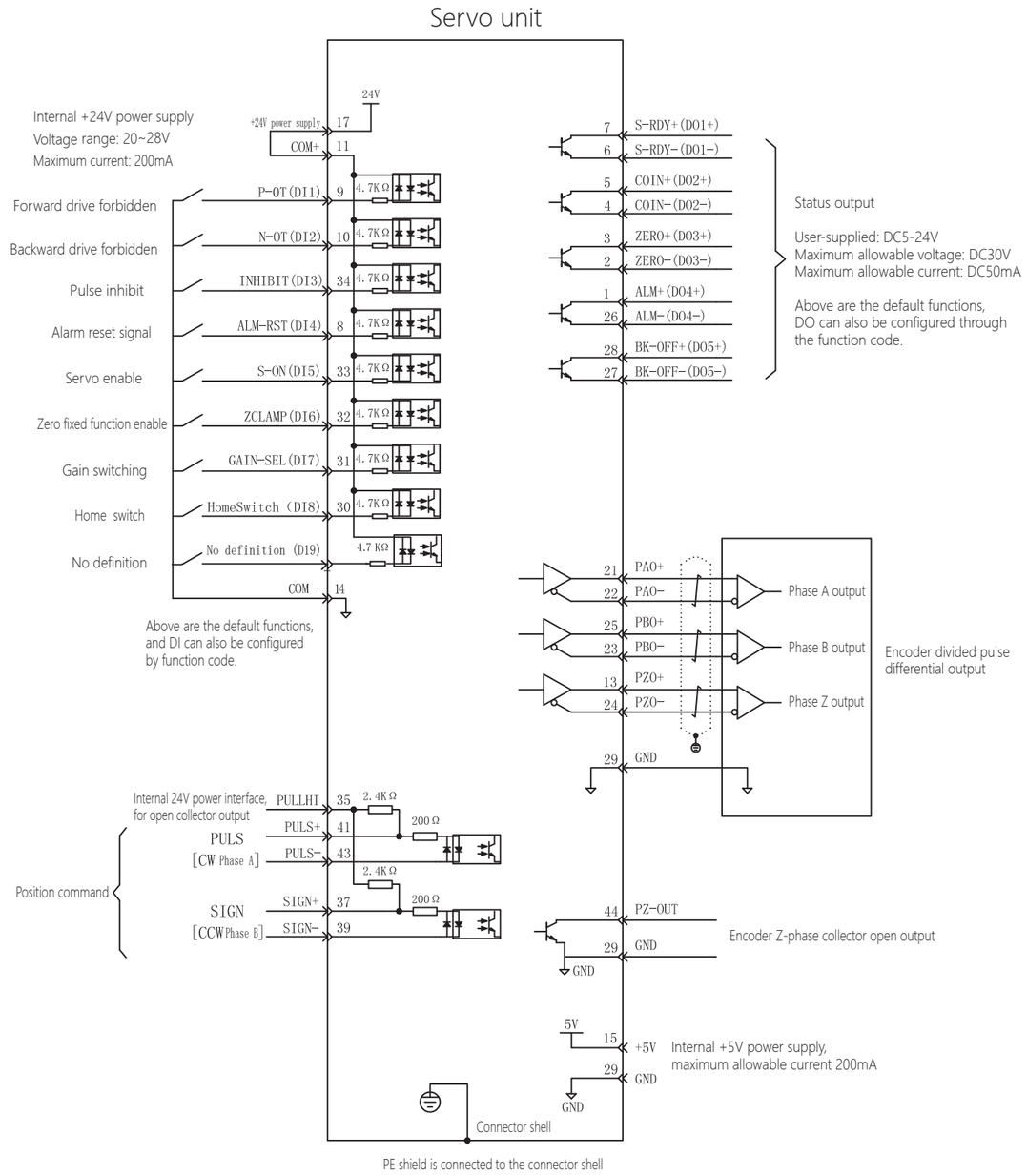
■ CN1 Control Terminal Definition

Definition		Pin		Function Specification
General Output Input Signal	+24V	17		Internal 24V power supply, voltage 20~28V, maximum output current 200mA
	COM-	14		Internal 24V ground; open collector pulse input ground
	COM+	11		Power input, 12~24V
	DO1+	7	S-RDY+	Servo ready
	DO1-	6	S-RDY-	Servo ready
	DO2+	5	COIN-	Position reached
	DO2-	4	COIN+	Position reached
	DO3+	3	ZERO+	Zero speed
	DO3-	2	ZERO-	Zero speed
	DO4+	1	ALM+	Fault output
	DO4-	26	ALM-	Fault output
	DO5+	28	BK-OFF+	Motor brake signal
	DO5-	27	BK-OFF-	Motor brake signal

■ CN2 Encoder Terminal Definition

Pin	2500 Lines Encoder Signal	Function Specification
1	A+	Encoder signal
2	A-	Encoder signal
3	B+	Encoder signal
4	B-	Encoder signal
5	Z+	Encoder signal
6	Z-	Encoder signal
7	+5V	Encoder +5V power output
8	0V	Encoder power ground output
9	Reserved	
Shell	PE	

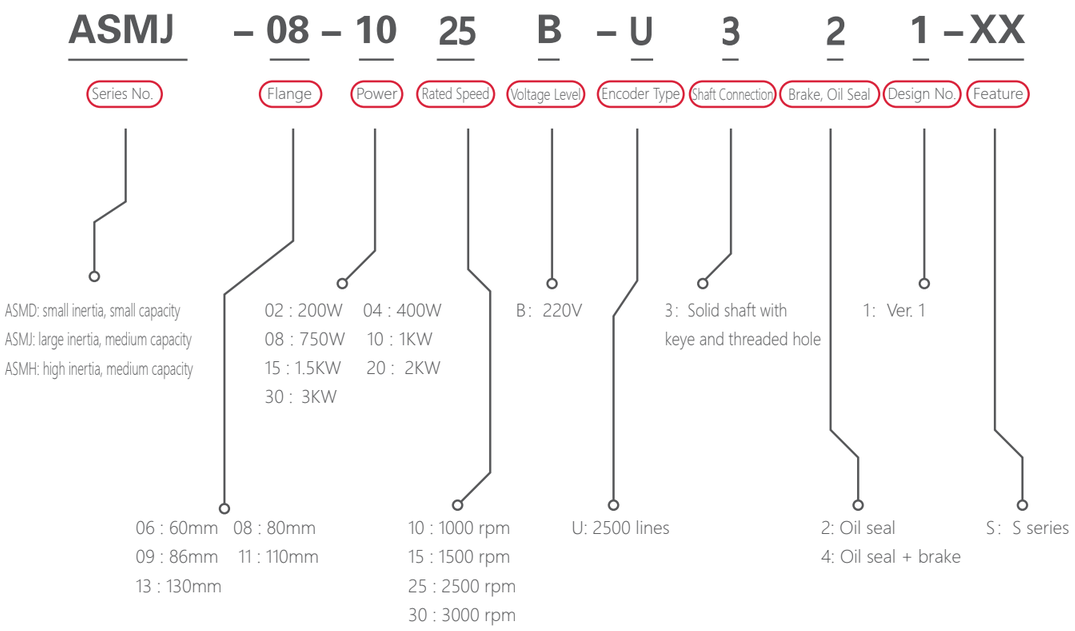
Position Control Mode Wiring



Servo System Configuration Table

Single-phase 220V	Three-phase 220V		Three-phase 220V		
 Size B	 Size B		 Size C		
ES2-04BFI	ES2-10BFI		ES2-15BFI		ES2-30BFI
					
ASMJ-06-0230B ASMJ-06-0430B	ASMD-06-0630B ASMJ-09-0830B	ASMJ-08-0830B ASMJ-08-1025B ASMJ-09-1025B	ASMJ-11-1230B ASMJ-11-1530B ASMJ-11-1830B	ASMJ-13-1025B ASMH-13-1010B ASMJ-13-1515B ASMJ-13-1525B	ASMJ-13-2025B ASMH-13-2315B ASMJ-13-2625B

Motor Naming Rules

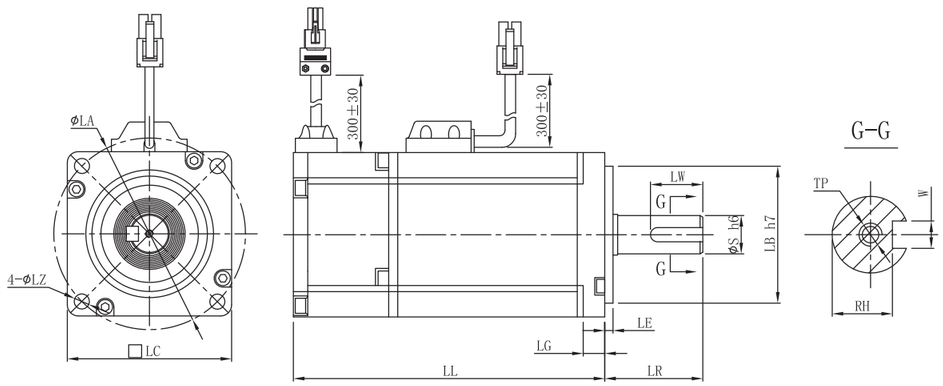


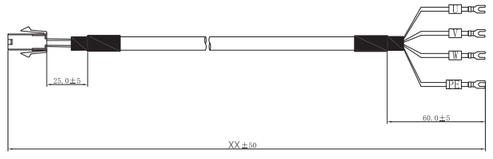
Motor Parameters

Parameters / Model	Rated Output (KW)	Rated Torque (Nm)	Maximum Torque (Nm)	Rated Current (Arms)	Maximum Current (Arms)	Rated Speed (min^{-1})	Maximum Speed (min^{-1})	Rotor Inertia ($10^{-4}Kgm^2$)	Voltage (V)	Matched Drive Model
60 Flange										
ASMJ-06-0230B-U321	0.2	0.64	1.92	1.7	5.1	3000	5000	0.42	220	ES2-04BFI
ASMJ-06-0430B-U321	0.4	1.27	3.81	2.8	8.4	3000	5000	0.68	220	ES2-04BFI
ASMJ-06-0430B-U341	0.4	1.27	3.81	2.8	8.4	3000	5000	0.70	220	ES2-04BFI
ASMD-06-0630B-U321-M	0.6	1.91	5.30	3.5	10.5	3000	5000	0.40	220	ES2-10BFI
80 Flange										
ASMJ-08-0830B-U321	0.75	2.39	7.17	4.5	13.5	3000	4500	1.53	220	ES2-10BFI
ASMJ-08-0830B-U341	0.75	2.39	7.17	4.5	13.5	3000	4500	1.59	220	ES2-10BFI
ASMJ-08-1025B-U321	1.0	4.0	12.0	4.4	13.2	2500	3000	2.97	220	ES2-10BFI
ASMJ-08-1025B-U341	1.0	4.0	12.0	4.4	13.2	2500	3000	2.97	220	ES2-10BFI
90 Flange										
ASMJ-09-0830B-U321	0.75	2.4	7.1	3.0	9.0	3000	3900	2.45	220	ES2-10BFI
ASMJ-09-0830B-U341	0.75	2.4	7.1	3.0	9.0	3000	3900	2.45	220	ES2-10BFI
ASMJ-09-1025B-U321	1.0	4.0	12.0	4.0	12.0	2500	3300	3.7	220	ES2-10BFI
ASMJ-09-1025B-U341	1.0	4.0	12.0	4.0	12.0	2500	3300	3.7	220	ES2-10BFI
110 Flange										
ASMJ-11-1230B-U321	1.2	4.0	12.0	5.0	15.0	3000	3500	5.4	220	ES2-15BFI
ASMJ-11-1530B-U321	1.5	5.0	15.0	6.0	18.0	3000	3100	6.3	220	ES2-15BFI
ASMJ-11-1830B-U321	1.8	6.0	18.0	6.0	18.0	3000	3200	7.6	220	ES2-15BFI
ASMJ-11-1830B-U341	1.8	6.0	18.0	6.0	18.0	3000	3200	7.6	220	ES2-15BFI
130 Flange										
ASMJ-13-1025B-U321	1.0	4.0	12.0	4.0	12.0	2500	2600	8.5	220	ES2-15BFI
ASMJ-13-1525B-U321	1.5	6.0	18.0	6.0	18.0	2500	2900	12.6	220	ES2-15BFI
ASMJ-13-1525B-U341	1.5	6.0	18.0	6.0	18.0	2500	2900	12.6	220	ES2-15BFI
ASMJ-13-2025B-U321	2.0	7.7	22	7.5	22.5	2500	2700	15.3	220	ES2-30BFI
ASMJ-13-2025B-U341	2.0	7.7	22	7.5	22.5	2500	2700	15.3	220	ES2-30BFI
ASMJ-13-2625B-U321	2.6	10	25	10	25	2500	2700	19.4	220	ES2-30BFI
ASMJ-13-2625B-U341	2.6	10	25	10	25	2500	2700	19.4	220	ES2-30BFI
ASMH-13-1010B-U321	1.0	10.0	20.0	4.5	9.0	1000	1300	19.4	220	ES2-15BFI
ASMH-13-1010B-U341	1.0	10.0	20.0	4.5	9.0	1000	1300	19.4	220	ES2-15BFI
ASMH-13-1515B-U321	1.5	10 .0	25 .0	6.0	15.0	1500	1800	19.4	220	ES2-15BFI
ASMH-13-1515B-U341	1.5	10 .0	25 .0	6.0	15.0	1500	1800	19.4	220	ES2-15BFI
ASMH-13-2315B-U321	2.3	15 .0	30 .0	9.5	19.0	1500	1700	27.7	220	ES2-30BFI

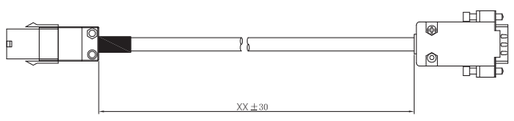
60mm Flange Motors Specifications and Installation Dimensions

Parameter / Model	Drive Model	Power Cable Model (Standard 3m)	Encoder Cable Model (Standard 3m)
ASMJ-06-0230B-U321	ES2-04BFI	P1-AS1-03P08M	E1-AS1-03UM
ASMJ-06-0430B-U321	ES2-04BFI	P1-AS1-03P08M	E1-AS1-03UM
ASMJ-06-0430B-U341	ES2-04BFI	P5-AS1-03P08M	E1-AS1-03UM
ASMD-06-0630B-U321-M	ES2-10BFI	P1-AS1-03P08M	E1-AS1-03UM

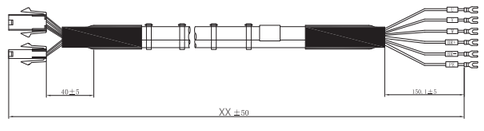




Model：P1-AS1-XXP08M



Model：E1-AS1-XXUM



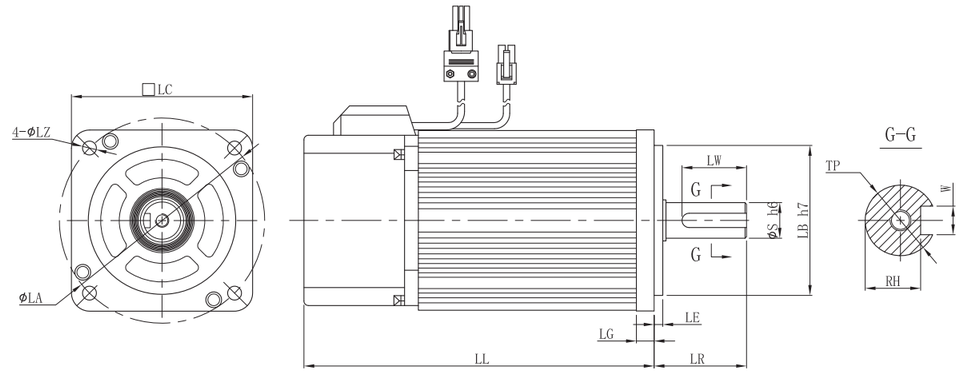
Model：P5-AS1-XXP08M

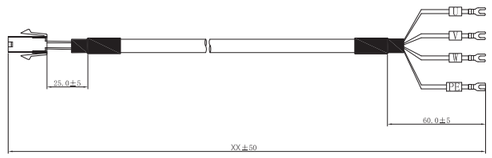
Note: Cable length is optional，XX=05、08、10

Model	LC	LZ	LA	S	LB	LL	LR	LE	LG	LW	RH	W	T	TP
ASMJ-06-0230B-U321	60	5.5	70	14	50	112	30	3	7	16.5	11	5	5	M5×8
ASMJ-06-0430B-U321	60	5.5	70	14	50	134	30	3	7	16.5	11	5	5	M5×8
ASMJ-06-0430B-U341	60	5.5	70	14	50	166	30	3	7	16.5	11	5	5	M5×8
ASMD-06-0630B-U321-M	60	5.5	70	14	50	169	30	3	10	20.5	11	5	5	-

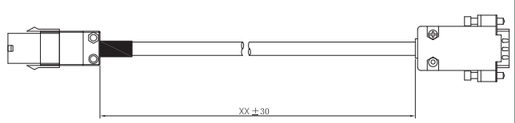
80mm Flange Motors Specifications and Installation Dimensions

Parameter / Model	Drive Model	Power Cable Model (Standard 3m)	Encoder Cable Model (Standard 3m)
ASMJ-08-0830B-U321	ES2-10BFI	P1-AS1-03P08M	E1-AS1-03UM
ASMJ-08-0830B-U341	ES2-10BFI	P5-AS1-03P08M	E1-AS1-03UM
ASMJ-08-1025B-U321	ES2-10BFI	P1-AS1-03P08M	E1-AS1-03UM
ASMJ-08-1025B-U341	ES2-10BFI	P5-AS1-03P08M	E1-AS1-03UM

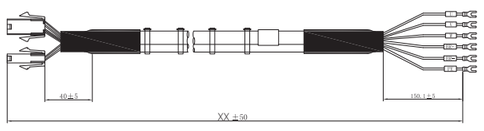




Model：P1-AS1-XXP08M



Model：E1-AS1-XXUM



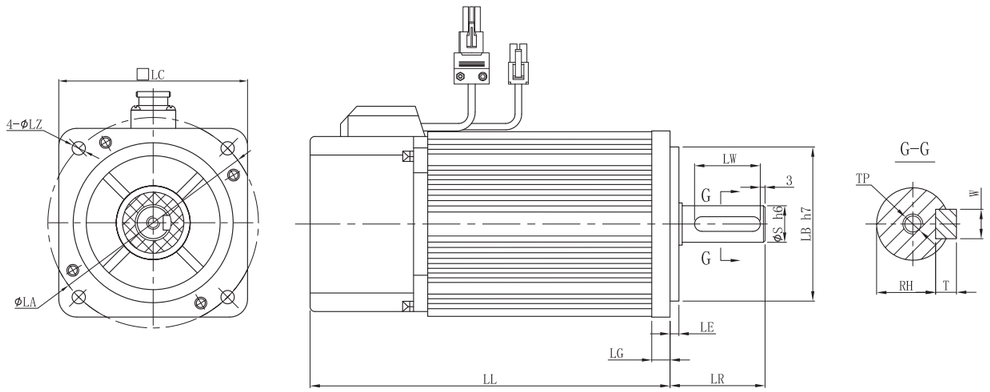
Model：P5-AS1-XXP08M

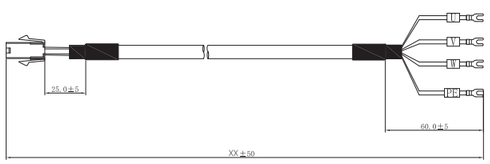
Note: Cable length is optional，XX=05、08、10

Model	LC	LZ	LA	S	LB	LL	LR	LE	LG	LW	RH	W	T	TP
ASMJ-08-0830B-U321	80	6.5	90	19	70	142.2	35	3	8	25	15.5	6	6	M6×10
ASMJ-08-0830B-U341	80	6.5	90	19	70	175	35	3	8	25	15.5	6	6	M6×10
ASMJ-08-1025B-U321	80	6	90	19	70	191	35	3	8	25	15.5	6	6	M6×10
ASMJ-08-1025B-U341	80	6	90	19	70	231	35	3	8	25	15.5	6	6	M6×10

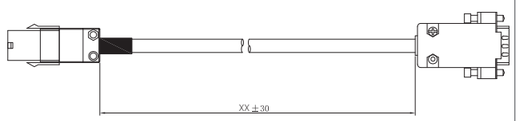
90mm Flange Motors Specifications and Installation Dimensions

Parameter / Model	Drive Model	Power Cable Model (Standard 3m)	Encoder Cable Model (Standard 3m)
ASMJ-09-0830B-U321	ES2-10BFI	P1-AS1-03P08M	E1-AS1-03UM
ASMJ-09-0830B-U341	ES2-10BFI	P5-AS1-03P08M	E1-AS1-03UM
ASMJ-09-1025B-U321	ES2-10BFI	P1-AS1-03P08M	E1-AS1-03UM
ASMJ-09-1025B-U341	ES2-10BFI	P5-AS1-03P08M	E1-AS1-03UM

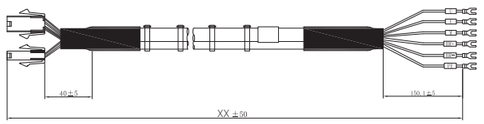




Model：P1-AS1-XXP08M



Model：E1-AS1-XXUM



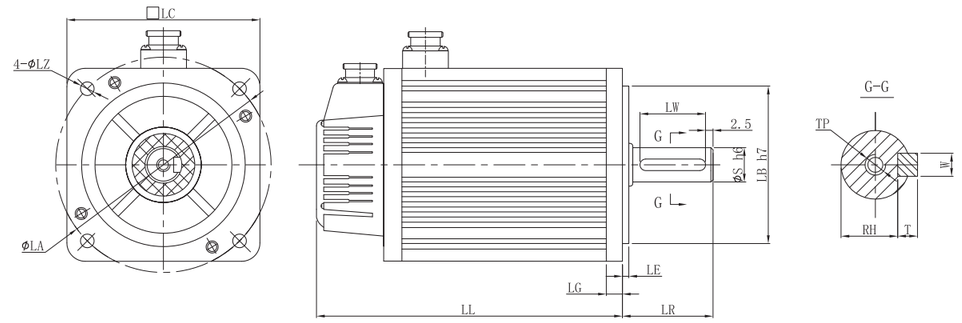
Model：P5-AS1-XXP08M

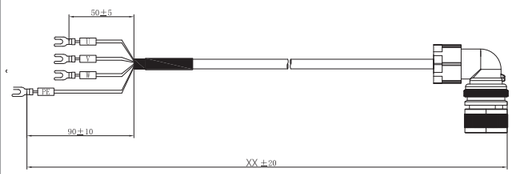
Note: Cable length is optional，XX=05、08、10

Model	LC	LZ	LA	S	LB	LL	LR	LE	LG	LW	RH	W	T	TP
ASMJ-09-0830B-U321	86.6	6.5	100	16	80	150	35	3	8	25	13	5	5	M5×22
ASMJ-09-0830B-U341	86.6	6.5	100	16	80	198	35	3	8	25	13	5	5	M5×22
ASMJ-09-1025B-U321	86.6	6.5	100	16	80	182	35	3	8	25	13	5	5	M5×22
ASMJ-09-1025B-U341	86.6	6.5	100	16	80	230	35	3	8	25	13	5	5	M5×22

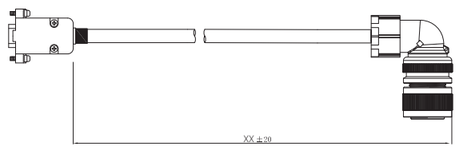
110mm Flange Motors Specifications and Installation Dimensions

Parameter / Model	Drive Model	Power Cable Model (Standard 3m)	Encoder Cable Model (Standard 3m)
ASMJ-11-1230B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMJ-11-1530B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMJ-11-1830B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMJ-11-1830B-U341	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM





Model：P2-AS1-XXP15F、P2-AS1-XXP30F



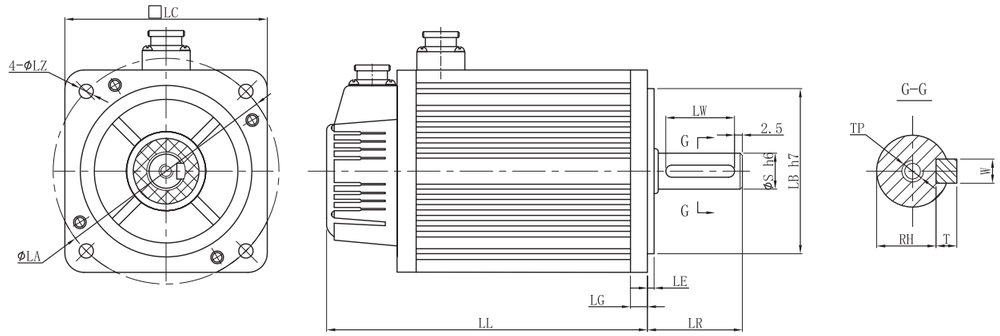
Model：E2-AS1-XXUM

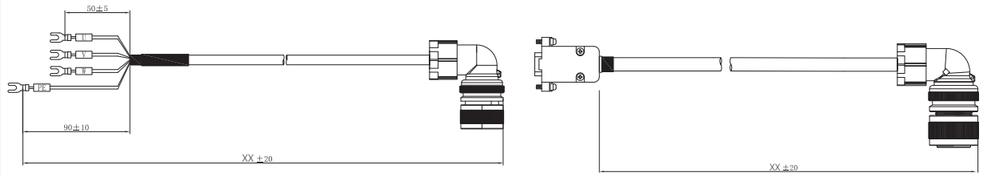
Note: Cable length is optional，XX=05、08、10

Model	LC	LZ	LA	S	LB	LL	LR	LE	LG	LW	RH	W	T	TP
ASMJ-11-1230B-U321	111.2	9	130	19	95	189	55	5	12	40	15.5	6	6	M6×25
ASMJ-11-1530B-U321	111.2	9	130	19	95	204	55	5	12	40	15.5	6	6	M6×25
ASMJ-11-1830B-U321	111.2	9	130	19	95	219	55	5	12	40	15.5	6	6	M6×25
ASMJ-11-1830B-U341	111.2	9	130	19	95	293	55	5	12	40	15.5	6	6	M6×25

130mm Flange Motors Specifications and Installation Dimensions

Parameter / Model	Drive Model	Power Cable Model (Standard 3m)	Encoder Cable Model (Standard 3m)
ASMJ-13-1025B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMJ-13-1525B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMJ-13-1525B-U341	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMJ-13-2025B-U321	ES2-30BFI	P2-AS1-03P30F	E2-AS1-03UM
ASMJ-13-2025B-U341	ES2-30BFI	P2-AS1-03P30F	E2-AS1-03UM
ASMJ-13-2625B-U321	ES2-30BFI	P2-AS1-03P30F	E2-AS1-03UM
ASMJ-13-2625B-U341	ES2-30BFI	P2-AS1-03P30F	E2-AS1-03UM





Model：P2-AS1-XXP15F、P2-AS1-XXP30F

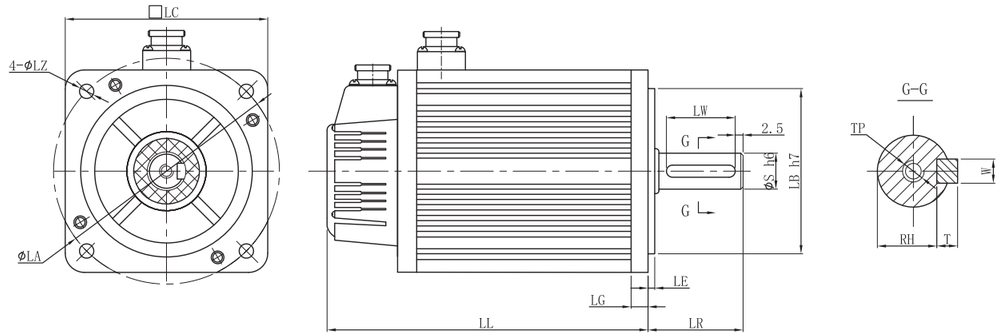
Model：E2-AS1-XXUM

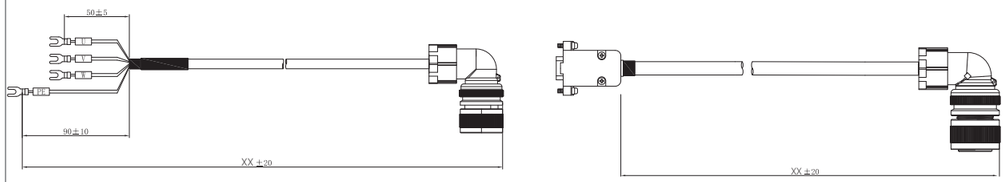
Note: Cable length is optional，XX=05、08、10

Model	LC	LZ	LA	S	LB	LL	LR	LE	LG	LW	RH	W	T	TP
ASMJ-13-1025B-U321	131	9	145	22	110	166	57	5	14	40	18.5	6	6	M6×22
ASMJ-13-1525B-U321	131	9	145	22	110	179	57	5	14	40	18.5	6	6	M6×22
ASMJ-13-1525B-U341	131	9	145	22	110	236	57	5	14	40	18.5	6	6	M6×22
ASMJ-13-2025B-U321	131	9	145	22	110	192	57	5	14	40	18.5	6	6	M6×22
ASMJ-13-2025B-U341	131	9	145	22	110	249	57	5	14	40	18.5	6	6	M6×22
ASMJ-13-2625B-U321	131	9	145	22	110	209	57	5	14	40	18.5	6	6	M6×22
ASMJ-13-2625B-U341	131	9	145	22	110	290	57	5	14	40	18.5	6	6	M6×22

130mm Flange Motors Specifications and Installation Dimensions

Parameter / Model	Drive Model	Power Cable Model (Standard 3m)	Encoder Cable Model (Standard 3m)
ASMH-13-1010B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMH-13-1010B-U341	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMH-13-1515B-U321	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMH-13-1515B-U341	ES2-15BFI	P2-AS1-03P15F	E2-AS1-03UM
ASMH-13-2315B-U321	ES2-30BFI	P2-AS1-03P30F	E2-AS1-03UM





Model：P2-AS1-XXP15F、P2-AS1-XXP30F

ModelModel：E2-AS1-XXUM

Note: Cable length is optional，XX=05、08、10

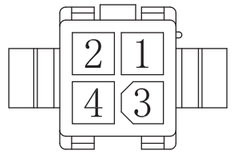
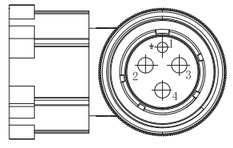
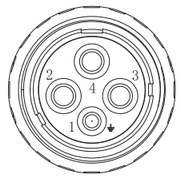
Model	LC	LZ	LA	S	LB	LL	LR	LE	LG	LW	RH	W	T	TP
ASMH-13-1010B-U321	131	9	145	22	110	213	57	5	14	40	18.5	6	6	M6×22
ASMH-13-1010B-U341	131	9	145	22	110	294	57	5	14	40	18.5	6	6	M6×22
ASMH-13-1515B-U321	131	9	145	22	110	213	57	5	14	40	18.5	6	6	M6×22
ASMH-13-1515B-U341	131	9	145	22	110	294	57	5	14	40	18.5	6	6	M6×22
ASMH-13-2315B-U321	131	9	145	22	110	241	57	5	14	40	18.5	6	6	M6×22

Accessory Kit and Cables

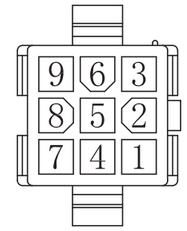
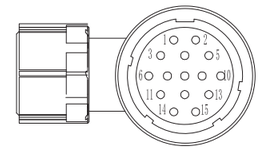
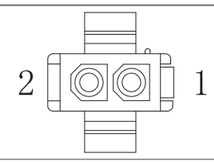
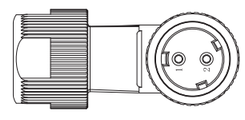
Accessory Kit

Kit Name	Included Accessory Model	Quantity	Accessories Photo	Accessory Name	Corresponding Cable Model	Matched Motor Series
SA-C1	DB head plug plastic shell	1		Adapter between encoder cable and driver	E1-AS1-03UM	40、60、80、90
	DB head -9P	1				
	AMP-172161-1	1		9P connector plastic shell		
	AMP-170361-1	10		Metal connector		
	AMP-316454-1	2		9P connector tail clip kit		
	AMP-172159-1	1		4P connector plastic shell	P5-AS1-03P08M P1-AS1-03P08M	
	AMP-170362-1	8		Metal connector		
	AMP-172157-1	1		2P connector plastic shell		
SA-C2	DB head plug plastic shell	1		Adapter between encoder cable and driver	E2-AS1-03UM	110、130 Note: 1. The brake fittings are fixedly installed on the motor; 2. Please prepare the brake cable by yourself.
	DB head -9P	1				
	YD28K15TS-E	1		Encoder cable aviation plug		
	YD28K4TS-E	1		Power cable aviation plug	P2-AS1-03P15F	

Power Cable Accessories

Connector Pin Distribution		Matched Motor Series	Connector Outline Drawing
4 Pin connector		40、60、80、90	
Pin No.	Signal Name		
1	U	Plastic shell：AMP-172159-1 Connector：AMP-170362-1	
2	V		
3	W		
4	PE		
4 Pin Aviation Plug		110、130	
Pin No.	Signal Name		
1	PE	Aviation plug： YD28K4TS-E	
2	U		
3	V		
4	W		
4 Pin Aviation Plug		130 -N series	
Pin No.	Signal Name		
1	PE	Aviation plug： HM23-4-P	
2	U		
3	V		
4	W		

Encoder Cable and Brake Accessories

Connector Pin Distribution		Matched Motor Series	Connector Outline Drawing
9 Pin Connector		40、60、80、90	
Pin No.	2500 Lines Signal		
3	A+	Plastic shell：AMP-172161-1 Connector：AMP-170361-1	
6	A-		
2	B+		
5	B-		
1	Z+		
4	Z-		
9	+5V		
8	GND		
7	PE		
15 Pin Aviation Plug		110、130	
Pin No.	2500 Lines Signal		
2	+5V	Aviation plug： YD28K15TS-E	
3	GND		
4	A+		
7	A-		
5	B+		
8	B-		
6	Z+		
9	Z-		
1	PE		
2 Pin Connector		40、60、80、90	
Pin No.	Signal Name		
1	BK+	Plastic shell：AMP-172157-1 Connector：AMP-170362-1	
2	BK-		
2 Pin Connector		130 -N series	
Pin No.	Signal Name		
1	BK+	HM23-2-P	
2	BK-		