

# ESTUN

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# ESTUN



## ProNet Plus Series

All Digital AC Servo Systems

# ESTUN

## ALL DIGITAL AC SERVO SYSTEMS

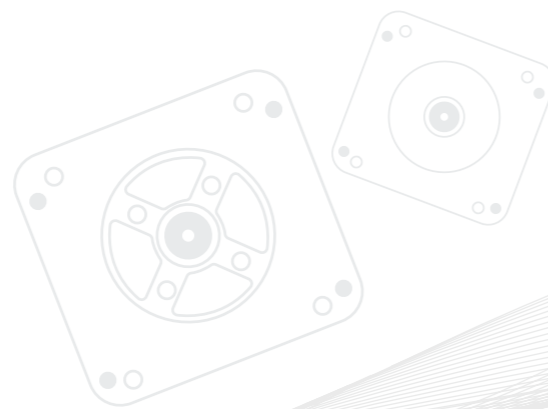
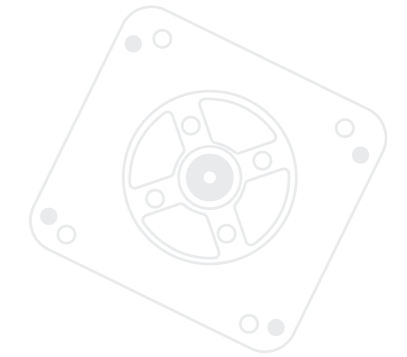
ESTUN is acknowledged as a leading Chinese supplier and service provider of high-tech automation core components, industrial robots and smart manufacturing systems.

As one of the most influential Chinese enterprise in motion control field, Estun has made great progress. For instance, automatic core components product lines supply motion control system solution, replacing the older generation-AC servo system. Accordingly, the business model is viewing axis-machine-unit evolution.

Today, ESTUN is growing to a powerful international group. Branches include: Trio Motion Technology Ltd. (wholly-owned subsidiary, UK), M.A.I GMBH & CO. KG (holding subsidiary, Germany), Barrett Technology, Llc (shareholding subsidiary, US), Euclid Systems Corporation (shareholding subsidiary, Italy) and an R&D center in Europe, etc. Globally, ESTUN group has 7 oversea branches with businesses in over 60 countries and regions. To follow the trend, ESTUN is committed to motion control solution, intelligent cooperative robots, rehabilitation robots and Industry4.0.

In the future, ESTUN will keep pace with the world. ESTUN is aimed at supplying the most advanced Chinese motion control system and forming the best Chinese brand. ESTUN spares no pains to be an international enterprise accepted and respected by market.

A better world worthies our best effort!



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**ALL  
MADE  
BY ESTUN**

# 01

## MODEL COMPARISON TABLE

Servo Motor	Voltage	Power	Model	Servo Drive	Encoder Cables	Power Cables	Brake Connector			
EMJ 3000r/min	Single-phase 200VAC	0.05	EMJ-A5ASA2□	PRONET-A5AMG PRONET-A5AEG-EC	PDP-JB24-XX	PDM-JB18-XX(Without Brake) PDMB-JB18-XX(With Brake)	—			
		0.1	EMJ-01ASA2□	PRONET-01AMG PRONET-01AEG-EC						
EM3A 3000r/min	Single-phase 200VAC	0.2	EM3A-02ALA2□1 EM3A-02AFA2□1	PRONET-02AMG PRONET-02AEG-EC	PDP-JB24-XX	PDM-JB18-XX(Without Brake) PDMB-JB18-XX(With Brake)	—			
		0.4	EM3A-04ALA2□1 EM3A-04AFA2□1	PRONET-04AMG PRONET-04AEG-EC	PBP-JB24-XX PDP-JB24-XX					
		0.75	EM3A-08ALA2□1 EM3A-08AFA2□1	PRONET-08AMG PRONET-08AEG-EC	PBP-JB24-XX PDP-JB24-XX					
	Three-phase 200VAC	1	EM3A-10ALA2□1 EM3A-10AFA2□1	PRONET-10AMG PRONET-10AEG-EC	PDP-JB24-XX PBP-JB24-XX					
		1.5	EMG-10ALB2□ EMG-10AFD2□	PRONET-10AMG PRONET-10AEG-EC	PDP-GA24-XX- II PBP-GM24-XX					
		2	EMG-20ALB2□ EMG-20AFD2□	PRONET-20AMG PRONET-20AEG-EC	PDP-GA24-XX- II PBP-GM24-XX					
EMG 2000r/min	Three-phase 200VAC	3	EMG-30ALA2□ EMG-30AFD2□	PRONET-30AMG PRONET-30AEG-EC	PDP-GA24-XX PBP-GJ24-XX	PDM-GD12-XX(Without Brake)	EMG/EML/EMB Brake Connector			
		5	EMG-50ALA2□ EMG-50AFD2□	PRONET-50AMG PRONET-50AEG-EC	PDP-GA24-XX PBP-GJ24-XX					
		Three-phase 400VAC	1	EMG-10DLB2□ EMG-10DFB2□	PRONET-10DMG PRONET-10DEG-EC			PDP-GA24-XX- II PBP-GM24-XX		
			1.5	EMG-15DLB2□ EMG-15DFB2□	PRONET-15DMG PRONET-15DEG-EC			PDP-GA24-XX- II PBP-GM24-XX		
			2	EMG-20DLB2□ EMG-20DFB2□	PRONET-20DMG PRONET-20DEG-EC			PDP-GA24-XX- II PBP-GM24-XX		
	Three-phase 400VAC	3	EMG-30DLA2□ EMG-30DFA2□	PRONET-30DMG PRONET-30DEG-EC	PDP-GA24-XX PBP-GJ24-XX	PDM-GD12-XX(Without Brake)	EMG/EML/EMB Brake Connector			
		5	EMG-50DLA2□ EMG-50DFA2□	PRONET-50DMG PRONET-50DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
		Three-phase 200VAC	1	EML-10ALB2□ EML-10AFD2□	PRONET-10AMG PRONET-10AEG-EC			PDP-GA24-XX- II PBP-GM24-XX	PDM-GA14-XX- II (Without Brake) PDMB-GA14-XX- II (With Brake)	—
			2	EML-20ALA2□ EML-20AFD2□	PRONET-20AMG PRONET-20AEG-EC			PDP-GA24-XX PBP-GJ24-XX		
			3	EML-30ALA2□ EML-30AFD2□	PRONET-30AMG PRONET-30AEG-EC			PDP-GA24-XX PBP-GJ24-XX		
4	EML-40ALA2□ EML-40AFD2□		PRONET-50AMG PRONET-50AEG-EC	PDP-GA24-XX PBP-GJ24-XX						
EML 1000r/min	Three-phase 200VAC	1	EML-10DLB2□ EML-10DFB2□	PRONET-10DMG PRONET-10DEG-EC	PDP-GA24-XX- II PBP-GM24-XX	PDM-GA14-XX- II (Without Brake) PDMB-GA14-XX- II (With Brake)	—			
		2	EML-20DLA2□ EML-20DFA2□	PRONET-20DMG PRONET-20DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
		3	EML-30DLA2□ EML-30DFA2□	PRONET-30DMG PRONET-30DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
		4	EML-40DLA2□ EML-40DFA2□	PRONET-50DMG PRONET-50DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
	Three-phase 400VAC	1	EML-10DLB2□ EML-10DFB2□	PRONET-10DMG PRONET-10DEG-EC	PDP-GA24-XX- II PBP-GM24-XX	PDM-GA14-XX- II (Without Brake) PDMB-GA14-XX- II (With Brake)	—			
		2	EML-20DLA2□ EML-20DFA2□	PRONET-20DMG PRONET-20DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
		3	EML-30DLA2□ EML-30DFA2□	PRONET-30DMG PRONET-30DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
		4	EML-40DLA2□ EML-40DFA2□	PRONET-50DMG PRONET-50DEG-EC	PDP-GA24-XX PBP-GJ24-XX					
EMB 1500r/min	Three-phase 400VAC	7.5	EMB-75DSA2□	PRONET-70DMA PRONET-70DEA-EC	PDP-GA24-XX	—	EMG/EML/EMB Brake Connector			
		7.5	EMB-75DSA2□	PRONET-75DMA PRONET-75DEA-EC						
		11	EMB-1ADSA2□	PRONET-1ADMA PRONET-1ADEA-EC						
		15	EMB-1EDSA2□	PRONET-1EDMA PRONET-1EDEA-EC						
		22	EMB-2BDSA22 EMB-2BDSB24	PRONET-2BDMA PRONET-2BDEA-EC						
		7.5	EMB-75DRA2□	PRONET-70DMB PRONET-75DMB				PRP-BA24-XX	—	EMG/EML/EMB Brake Connector
		7.5	EMB-75DRA2□	PRONET-70DMB PRONET-75DMB						
		11	EMB-1ADRA2□	PRONET-1ADMB PRONET-1EDMB						
		15	EMB-1EDRA2□	PRONET-1EDMB PRONET-1EDMB						
		22	EMB-2BDRA22 EMB-2BDRB24	PRONET-2BDMB						

Note:  
 1. □: Brake and oil seal options.  
 2. XX: Cable length(1M5,03,05,08,10,12,15,20),meters.And providing A flexible cable, marked with "-RX".  
 3. PBP: Incremental Encoder Cables; PDP: Absolute Encoder Cables; PRP: Resolver Cables.  
 4. Communication Cables: PSC-DR0A-03  
 5. I/O Connector Standard: 50 Pins EC bus: 20 Pins

6. Debug Cables  
 Standard: USB-RS485(RJ45)  
 EC BUS: MINI USB-Double Shielded magnetic rings-1M5.  
 7. Diameter advice of self-made power Cables:  
 0.05~1kW motor:1mm<sup>2</sup>;1-2kW motor:2mm<sup>2</sup>;2-5kW motor:4mm<sup>2</sup>;7.5kW motor:3.27mm<sup>2</sup>;  
 11kW motor:5.09mm<sup>2</sup>;15kW motor:6.9mm<sup>2</sup>;22kW motor:9.5mm<sup>2</sup>.

# 02 SERVO DRIVE



## Specification Description

ProNet Servo Drive	Rated Power	Power Voltage	Control Style	Encoder Interface	Extended Module
ProNet - 10	A	E	G	-	EC
Sign Spec.	Sign Spec.	Sign Spec.	Sign Spec.	Sign Spec.	Sign Spec.
A5: 0.05kW 01: 0.1kW 02: 0.2kW 04: 0.4kW 08: 0.75kW 10: 1.0kW 15: 1.5kW 20: 2.0kW 30: 3.0kW 50: 5.0kW 70: 7.0kW 75: 7.5kW 1A: 11kW 1E: 15kW 2B: 22kW	A: 200VAC D: 400VAC	M: Speed control, Torque control, Position Control  E: Support Extended Bus Function	G: 17 Bits/20 Bits/23 Bits Serial Encoder (self-adaption)	-EC: EtherCAT BUS  None: M control Style	

## Ratings

Servo drive Model: ProNet-	A5	A	01A	02A	04A	08A	10A	15A	20A	30A	50A	10D	15D	20D	30D	50D	70D	75D	1AD	1ED	2BD	
Applicable Servomotor :EM3A-	—	—	—	02A	04A	08A	10A	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Applicable Servomotor : EMJ-	A5A	01A	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Applicable Servomotor : EMG-	—	—	—	—	—	—	10A	15A	20A	30A	50A	10D	15D	20D	30D	50D	—	—	—	—	—	
Applicable Servomotor : EML-	—	—	—	—	—	—	10A	—	20A	30A	40A	10D	—	20D	30D	40D	—	—	—	—	—	
Applicable Servomotor : EMB-	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75D	75D	1AD	1ED	2BD
Continuous Output Current[Arms]	1.0	1.1	1.4	2.8	4.0	6.0	9.0	12.0	18.0	28.0	3.2	5.0	6.4	9.0	15.0	18.0	18.0	28.0	38.0	55.0		
Max. Output Current [Arms]	3.0	3.3	4.2	8.4	12.0	21.0	28.0	42.0	46.0	64.0	9.6	15.0	19.2	27.0	45.0	48.0	48.0	65.0	100.0	128.0		
Main Input Power Supply Capacity [kVA]	0.2	0.3	0.5	0.9	1.3	1.8	2.5	3.5	4.5	7.5	1.8	2.8	3.5	5.0	8.2	12.0	12.0	18.0	22.0	32.0		
DC24V Power Supply Capacity [W]	—	—	—	—	—	—	—	—	—	—	—	30.0	30.0	30.0	45.0	45.0	45.0	—	—	—		

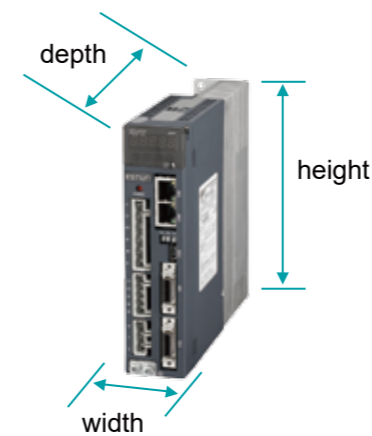


## Specification

Items			Specification
Input Power Supply	Main Circuit	200V	Single-Phase 200~230VAC (0.05kW~0.4kW) Three-phase 200~230VAC (0.75kW~5.0kW)
		400V	Three-phase 380~440VAC (1kW~5.0kW)
	Control Circuit	200V	Single-Phase 200~230VAC (0.05kW~5kW)
		400V	24VDC (1kW~5.0kW)
Control Method			SVPWM Control
Feedback			17bit Absolute encoder: 131072P/R 20bit incremental encoder: 1048576 P/R 23bit Absolute encoder: 8388608P/R Resolver
Operating Conditions	Ambient/Storage Temperature		Ambient temperature: 0~+55°C Storage temperature: -25~+85°C
	Ambient/Storage Humidity		5%~95% RH (no condensation)
	Elevation		1000m or less
	Vibration/Shock Resistance		Vibration Resistance: 4.9m/s <sup>2</sup> Impact Resistance: 19.6m/s <sup>2</sup>
Configuration			Base-mounted
Performance	Speed Control Range		1:5000
	Speed Regulation	Load Regulation	0~100% load: ±0.01% or less (at rated speed)
		Voltage Regulation	Rated voltage ±10%: 0% (at rated speed)
		Temperature Regulation	25±25°C: ±0.1% or less (at rated speed)
Torque Control	Analog Reference Input	Reference Voltage	±10VDC at rated torque (Variable setting range: ±0~10VDC) Max. input voltage: ±12V
		Input Impedance	About 10MΩ or above
		Circuit Time Constant	10μs
Speed Control	Analog Input	Reference Voltage	±10VDC at rated speed (Variable setting range: ±0~10VDC) Max. input voltage: ±12V
		Input Impedance	About 10MΩ or above
		Circuit Time Constant	10μs
	Speed Selection	Rotation Direction Selection	With /P-CON signal
		Speed Selection	Speed 1 to 7
Function	Soft Start Setting	0~10s (Can be set individually for acceleration and deceleration)	
Position Control	Pulse Reference	Type	Sign + pulse train; CCW + CW pulse train; 90° phase difference 2-phase (phase A + phase B)
		Form	Non-insulated linde driver (about + 5V), open collector
		Frequency	×1 multiplier: 4Mpps ×2 multiplier: 2Mpps ×4 multiplier: 1Mpps Open collector: 200Kpps Frequencies drop when the duty ratio error occurs
	Position Reference	Position Setting	16 position nodes can be set

Items		Specifications	
I/O Signals	Encoder Dividing Pulses Output	Phase-A, phase-B, phase-C: line driver output Number of dividing pulses: Any setting ratio is available	
	Sequence Input	Number of channels	Standard: 8 channels EC BUS: 5 channels
		Function	Signal allocations and positive/negative logic modifications: Servo ON (/S-ON), P control (/P-CON), alarm reset (/ALM-RST), position error clear (/CLR), forward run prohibited (P-OT), reverse run prohibited (N-OT), forward current limit (/P-CL), reverse current limit (/N-CL) and so on.
	Sequence Output	Number of channels	Standard: 4 channels EC BUS: 3 channels
Function		Signal allocations and positive/negative logic modifications: Positioning completion (/COIN), speed coincidence (/V-CMP), servomotor rotation detection (/TGON), servo ready (/S-RDY), torque limit output (/CLT), brake interlock output (/BK), encoder C pulse (/PGC) and Over travel signal (/OT).	
	Regenerative Processing Functions		0.75kW~7.5kW: built-in regenerative resistor; 11kW~22kW: external regenerative resistor
	Protection Functions		Overcurrent, overvoltage, low voltage, overload, regenerative error, overspeed, etc
	Utility Function		Alarm trace back, JOG operation, load inertia detection, etc
	Display Function		CHARGE (Red), POWER (Green), 7-segment LEDs × 5 (Built-in digital panel operator)
	Communication Function		RS-485 communication port, MODBUS protocol; CAN communication port, CANopen protocol; EtherCAT communication module, CiA402 protocol

## Servo Drive Size



Power (kW)	200V W×H×D (mm)	400V W×H×D (mm)
0.05	40X160X180	—
0.1	40X160X180	—
0.2	40X160X180	—
0.4	40X160X180	—
0.75	84X186X180	—
1.0	84X186X180	100X186X180
1.5	100X186X180	100X186X180
2.0	100X186X180	100X186X180
3.0	125X271X205	125X271X205
5.0	125X271X205	125X271X205
7.0	—	125X271X205
7.5	—	186x462x168
11	—	186x462x168
15	—	186x462x168
22	—	186x462x168

# 03 SERVO MOTOR



## Specification Description

EM3A - 02	A	F	A	2	4	1	
EM3A for Low Inertia Model Servo Motor	Rated Output Power	Voltage	Encoder	Designing Sequence	Shaft End	Option Parts	Connector Types
Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.
02: 0.2kW 04: 0.4kW 08: 0.75kW 10: 1kW	A: 200VAC	F: 20-bit Incremental Encoder  L: 23-bit Absolute Encoder	A: Designing Sequence	1: with key 2: without key	1: None 2: With Oil Seal 3: With Brake (DC24V) 4: With Oil Seal, With Brake (DC24V)	1: Lead Wire	

## EMG - 10 A F D 2 4

Servo Motor Model	Rated Output Power	Voltage	Encoder	Designing Sequence	Shaft End	Option Parts
Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.	Sign. Spec.
J: EMJ Model Servo Motor G: EMG Model Servo Motor L: EML Model Servo Motor B: EMB Model Servo Motor	A5: 0.05kW 01: 0.1kW 10: 1.0kW 15: 1.5kW 20: 2.0kW 30: 3.0kW 50: 5.0kW 70: 7.0kW 75: 7.5kW 1A: 11kW 1E: 15kW 2B: 22kW	A: 200VAC D: 400VAC	F: 20-bit Incremental Encoder S: 17-bit Absolute Encoder L: 23-bit Absolute Encoder R: Resolver	A, B, Designing Sequence D: Sequence	2: with key	1: None 2: With Oil Seal 3: With Brake (DC24V) 4: With Oil Seal, With Brake (DC24V)



## EMJ/EM3A Servo Motor Rated Value and Specification

Voltage		200VAC					
Servo Motor model		EMJ-		EM3A-			
		A5ASA□□	01ASA□□	02AFA□□1 02ALA□□1	04AFA□□1 04ALA□□1	08AFA□□1 08ALA□□1	10AFA□□1 10ALA□□1
Rated Output Power	kW	0.05	0.1	0.2	0.4	0.75	1
Rated Torque	N·m	0.16	0.32	0.637	1.27	2.39	3.18
Instantaneous Peak Torque	N·m	0.48	0.96	1.91	3.82	7.16	8.8
Rated Current	Arms	0.6	1.1	1.5	2.9	5.1	6.9
Instantaneous Max current	Arms	1.7	3.0	4.7	9.2	16.1	19.5
Rated Speed	r/min	3000					
Max. Speed	r/min	5000		6000			
Rotor Moment of Inertia	$\times 10^{-4} \text{kg} \cdot \text{m}^2$	0.019 (0.05)	0.035 (0.052)	0.147 (0.179)	0.244 (0.276)	0.909 (1.07)	1.14 (1.30)
Weight	kg	0.374 (0.566)	0.508 (0.7)	0.9 (1.3)	1.3 (1.7)	2.6 (3.2)	3.1 (3.8)
Brake Rated Voltage		DC24V $\pm$ 10%					
Brake Rated Power	W	4		7.4		9.6	
Brake Rated Torque	N·m	0.318		1.5		3.2	
Encoder		17-bit Absolute encoder		20-bit Incremental Encoder; 23-bit Absolute Encoder			
Insulation Class		F					
Ambient Temperature		0 ~ +40°C (No freezing)					
Ambient Humidity		20%~80% RH (Non-condensing)					
Vibration		Vibration: Dynamic $\leq 49 \text{m/s}^2$ (5G); Static $\leq 24.5 \text{m/s}^2$ ; Shock: $\leq 98 \text{m/s}^2$ (10G)					
Enclosure		Totally Enclosed, Self-cooled, IP65 (Except for shaft opening, when not equipped with oil seal; Except for connector, when not equipped with waterproof plug)					

Note: The values in parentheses are for servo motors with holding brakes.

## EMG Servo Motor Rated Value and Specification

Voltage		200VAC / 400VAC																							
Servo Motor model		EMG-		10AFD□□		10DFB□□		15AFD□□		15DFB□□		20AFD□□		20DFB□□		30AFD□□		30DFB□□		50AFD□□		50DFB□□			
		10ALB□□	10DLB□□	15ALB□□	15DLB□□	20ALB□□	20DLB□□	30ALA□□	30DLA□□	50ALA□□	50DLA□□	10ALB□□	10DLB□□	15ALB□□	15DLB□□	20ALB□□	20DLB□□	30ALA□□	30DLA□□	50ALA□□	50DLA□□	10ALB□□	10DLB□□		
Rated Output Power	kW	1.0	1.0	1.5	1.5	2.0	2.0	3.0	3.0	5.0	5.0	1.0	1.0	1.5	1.5	2.0	2.0	3.0	3.0	5.0	5.0	1.0	1.0		
Rated Torque	N·m	4.78	4.78	7.16	7.16	9.55	9.55	14.3	14.3	23.9	23.9	4.78	4.78	7.16	7.16	9.55	9.55	14.3	14.3	23.9	23.9	4.78	4.78		
Instantaneous Peak Torque	N·m	14.3	14.3	21.5	21.5	28.7	28.7	36.5	36.5	54.3	54.3	14.3	14.3	21.5	21.5	28.7	28.7	36.5	36.5	54.3	54.3	14.3	14.3		
Rated Current	Arms	5.8	3.0	8.2	4.3	11.3	5.7	18.0	8.8	28.0	15.0	5.8	3.0	8.2	4.3	11.3	5.7	18.0	8.8	28.0	15.0	5.8	3.0		
Instantaneous Max current	Arms	17.4	9.0	24.6	12.9	33.9	17.1	54.0	26.4	84.0	45.0	17.4	9.0	24.6	12.9	33.9	17.1	54.0	26.4	84.0	45.0	17.4	9.0		
Rated Speed	r/min	2000										3000													
Max. Speed	r/min	2000										3000													
Rotor Moment of Inertia	$\times 10^{-4} \text{kg} \cdot \text{m}^2$	13.2 (14.3)		18.4 (19.5)		23.5 (24.6)		41.3 (44.5)		65.7 (68.9)		13.2 (14.3)		18.4 (19.5)		23.5 (24.6)		41.3 (44.5)		65.7 (68.9)		13.2 (14.3)		18.4 (19.5)	
Weight	kg	7 (8.5)		8.9 (10.4)		10.8 (12.3)		16.63 (20.23)		24.3 (27.9)		7 (8.5)		8.9 (10.4)		10.8 (12.3)		16.63 (20.23)		24.3 (27.9)		7 (8.5)		8.9 (10.4)	
Brake Rated Voltage		DC24V $\pm$ 10%										DC24V $\pm$ 10%													
Brake Rated Power	W	19.5										35													
Brake Rated Torque	N·m	12										40													
Encoder		20-bit Incremental Encoder; 23-bit Absolute Encoder										20-bit Incremental Encoder; 23-bit Absolute Encoder													
Insulation Class		F										F													
Ambient Temperature		0 ~ +40°C (No freezing)										0 ~ +40°C (No freezing)													
Ambient Humidity		20%~80% RH (Non-condensing)										20%~80% RH (Non-condensing)													
Vibration		24.5m/s <sup>2</sup>										24.5m/s <sup>2</sup>													
Enclosure		Totally Enclosed, Self-cooled, IP65 (Except for shaft opening, when not equipped with oil seal)										Totally Enclosed, Self-cooled, IP65 (Except for shaft opening, when not equipped with oil seal)													

Note: The values in parentheses are for servo motors with holding brakes.

## EML Servo Motor Rated Value and Specification

Voltage		200VAC / 400VAC							
Servo Motor model	EML-	10AFD□□ 10ALB□□	10DFB□□ 10DLB□□	20AFD□□ 20ALA□□	20DFA□□ 20DLA□□	30AFD□□ 30ALA□□	30DFA□□ 30DLA□□	40AFD□□ 40ALA□□	40DFA□□ 40DLA□□
Rated Output Power	kW	1.0		2.0		3.0		4.0	
Rated Torque	N·m	9.55		19.1		28.7		38.2	
Instantaneous Peak Torque	N·m	28.7		57.3		79.2		114.6	
Rated Current	Arms	5.5	2.8	12.0	6.2	18.0	9.0	24.0	12.2
Instantaneous Max current	Arms	16.5	8.4	36.0	18.6	54.0	27.0	72.0	36.6
Rated Speed	r/min	1000							
Max. Speed	r/min	1500							
Rotor Moment of Inertia	$\times 10^{-4} \text{kg} \cdot \text{m}^2$	23.5 (24.6)		53.5 (56.7)		77.8 (81.0)		102.2 (105.4)	
Weight	kg	10.8 (12.3)		18.1 (21.7)		19.5 (23.1)		34.75 (38.35)	
Brake Rated Voltage		DC24V $\pm$ 10%							
Brake Rated Power	W	19.5				35			
Brake Rated Torque	N·m	12				40			
Encoder		20-bit Incremental Encoder; 23-bit Absolute Encoder							
Insulation Class		F							
Ambient Temperature		0 ~ +40°C(No freezing)							
Ambient Humidity		20%~80% RH(Non-condensing)							
Vibration		24.5m/s <sup>2</sup>							
Enclosure		Totally Enclosed,Self-cooled,IP65(Except for shaft opening,when not equipped with oil seal)							

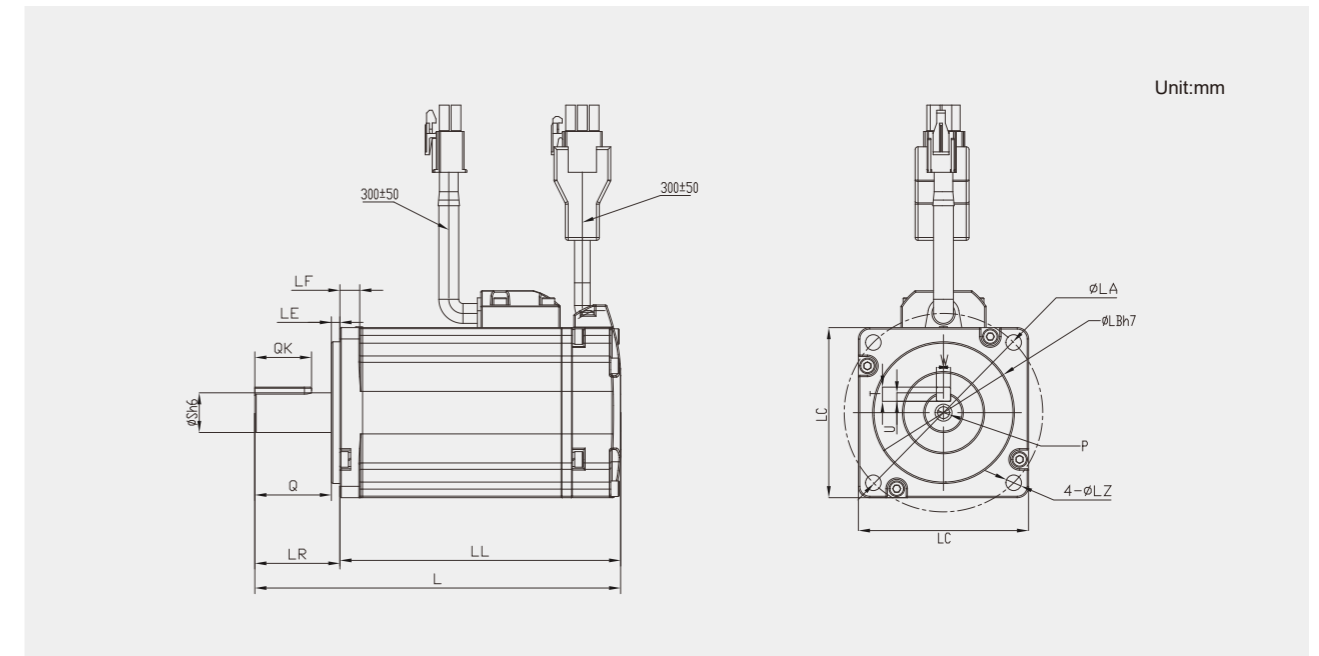
Note:The values in parentheses are for servo motors with holding brakes.

## EMB Servo Motor Rated Value and Specification

Voltage		400VAC			
Servo Motor model	EMB-	75D□A□□	1AD□A□□	1ED□A□□	2BD□□□□
Rated Output Power	kW	7.5	11.0	15.0	22.0
Rated Torque	N·m	47.8	70.0	95.5	140.0
Instantaneous Peak Torque	N·m	119.4	175	191	341.6
Rated Current	Arms	18.0	28.0	38.0	52.0
Instantaneous Max current	Arms	56.0	70.0	84.0	130
Rated Speed	r/min	1500			
Max. Speed	r/min	2000			
Rotor Moment of Inertia	$\times 10^{-4} \text{kg} \cdot \text{m}^2$	186.2 (193.6)	271.6 (278.9)	338.8 (346.1)	576.62(601.62)
Brake Rated Voltage		DC24V $\pm$ 10%			
Brake Rated Power	W	90			
Brake Rated Torque	N·m	100			150
Encoder		17-bit Absolute Encoder; Resolver			
Insulation Class		F			
Ambient Temperature		0 ~ +40°C(No freezing)			
Ambient Humidity		20%~80% RH(Non-condensing)			
Vibration		24.5m/s <sup>2</sup>			
Enclosure		Totally Enclosed,Self-cooled,IP65(Except for shaft opening,when not equipped with oil seal) Fan :IP20			

Note:The values in parentheses are for servo motors with holding brakes.

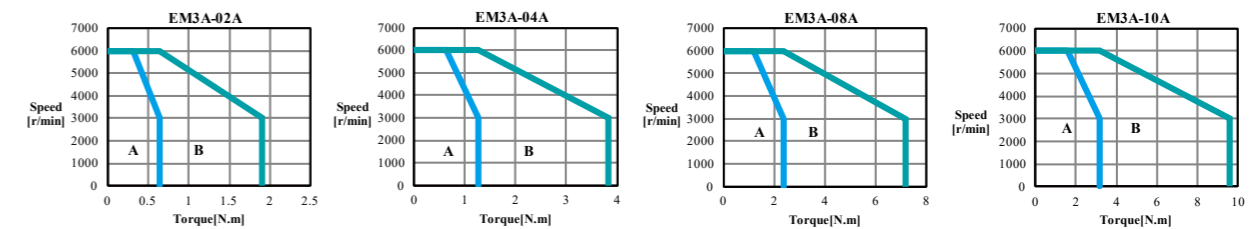
## EM3A Dimension



EM3A-	L	LL	Flange Side							S	Tap×Depth	Key				
			LR	LE	LF	LC	LA	LB	LZ			QK	W	T	U	Q
02ALA	108 (137)	78 (107)	30	3	7	60	70	50	5.5	14	M5X12	20	5	5	3	27
04ALA	129 (158)	99 (128)	30	3	7	60	70	50	5.5	14	M5X12	20	5	5	3	27
08ALA	141(184)	111(144)	40	3	8	80	90	70	6.6	19	M6X12	25	6	6	3.5	37
10ALA	155(198)	125(158)	40	3	8	80	90	70	6.6	19	M6X12	25	6	6	3.5	37
02AFA	126.5(155.5)	96.5(125.5)	30	3	7	60	70	50	5.5	14	M5X12	20	5	5	3	27
04AFA	147.5(176.5)	117.5(146.5)	30	3	7	60	70	50	5.5	14	M5X12	20	5	5	3	27
08AFA	159.5(202.5)	129.5(162.5)	40	3	8	80	90	70	6.6	19	M6X12	25	6	6	3.5	37
10AFA	173.5(216.5)	143.5(176.5)	40	3	8	80	90	70	6.6	19	M6X12	25	6	6	3.5	37

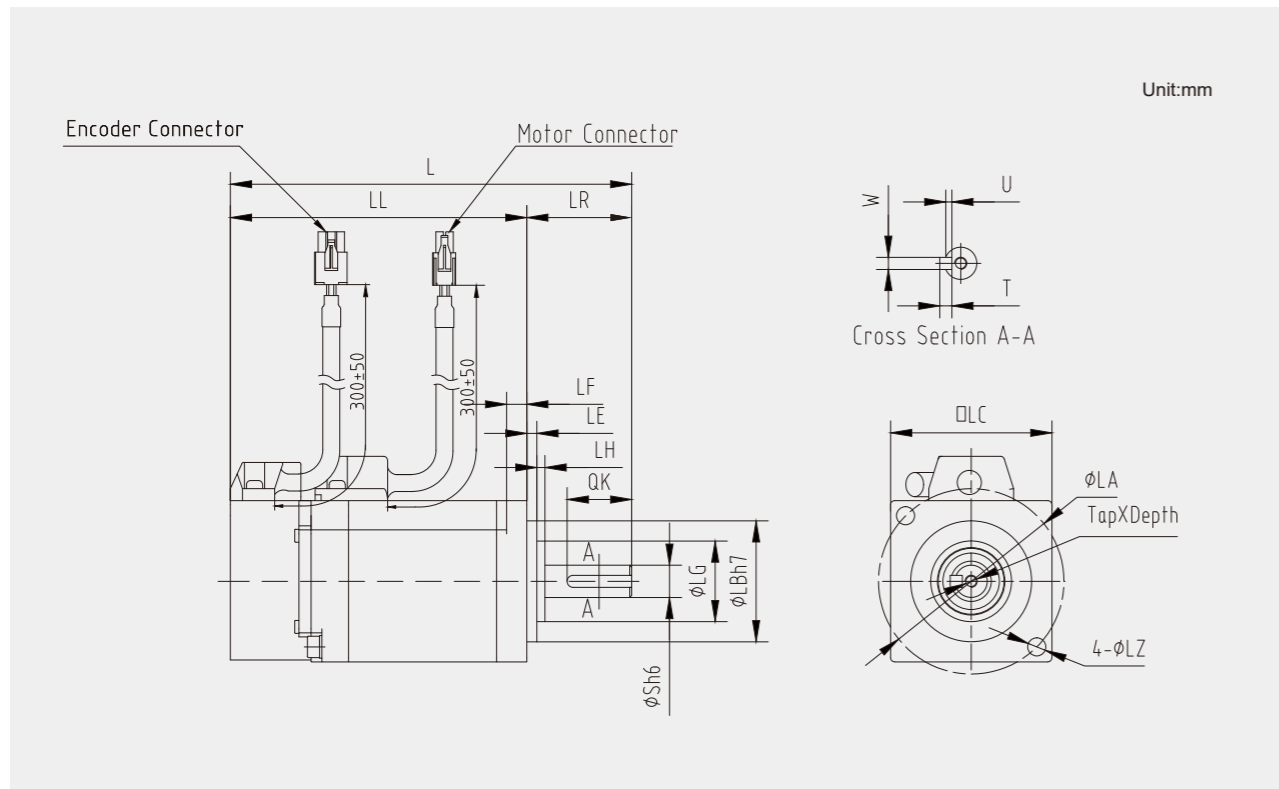
Note:The values in parentheses are for servo motors with holding brakes.

## EM3A Torque-Speed Feature



A:Continuous Working Area B:Repeatedly Working Area

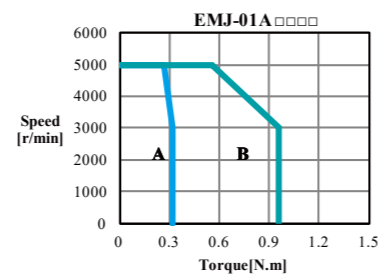
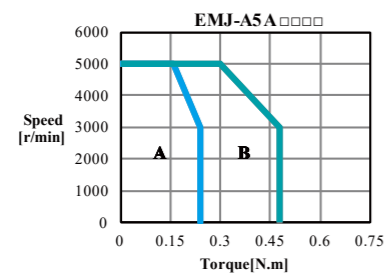
## EMJ-A5/01 Dimension



EMJ-	L	LL	Flange Side										S	Tap×Depth	Key			
			LR	LH	LG	LE	LF	LC	LA	LB	LZ	QK			W	T	U	
A5ASA	84.5(120.1)	59.5(95.1)	25	2	20	2.5	5	40	46	30	4.5	8	M3×10	16	3	3	1.8	
01ASA	98.5(134.1)	73.5(109.1)																

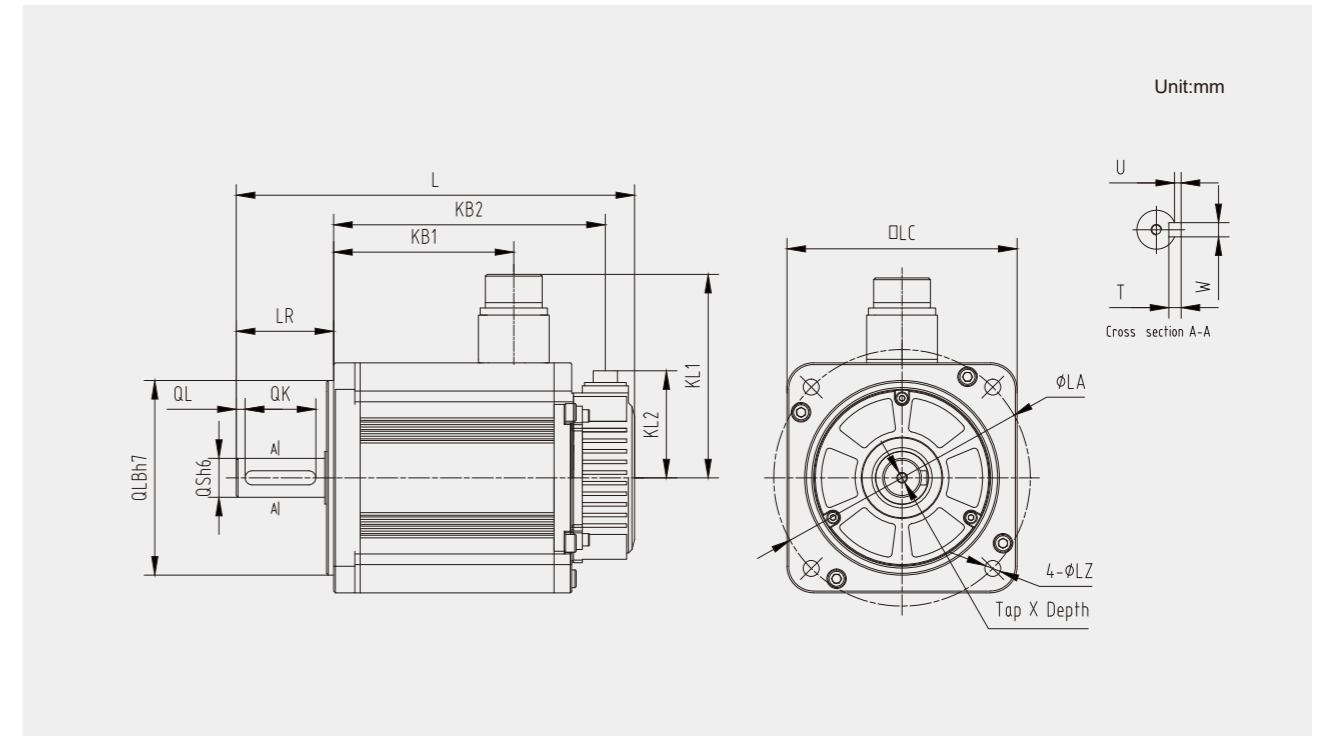
Note: The values in parentheses are for servo motors with holding brakes.

## EMJ-A5/01 Torque-Speed Feature



A: Continuous Working Area B: Repeatedly Working Area

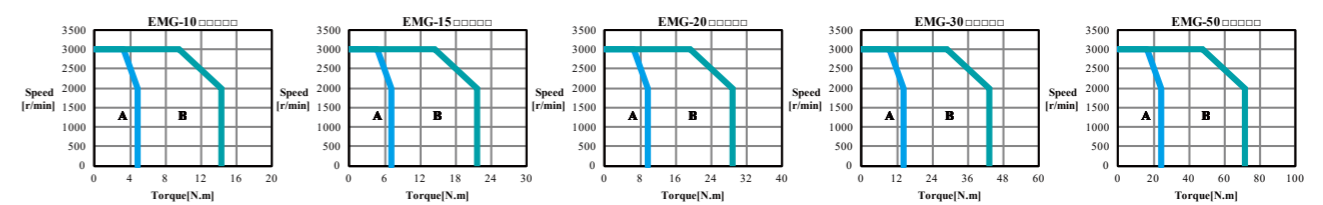
## EMG Dimension



EMG-	L	LL	KB1	KB2	KL1	KL2	Flange Side							S	Tap×Depth	Key						
							LR	LE	LF	LC	LA	LB	LZ			QK	QL	W	T	U		
10□□B/D	203 (245.5)	148 (190.5)	80 (103.2)	131.5 (174)																		
15□□B/D	225 (267.5)	170 (212.5)	102 (125.2)	153.5 (196)	117	60.5	55	4	12	130	145	110	9	22	M6×20	40	5	8	7	4		
20□□B/D	247 (289.5)	192 (234.5)	124 (147.2)	175.5 (218)																		
30□□A/D	307 (378)	228 (299)	143	203 (274)	140	79	79	3.2	18	180	200	114.3	13.5	35	M8×16	55	6	10	8	5		
50□□A/D	357 (428)	278 (349)	183	253 (324)																		

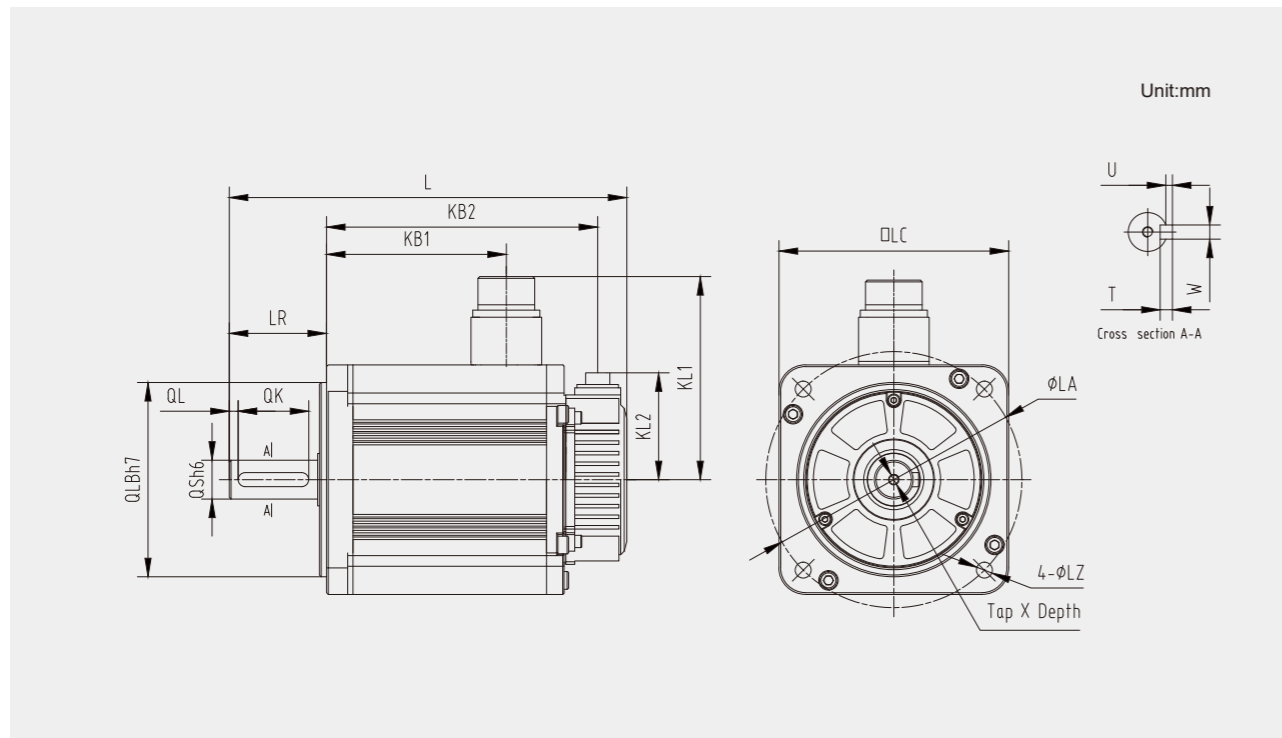
Note: The values in parentheses are for servo motors with holding brakes.

## EMG Torque-Speed Feature



A: Continuous Working Area B: Repeatedly Working Area

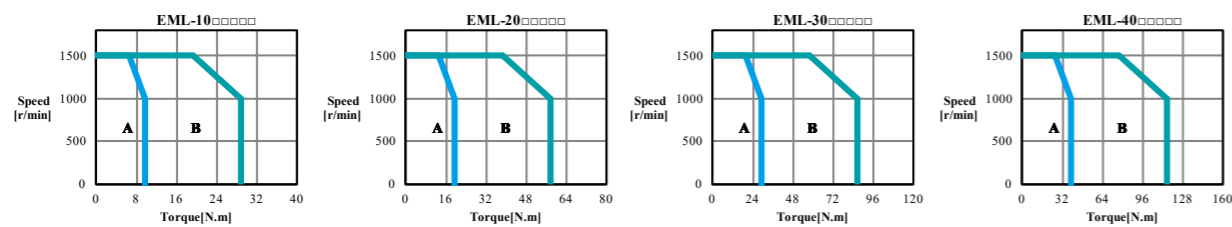
## EML Dimension



EML-	L	LL	KB1	KB2	KL1	KL2	Flange Side							S	Tap× Depth	Key				
							LR	LE	LF	LC	LA	LB	LZ			QK	QL	W	T	U
10□□B/D	247 (289.5)	192 (234.5)	124 (147.2)	175.5 (218)	117	60.5	55	4	12	130	145	110	9	22	M6×20	40	5	8	7	4
20□□A/D	332 (401)	253 (322)	168	228 (245)																
30□□A/D	372 (443)	293 (364)	208	268 (287)	140	79	79	3.2	18	180	200	114.3	13.5	35	M8×16	55	6	10	8	5
40□□A/D	412 (478)	333 (399)	243	308 (322)																

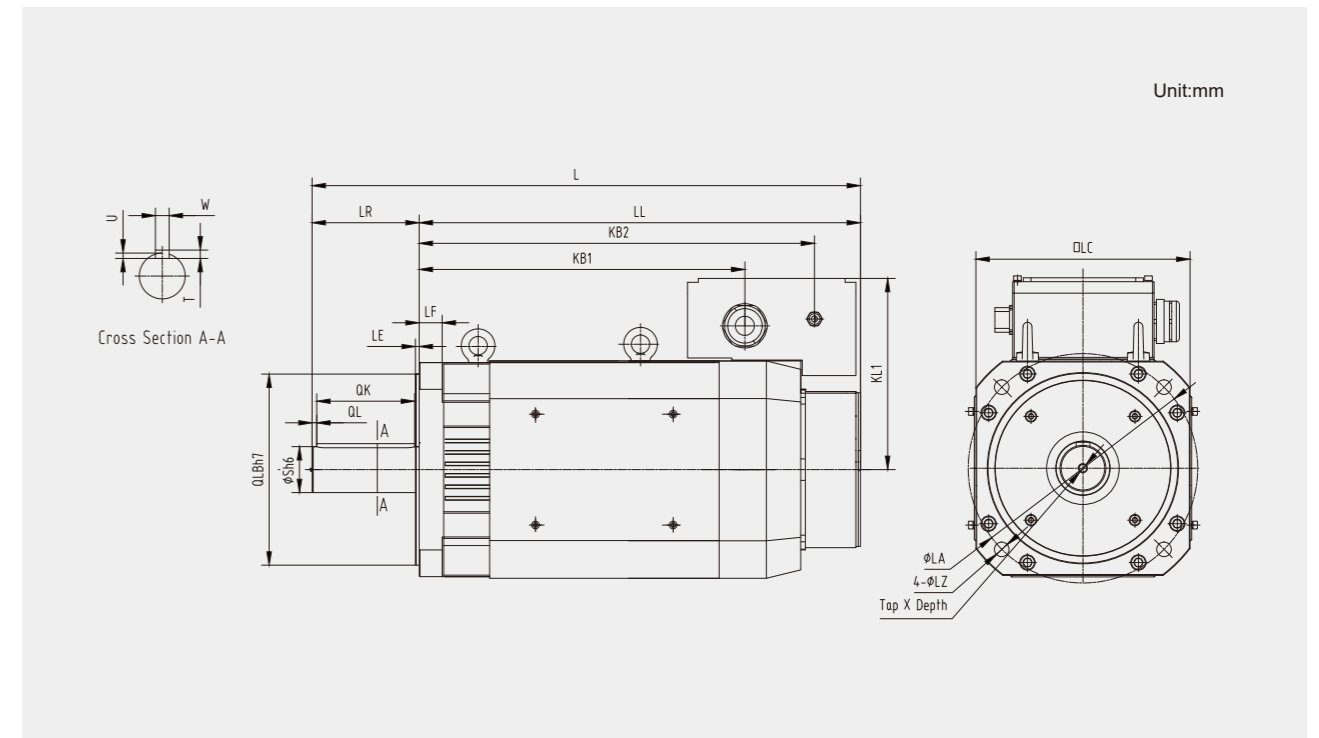
Note: The values in parentheses are for servo motors with holding brakes.

## EML Torque-Speed Feature



A: Continuous Working Area B: Repeatedly Working Area

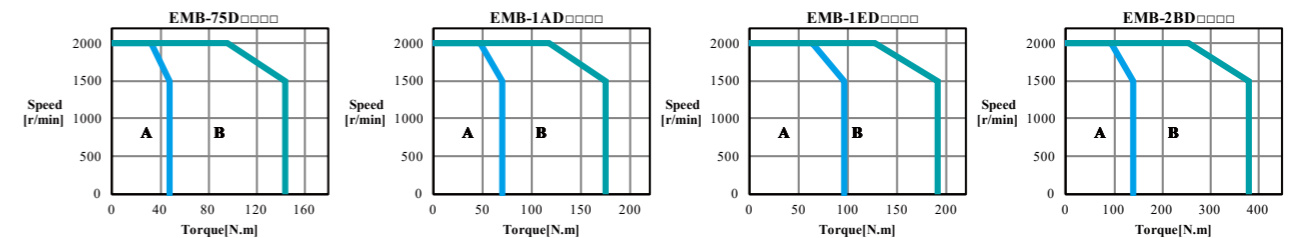
## EMB Dimension



EMB-	L	LL	KB1	KB2	KL1	Flange Side							S	Tap× Depth	Key					
						LR	LE	LF	LC	LA	LB	LZ			QK	QL	W	T	U	
75D□□	530 (625)	414 (509)	366 (461)	302 (397)										42	M16×32	90	6	12	8	5
1AD□□	580 (675)	464 (559)	416 (511)	352 (447)	184	116	4	20	220	235	200	13.5	42	M16×32	90	6	12	8	5	
1ED□□	615 (710)	499 (594)	451 (546)	387 (482)									55	M20×40	90	6	16	10	6	
2BD□□	720 (792.5)	572 (652.5)	432 (493.5)	523 (592.5)	250	140	5	30	280	300	250	19	60	M12×25	128	6	18	11	7	

Note: The values in parentheses are for servo motors with holding brakes.

## EMB Torque-Speed Feature



A: Continuous Working Area B: Repeatedly Working Area

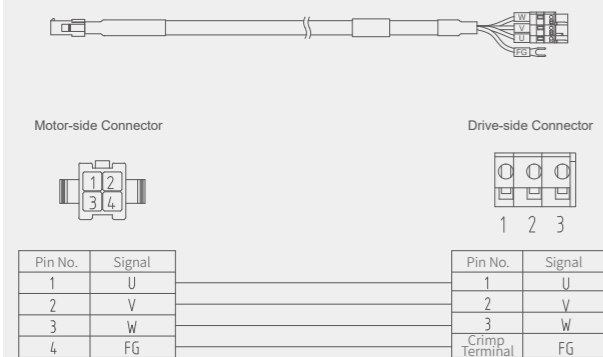


# 04 ACCESSORIES

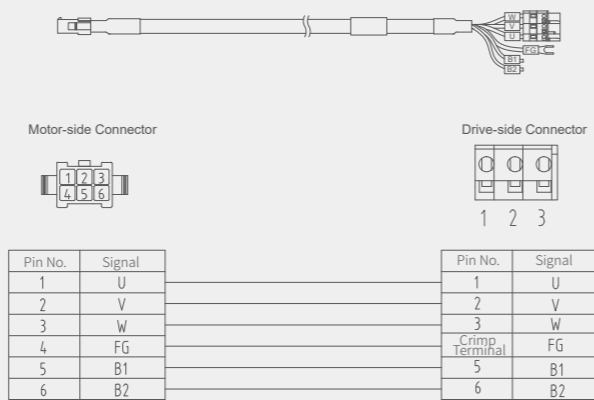
## Cables

### Power Cables

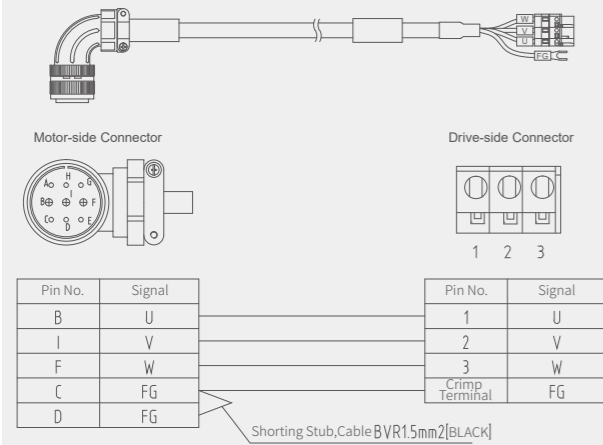
#### PDM-JB18-XX



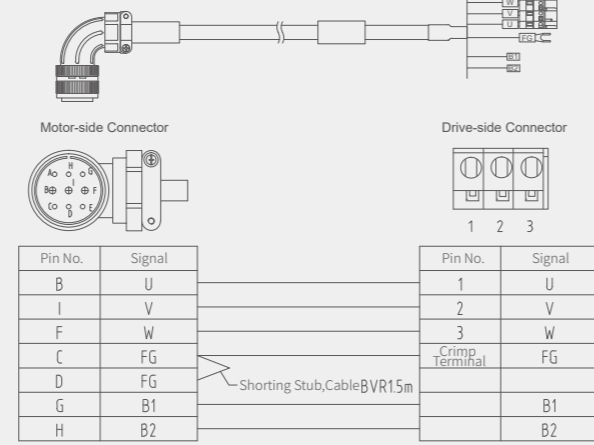
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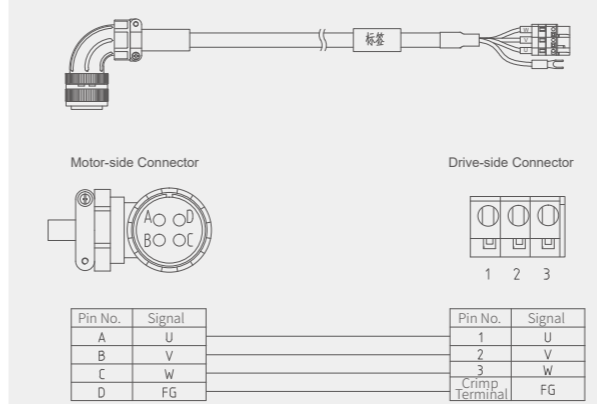
#### PDM-GA14-XX- II



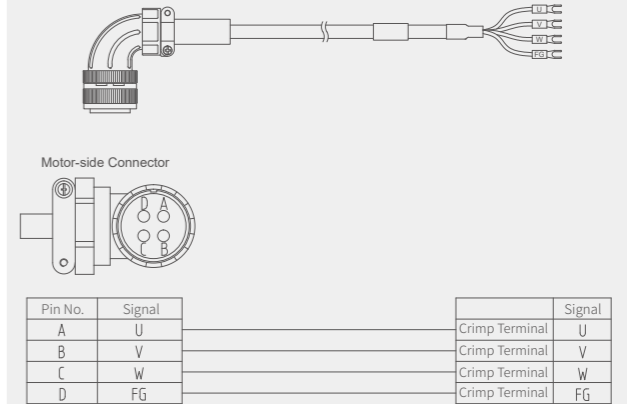
#### PDMB-GA14-XX- II



#### PDM-GD14-XX

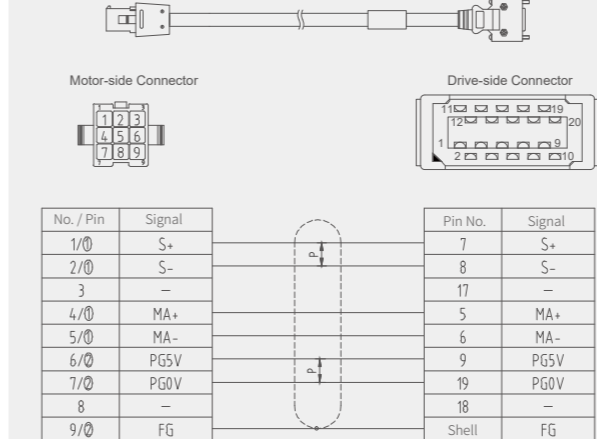


#### PDM-GD12-XX

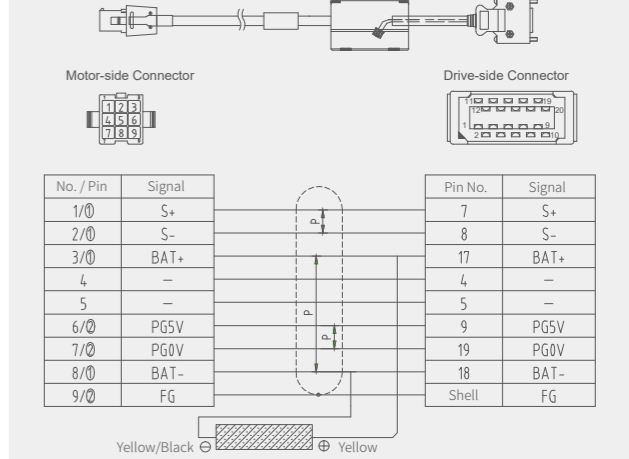


### Encoder Cables

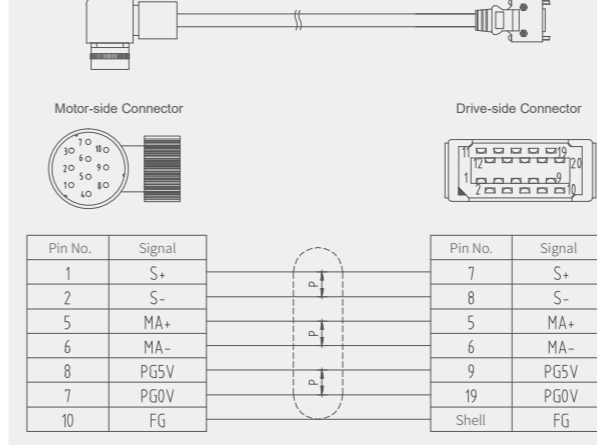
#### PBP-JB24-XX



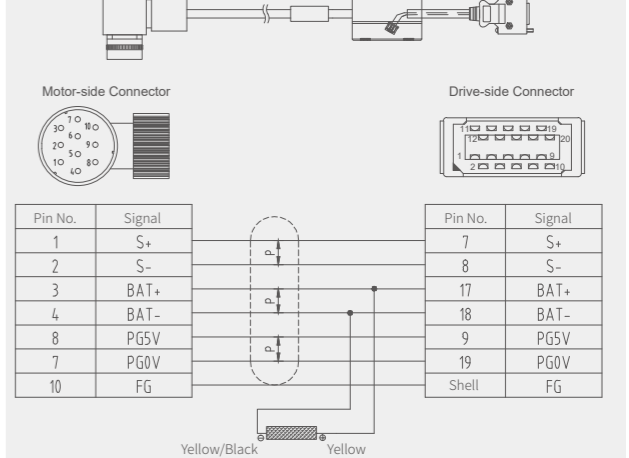
#### PDP-JB24-XX



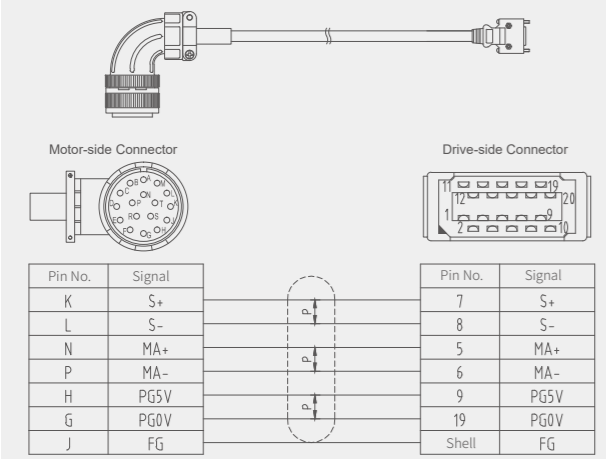
#### PBP-GM24-XX



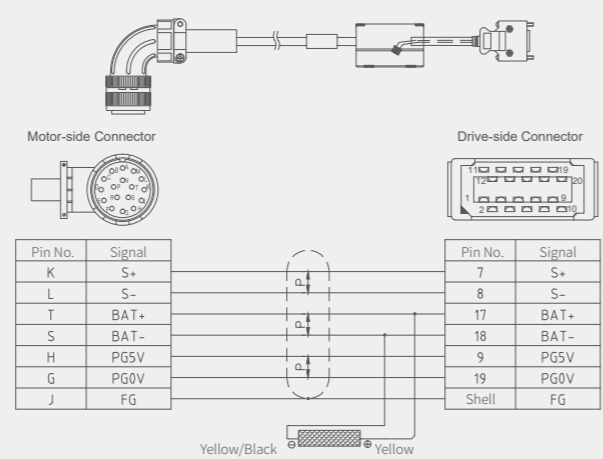
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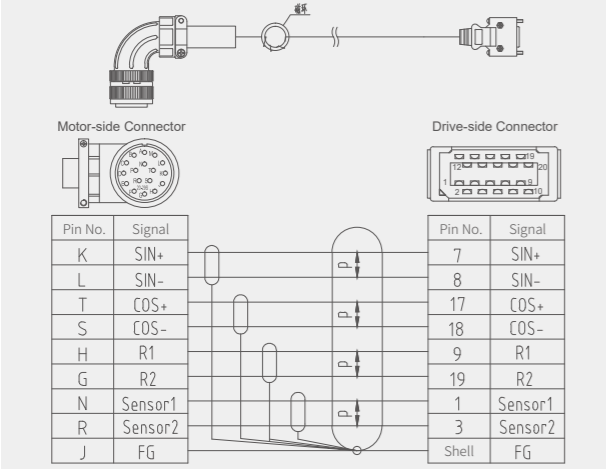
### PBP-GJ24-XX



### PDP-GA24-XX



### PRP-BA24-XX



## Peripheral Devices

Servo Drive	Main Circuit Voltage	Specifications of built-in regenerative resistor	Min.Allowable Resistance	Min.Rated Input Current for Three-phase Filters	Min.Rated Current for Circuit Breaker
ProNet-A5A	200-230VAC	—	25Ω	—	5A
ProNet-01A	200-230VAC	—	25Ω	—	5A
ProNet-02A	200-230VAC	—	25Ω	—	10A
ProNet-04A	200-230VAC	—	25Ω	—	10A
ProNet-08A	200-230VAC	50Ω/60W	25Ω	—	25A
ProNet-10A	200-230VAC	50Ω/60W	25Ω	—	25A
ProNet-15A	200-230VAC	40Ω/80W	25Ω	—	35A
ProNet-20A	200-230VAC	40Ω/80W	25Ω	—	55A
ProNet-30A	200-230VAC	10Ω/300W	10Ω	27A	70A
ProNet-50A	200-230VAC	10Ω/300W	10Ω	42A	100A
ProNet-10D	380-440VAC	200Ω/80W	50Ω	—	12A
ProNet-15D	380-440VAC	200Ω/80W	50Ω	—	20A
ProNet-20D	380-440VAC	200Ω/80W	40Ω	—	24A
ProNet-30D	380-440VAC	40Ω/300W	35Ω	14A	33A
ProNet-50D	380-440VAC	40Ω/300W	20Ω	23A	55A
ProNet-70D	380-440VAC	40Ω/300W	20Ω	27A	60A
ProNet-75D	380-440VAC	40Ω/300W	20Ω	27A	60A
ProNet-1AD	380-440VAC	20Ω/1.5KW External connection	17Ω	42A	80A
ProNet-1ED	380-440VAC	15Ω/1.5KW External connection	12Ω	57A	120A
ProNet-2BD	380-440VAC	10Ω/3KW=2X20Ω/1.5KW External parallel connection	8Ω	82A	160A