

EMHEATER®



EMA~EMD

All Digital AC Servo Systems

China EM Technology Limited

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China EM Technology Limited

Company Profile



EMHEATER has been making effort in drive and control field!
EMHEATER has been adhering competitive price for customers!
EMHEATER has been taking care of developing together with partners!

Welcome to visit EMHEATER Group Corporation!

She has 6 factories and more than 820 staff. As a professional manufacturer of industrial automation products, we are always dedicated to soft starter, frequency inverters, servo motor and drive, EMI filters, harmonic wave AC chokes, sine wave filters and brake units and resistors. In the year of 2008, EMHEATER Group does have established "China EM Technology Limited" to cultivate oversea market.

We have following mature series product:

EM-GJ3 series soft starter, (380V~440V; 5.5KW~ 630KW).

EM8 series VF control inverter, (220~440V; 0.75KW~630KW).

EM9 series sensorless vector control inverter, (220~690V; 0.75KW~630KW).

EM10 series vector control inverter with PG (including elevator and lift drive). (220~690V; 0.75KW~630KW)

EMA to EMD series servo motor drive system. (220~380V; 0.2~22KW)

And relative accessories, such as input filter, output filter, input choke, output choke, DC choke and sine wave filter, brake unit and resistor and aluminum resistor.

My company's feature is good products with good price!

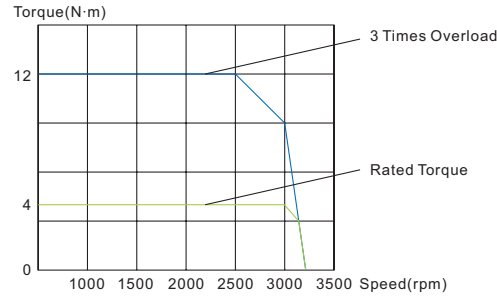
We are sincerely looking for worldwide partners to cooperate with us to build a win-win market environment.

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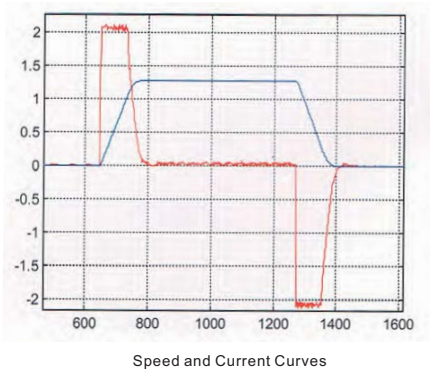
» Strong Overload

All series of servo drivers adopt industrial Intelligent Power Module-IPM, features with strong overload, large starting torque and so on. Overload up to 3 times below 5.5KW, and 2.5 times above 7.5KW.



» High-speed and High-performance

The usage of high-performance digital signal processor and optimized PID control algorithm improved the dynamic tracking ability and steady-state performance. Speed response bandwidth is up to 400Hz or more with 0.03% volatility range of speed.



» High-resolution Feedback Unit

The fully digital AC servo driver contains high-resolution encoders with 131072ppr which have high precision and good performance in low-speed occasion. Wire-saving encoder, absolute encoder, resolver and feedback unit can be compatible with as also.

» Communication

All series of servo drivers provide standard RS232/RS485 and CAN bus communication interfaces with integrated MODBUS and CAN bus protocols, and the EMC/EMD servo drivers integrate the PROFIBUS protocol additionally. So it is easy to integrate our servo drivers into distributed systems. With EMHEATER communication software which has an easy understanding UI, the servo drive parameters can be easily read, modified, saved and restored to the default, and status information include speed, current, alarms, etc. Can be real-time monitored. The software also provides a convenient operation for the control of JOG, speed test run and position running

» EMA/EMB/EMC/EMD All Digital AC Servo Driver



The all digital AC servo driver adopt DSP+FPGA architecture to obtain fast data collection and processing, as well as high integration density and reliability. By using optimized PID control algorithm, accurate fully digital control of torque, speed and position have been achieved. With sufficient digital & analog interfaces, and output of position feedback pulse division and the zero pulse widening, variety of control device can be supported.

● Specification Description

EMA	05	A	W
EMA Servo Driver	Rated Output Power	Power Voltage	Encoder Type
	Sign	Sign	Sign
	Specification	Specification	Specification
	05	A	I
	08	220V	Incremental Encoder
	10		W
			Wire-saving Encoder

EMB	15	A	I
EMB Servo Driver	Rated Output Power	Power Voltage	Encoder Type
	Sign	Sign	Sign
	Specification	Specification	Specification
	15	A	I
	25	220V	Incremental Encoder
	30		A
			Absolute Encoder

EMC	75	A	W
EMC Servo Driver	Rated Output Power	Power Voltage	Encoder Type
	Sign	Sign	Sign
	Specification	Specification	Specification
	50	A	I
	75	220V	Incremental Encoder
		B	
		380V	

EMD	1A	B	R
EMD Servo Driver	Rated Output Power	Power Voltage	Encoder Type
	Sign	Sign	Sign
	Specification	Specification	Specification
	1A	B	R
	1E	380V	Resolver
	1H		
	2B		

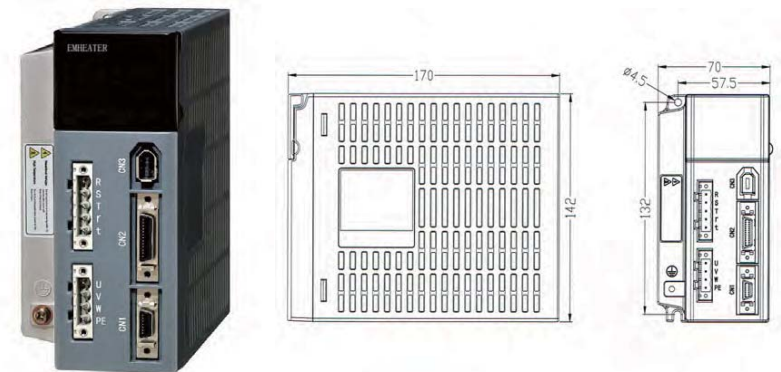
● EMA/EMB Technical Specification of Servo Drivers

Model		EMA	EMB
Power		Single-phase /Three-phase AC 220V(±15%), 50/60Hz	
Environment	Temperature	Operating Temperature: 0~+45°C Storage Temperature: -40~+50°C	
	Humidity	<90°C (Non-condensing)	
	Vibration	<0.5G(4.9m/s ²) 10~60Hz (Non-continuous Operation)	
Control Mode		(1) Position Control Mode (2) Speed Control Mode (External Analog Signal/Internal Parameters) (3) Speed Control Trial Run (4) JOG Trial Run (5) Torque Control	
Regenerative Brake		Internal	Internal or External
Feedback Mode		Incremental Encoder, Wire-saving Encoder	Incremental Encoder, Absolute Encoder
Feature	Speed Frequency Response	≥400Hz	
	Speed Fluctuation	Below 0.03% (Load Fluctuation 0 to 100%, at Rated Speed)	
	Speed Control Ratio	1:5000	
	Input Pulse Frequency	0~500KHz	
Control Input		Two Dedicated Input: (1) Servo On (2) Alarm Clear Three Programmable Input: (1) Deviation Clear/Internal Speed Selection 1 (2) Reference Pulse Inhibit/Internal Speed Selection 2 (3) CCW Drive Forbidden (4) CW Drive Forbidden (5) 2rd Electronic Gear/Zero Clamp	(1) Servo On (2) Alarm Clear (3) Deviation Clear/Internal Speed Selection 1 (4) Reference Pulse Inhibit/Internal Speed Selection 2 (5) CCW Drive Forbidden (6) CW Drive Forbidden (7) 2rd Electronic Gear Ratio/Zero Clamp
Control Output		Two Dedicated Output: (1) Servo Ready (2) Servo Alarm A programmable Output: (1) Positioning Completed/Speed Reached (2) Mechanical Brake Control	(1) Servo Ready (2) Servo Alarm (3) Positioning Completed/Speed Reached (4) Mechanical Brake Control
Position Control Mode	Input Pulse Type	(1) Pulse + Direction (2) CCW Pulse/CW Pulse (3) Two-phase A/B Quadrature Pulse	
	Electronic Gear	Setting Range: 1~65535/1~65535	
	Feedback Pulse	Adjustable According to the Encoder	
Speed Control Mode		(1) 4 Internal Speed Settings (2) External Analog Signal (DC -10~+10V)	
Acc/Dec Function		Adjustable by Parameters: 1~10000ms (0~1000r/min or 1000~0r/min)	

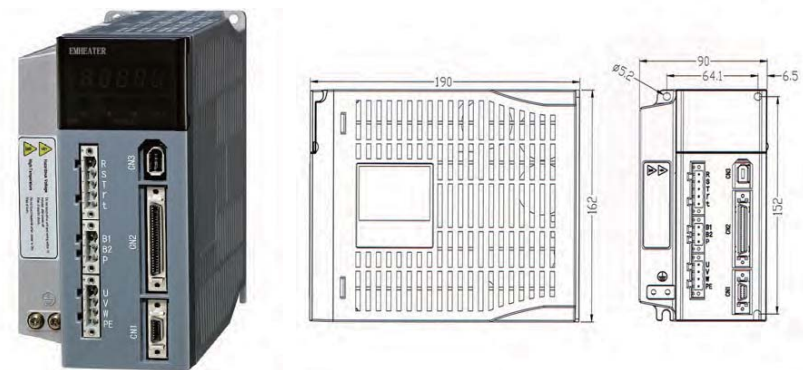
● EMA/EMB Technical Specification of Servo Drivers

Model	EMA	EMB
Torque Limit Function	Torque Limit Range: -300~+300%	
Monitoring	Motor Rotation Speed, Motor Feedback Pulse Number, Pulse Counts of Pulse command, Position Error Counts, Motor Torque, Motor Current, Rotor Position, Input Frequency of Pulse Command, Running Status, I/O Status, etc.	
Protection	Overspeed, Overvoltage, Undervoltage, Overcurrent, Overload, Brake Abnormal, Encoder Error, Overheated, Excessive Position Deviation, etc.	
Display and Operation	5-digit LED Display Panel, 4 keys, 2 LED Lights	6-digit LED Display Panel, 4 keys, 2 LED Lights
Communication	CAN, RS232/RS485	
Applicable load's Moment of Inertia	Less than 5 Times of the Motor Moment of Inertia	

● Mounting Dimension of EMA Servo Drivers



● Mounting Dimension of EMB Servo Drivers



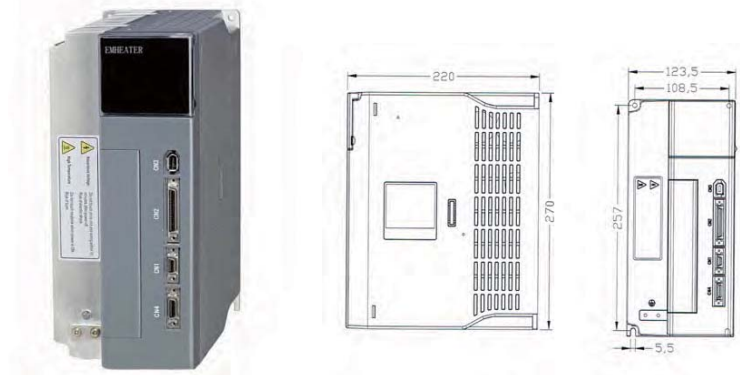
● EMC/EMD Technical Specification of Servo Drivers

Model		EMC	EMD
Power		Three-phase AC 220V/380V(±15%), 50/60Hz	Three-phase AC 380V(±15%), 50/60Hz
Environment	Temperature	Operating Temperature: 0~+45°C Storage Temperature: -40~+50°C	
	Humidity	<90°C (Non-condensing)	
	Vibration	<0.5G(4.9m/s ²) 10~60Hz (Non-continuous Operation)	
Control Mode		(1) Position Control Mode (2) Speed Control Mode (External Analog Signal/Internal Parameters) (3) Speed Control Trial Run (4) JOG Trial Run (5) Torque Control (6) Closed-loop Control Pressure Mode	
Regenerative Brake		External Braking Resistor	
Feedback Mode		Incremental Encoder	Resolver
Feature	Speed Frequency Response	≥400Hz	
	Speed fluctuation	Below 0.03% (Load Fluctuation 0 to 100%, at Rated Speed)	
	Speed Control Ratio	1:5000	
	Input Pulse Frequency	0~500KHz	
Control Input		Eight Programmable Digital Input Terminal: (1) Servo On (2) Alarm Clear (3) CCW Drive Forbidden (4) CW Drive Forbidden (5) Deviation Clear/Internal Speed Selection 1 (6) Reference Pulse Inhibit/Internal Speed Selection 2 (7) 2rd Electronic Gear Ratio/Zero Clamp (8) Switching Regulator Gain Four Channel Analog Input: (1) One Input: -10V~10V (2) Three Input: 0~10V/4~20mA Selectable	
Control Output		Four Programmable Digital Output Terminal: (1) Servo Ready (2) Servo Alarm (3) Positioning Completed/Speed Reached (4) Mechanical Brake Control Two Analog Output, 0~10V/4~20mA Selectable	
Position Control Mode	Input Pulse Type	(1) Pulse + Direction (2) CCW Pulse/CW Pulse (3) Two-phase A/B Quadrature Pulse	
	Electronic Gear	Setting Range: 1~65535/1~65535	
	Feedback Pulse	Adjustable According to the Encoder	
Speed Control Mode		(1) 4 Internal Speed Settings (2) External Analog Signal (DC -10~+10V)	
Acc/Dec Function		Adjustable by Parameters: 1~10000ms (0~1000r/min or 1000~0r/min)	

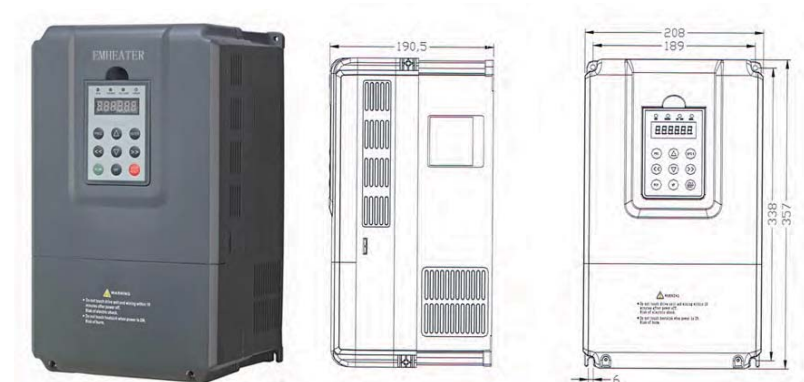
● EMC/EMD Technical Specification of Servo Drivers

Model	EMC	EMD
Torque Limit Function	Torque Limit Range: -300~+300%	
Monitoring	Motor Rotation Speed, Motor Feedback Pulse Number, Pulse Counts of Pulse command, Position Error Counts, Motor Torque, Motor Current, Rotor Position, Input Frequency of Pulse Command, Running Status, I/O Status, Bus Voltage, Power Module Temperature, etc.	
Protection	Overspeed, Overvoltage, Undervoltage, Overcurrent, Overload, Brake Abnormal, Encoder Error, Overheated, Excessive Position Deviation, Soft Starter Fault, IPM Overheated, Lack of Pulse, Motor Overheated, etc.	
Display and Operation	6-digit LED Display Panel, 4 keys, 2 LED Lights	External Operation Box, LED or LCD Optional
Communication	CAN, RS232/RS485, Profibus	
Applicable load's Moment of Inertia	Less than 5 Times of the Motor Moment of Inertia	

● Mounting Dimension of EMC Servo Drivers



● Mounting Dimension of EMD Servo Drivers



Servo Motor

60/80 Series Servo Motor

Features

- The max torque is up to 300% of rated torque.
- The max current is up to 300% of rated current.
- The max speed is up to 4500rpm.
- Be used to drive the feed shaft of various machineries.
- Various models (200W~400W, with brake etc).
- Standard mounted wire-saving encoder 2500rpm, optional absolute encoder 131072rpm or resolver.
- Standard protection configuration is IP65
- The malfunction ratio is less than 0.01% within 18 months warranty.



Application

- SMM (Surface mounting machine)
- PCB puncher machine
- Robot arm
- Handing machinery
- Foodstuff processing machinery
- Textile machinery etc.

Specification Description

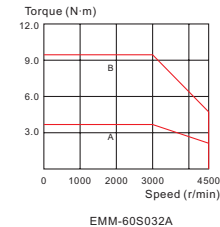
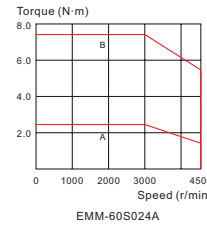
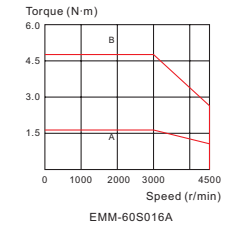
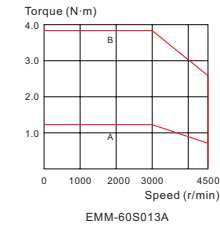
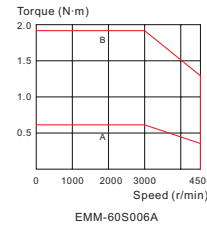
EMM - 60 S 006 A W 1 1

EMM	Motor Series	Designing Sequence	Rated Torque	Rated Speed	Encoder	Option Parts	Shaft End
EMHEATER Motor	60	S: Standard E: Enhanced	006: 0.64N·m 013: 1.27N·m	A: 3000rpm B: 2500rpm	W: Wire-saving Encoder 2500P/R	1: None 2: With Oil Seal 3: With Brake Seal, with Oil Seal, with Brake	1: Flat, Without Keys (Standard) 2: Flat, With Keys, With Screw Thread
	80		016: 1.6N·m 024: 2.4N·m 032: 3.2N·m				

Rated Value and Specification

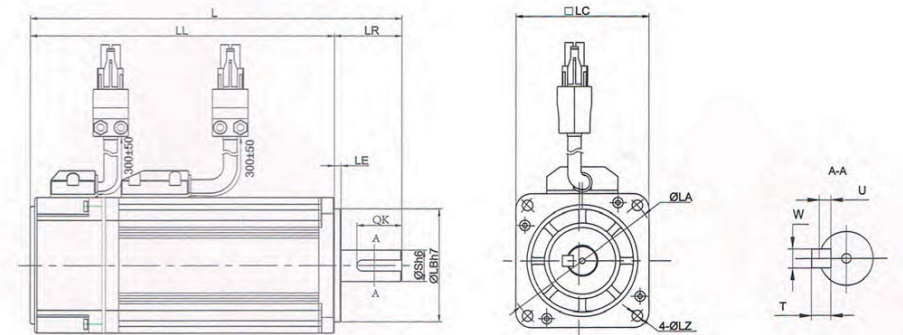
Servo Motor Model	EMM-60S			EMM-80S		
	006A	013A	016A	024A	032A	
Power Supply Voltage	V 220V±15%					
Rated Output Power	W 200	400	500	750	1000	
Rated Torque	N·m 0.64	1.27	1.6	2.4	3.2	
Maximum Torque	N·m 1.92	3.81	4.8	7.2	9.6	
Rated Current	Arms 1.5	2.5	3.0	4.0	5.2	
Maximum Current	Arms 4.5	7.5	9.0	12.0	15.6	
Rated Speed	r/min 3000					
Maximum Speed	r/min 4500					
Moment of Inertia	x10 ⁻⁴ kg·m ² 0.19(0.26)	0.33(0.40)	1.09(1.29)	1.24(1.44)	1.59(1.79)	
Brake Rated Voltage	V DC24V					
Brake Rated Power	W 9			12		
Brake Holding Torque	N·m 2			3.2		
Encoder	Standard Wire-saving Encoder 2500P/R					
Insulation Class	F					
Ambient Temperature	0~+45°C (No Dewing)					
Ambient Humidity	20~80% RH (Non-condensing)					
Enclosure	IP65(Except for Shaft Opening and Connectors)					

Features



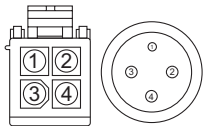
A: Continuous Working Area
B: Repeatedly Working Area

Dimension



Servo Motor Model		EMM-60S006A	EMM-60S013A	EMM-80S016A	EMM-80S024A	EMM-80S032A
L		140(180)	165(205)	158(201)	173(216)	193(236)
LL		110(150)	135(175)	123(166)	138(181)	158(201)
F Lange	LR	30	30	35	35	35
	LE	3	3	3	3	3
	LC	60	60	80	80	80
	LA	70	70	90	90	90
	LB	50	50	70	70	70
	LZ	5	5	6	6	6
S		14	14	19	19	19
Tap x Depth		M5x10	M5x10	M6x15	M6x15	M6x15
Key	QK	20	20	25	25	25
	W	5	5	6	6	6
	T	5	5	6	6	6
	U	3	3	3.5	3.5	3.5

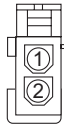
Motor Connector Specification



Plug: 172167-1(Amp),XS16-4P

Pin NO.	Signal
1	GND
2	U
3	V
4	W

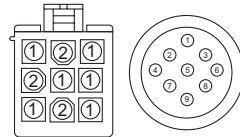
Brake Connector Specification



Plug: 172165-1(Amp)

Pin NO.	Signal
1	+24V
2	0V

Encoder Connector Specification



Plug: 172169(Amp),XS16-9P

Pin NO.	Signal		
	Wire-saving Encoder	Absolute Encoder	Resolver
1	FG	FG	FG
2	+5V	VCC	2
3	0V	0V	3
4	A	SD+	SIN+
5	B	SD-	SIN-
6	Z	VB+	COS+
7	A-	VB-	COS-
8	B-		R1
9	Z-		R2

» 110/130 Series Servo Motor

● Features

- The max torque is up to 300% of rated torque.
- The max current is up to 300% of rated current.
- The max speed is up to 3200rpm.
- Be used to drive the feed shaft of various machine
- Various models (1.0KW~1.57W, with brake etc).
- Standard mounted wire-saving encoder 2500rpm, optional absolute encoder 131072rpm or resolver
- Standard protection configuration is IP65
- The malfunction ratio is less than 0.01% within 18 months warranty.



● Application

- SMM (Surface mounting machine)
- PCB puncher machine
- Robot arm
- Handling machinery
- Foodstuff processing machinery
- Textile machinery etc.

● Specification Description

EMM - 110 S 040 A 1 1 1

EMM	Motor Series	Designing Sequence	Rated Torque	Rated Speed	Encoder	Option Parts	Shaft End
EMHEATER Motor	110 130	S: Standard E: Enhanced	040: 4.0N·m 050: 5.0N·m 060: 6.0N·m 075: 7.5N·m 100: 10.0N·m 150: 15.0N·m	A: 3000rpm B: 2500rpm C: 2000rpm D: 1500rpm E: 1000rpm	I: Incremental Encoder 2500P/R A: Absolute Encoder 131072P/R	1: None 2: With Oil Seal 3: With Brake 4: With Oil Seal, With Brake	1: Flat, Without Keys (Standard) 2: Flat, With Keys, With Screw Thread

● Rated Value and Specification

Servo Motor Model	EMM-110S		EMM-130S			
	040B	060B	040B	050B	060B	
Power Supply Voltage	V		220V±15%			
Rated Output Power	KW	1.0	1.57	1.0	1.3	1.57
Rated Torque	N·m	4.0	6.0	4.0	5.0	6.0
Maximum Torque	N·m	12	18	12	15	18
Rated Current	Arms	4.0	6.0	4.2	5.0	6.2
Maximum Current	Arms	12	18	12.6	15	18.6
Rated Speed	r/min	2500				
Maximum Speed	r/min	3200				
Moment of Inertia	x10 ⁻⁴ kg·m ²	0.54(0.60)	0.75(0.81)	0.89(0.95)	0.97(1.03)	1.24(1.30)
Brake Rated Voltage	V	DC24V				
Brake Rated Power	W	20		25		
Brake Holding Torque	N·m	6		10		
Encoder	Standard	Incremental Encoder 2500P/R				
	Options	Absolute Encoder 131072P/R				
Insulation Class	F					
Ambient Temperature	0~+45°C (No Dewing)					
Ambient Humidity	20~80% RH (Non-condensing)					
Enclosure	IP65(Except for Shaft Opening and Connectors)					

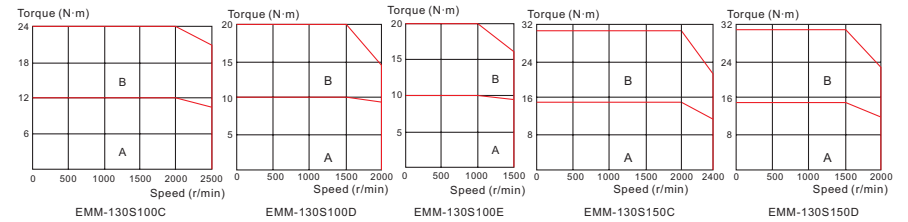
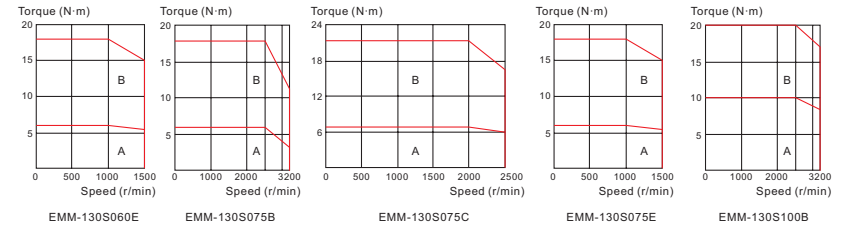
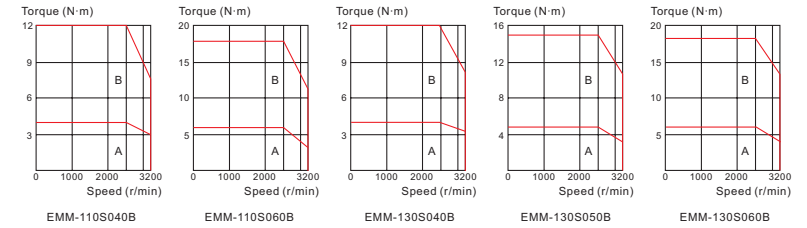
(Note) The values in parentheses are for servo motors with brake

Servo Motor Model		EMM-130S				
		060E	075B	075C	075E	100B
Power Supply Voltage	V	220V				
Rated Output Power	KW	0.63	1.96	1.57	0.79	2.6
Rated Torque	N·m	6.0	7.5	7.5	7.5	10
Maximum Torque	N·m	18	22.5	22.5	22.5	20
Rated Current	Arms	3.6	7.8	6.5	4.5	10.5
Maximum Current	Arms	10.8	23.4	19.5	13.5	21.0
Rated Speed	r/min	1000	2500	2000	1000	2500
Maximum Speed	r/min	1500	3200	2500	1500	3200
Moment of Inertia	$\times 10^{-4} \text{kg}\cdot\text{m}^2$	1.24(1.30)	1.72(1.78)	1.72(1.78)	1.72(1.78)	2.19(2.25)
Brake Rated Voltage	V	DC24V				
Brake Rated Power	W	25				
Brake Holding Torque	N·m	10				
Encoder	Standard	Incremental Encoder 2500P/R				
	Options	Absolute Encoder 131072P/R				
Insulation Class		F				
Ambient Temperature		0~+40°C (No Freezing)				
Ambient Humidity		20~80% RH (Non-condensing)				
Enclosure		IP65(Except for Shaft Opening and Connectors)				

Servo Motor Model		EMM-130S				
		100C	100D	100E	150C	150D
Power Supply Voltage	V	220V				
Rated Output Power	KW	2.1	1.57	1.0	3.1	2.35
Rated Torque	N·m	10	10	10	15	15
Maximum Torque	N·m	20	20	20	30	30
Rated Current	Arms	9.0	6.5	5.0	11.5	9.0
Maximum Current	Arms	18	13	10	21	18
Rated Speed	r/min	2000	1500	1000	2000	1500
Maximum Speed	r/min	2500	2000	2000	2400	2000
Moment of Inertia	$\times 10^{-4} \text{kg}\cdot\text{m}^2$	2.19(2.25)	2.19(2.25)	2.19(2.25)	2.89(2.95)	2.89(2.95)
Brake Rated Voltage	V	DC24V				
Brake Rated Power	W	45				
Brake Holding Torque	N·m	15				
Encoder	Standard	Incremental Encoder 2500P/R				
	Options	Absolute Encoder 131072P/R				
Insulation Class		F				
Ambient Temperature		0~+45°C (No Dewing)				
Ambient Humidity		20~80% RH (Non-condensing)				
Enclosure		IP65(Except for Shaft Opening and Connectors)				

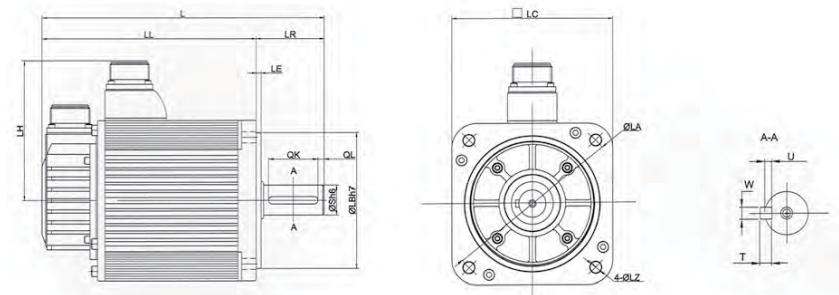
(Note) The values in parentheses are for servo motors with brake

● Torque-speed Characteristics



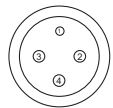
A: Continuous Working Area
B: Repeatedly Working Area

● Dimension



Servo Motor Model	EMM-110S040B	EMM-110S060B	EMM-130S040B	EMM-130S050B	EMM-130S060□	EMM-130S075□	EMM-130S100□	EMM-130S150□
L	238(293)	278(333)	215(267)	221(273)	231(283)	251(303)	371(323)	301(353)
LL	185(240)	225(280)	159(211)	165(217)	175(227)	195(247)	215(267)	245(297)
LH	99	99	113	113	113	113	113	113
F Lange	LR	53	53	56	56	56	56	56
	LE	5	5	4	4	4	4	4
	LC	110	110	130	130	130	130	130
	LA	130	130	145	145	145	145	145
	LB	95	95	110	110	110	110	110
	LZ	8.5	8.5	8.5	8.5	8.5	8.5	8.5
S	19	19	22	22	22	22	22	22
Tap x Depth	M6x15	M6x15	M6x20	M6x20	M6x20	M6x20	M6x20	M6x20
Key	QL	0	0	7.5	7.5	7.5	7.5	7.5
	QK	35	35	35	35	35	35	35
	W	6	6	6	6	6	6	6
	T	6	6	6	6	6	6	6
	U	3.5	3.5	3.5	3.5	3.5	3.5	3.5

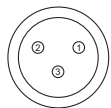
Motor Connector Specification



Receptacle: YD28J4Z

Pin NO.	Signal
1	GND
2	U
3	V
4	W

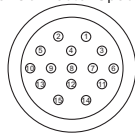
Brake Connector Specification



Receptacle: XS16J3A

Pin NO.	Signal
1	+24V
2	0V

Encoder Connector Specification



Receptacle: YD28J15Z

Pin NO.	Signal		
	Wire-saving Encoder	Absolute Encoder	Resolver
1	FG	FG	FG
2	+5V	VCC	
3	0V	0V	
4	A	SD+	SIN+
5	B	SD-	SIN-
6	Z	VB+	COS+
7	A-	VB-	COS-
8	B-		R1
9	Z-		R2
10			
11			
12			
13			
14			
15			

» 180 Series Servo Motor

● Features

- The max torque is up to 300% of rated torque.
- The max current is up to 300% of rated current.
- The max speed is up to 3000rpm.
- Be used to drive the feed shaft of various machineries.
- Various models (2.5KW~6.0KW, with brake etc).
- Standard mounted wire-saving encoder 2500rpm, optional absolute encoder 131072rpm or resolver.
- Standard protection configuration is IP65
- The malfunction ratio is less than 0.01% within 18 months warranty.

● Application

- SMM (Surface mounting machine)
- PCB puncher machine
- Robot arm
- Handling machinery
- Foodstuff processing machinery
- Textile machinery etc.

● Specification Description



EMM - 180 S 143 C I 1 1							
EMM	Motor Series	Designing Sequence	Rated Torque	Rated Speed	Encoder	Option Parts	Shaft End
EMHEATER Motor	180	S: Standard E: Enhanced	143: 14.3N·m 191: 19.1N·m 239: 23.9N·m 287: 28.7N·m 382: 38.2N·m 478: 47.8N·m	C:2000rpm D:1500rpm E:1000rpm	I: Incremental Encoder 2500P/R	1: None 2: With Oil Seal 3: With Brake 4: With Oil Seal, With Brake	1: Flat, Without Keys (Standard) 2: Flat, With Keys, With Screw Thread

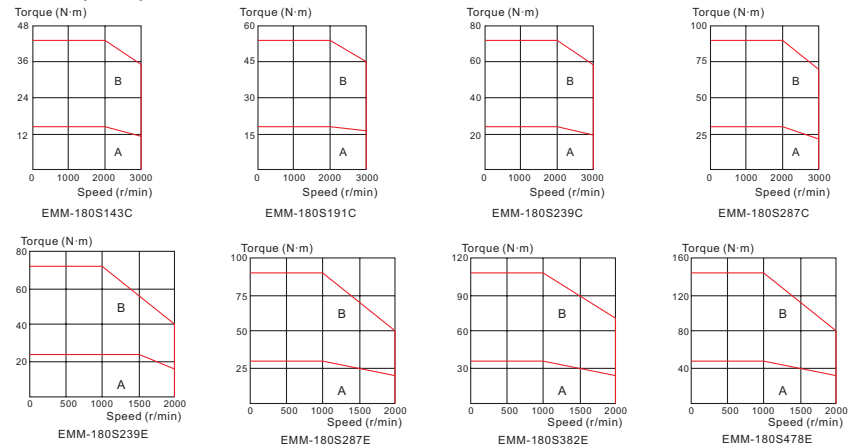
● Rated Value and Specification

Servo Motor Model	EMM-180S				
	143C	191C	239C	287C	239E
Power Supply Voltage	V 220V/380V±15%				
Rated Output Power	KW 3.0	4.0	5.0	6.0	2.5
Rated Torque	N·m 14.3	19.1	23.9	28.7	23.9
Maximum Torque	N·m 42.9	57.3	71.7	86.1	71.7
Rated Current	Arms 16.5	23	27	33	19.5
Maximum Current	Arms 49.5	69	81	99	58.5
Rated Speed	r/min 2000				1000
Maximum Speed	r/min 3000				2000
Moment of Inertia	x10 ⁻⁴ kg·m ² 41.3(44.5)	52.5(55.8)	65.7(68.9)	75.2(78.5)	65.7(68.9)
Brake Rated Voltage	V DC24V				
Brake Rated Power	W 35				
Brake Holding Torque	N·m 80				
Encoder	Standard	Incremental Encoder 2500P/R			
Insulation Class	F				
Ambient Temperature	0~+45°C (No Dewing)				
Ambient Humidity	20~80% RH (Non-condensing)				
Enclosure	IP65(Except for Shaft Opening and Connectors)				

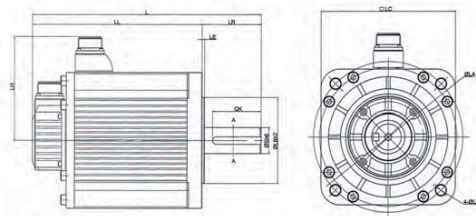
(Note) The values in parentheses are for servo motors with brake

Servo Motor Model		EMM-180S		
		287E	382E	478E
Power Supply Voltage	V	220V/380V±15%		
Rated Output Power	KW	3.0	4.0	5.0
Rated Torque	N·m	28.7	38.2	47.8
Maximum Torque	N·m	86.1	114.6	143.4
Rated Current	Arms	22.5	27	31
Maximum Current	Arms	67.5	81	93
Rated Speed	r/min	1000		
Maximum Speed	r/min	2000		
Moment of Inertia	$\times 10^{-4} \text{kg} \cdot \text{m}^2$	75.2(78.5)	102.2(105.5)	122.5(128.1)
Brake Rated Voltage	V	DC24V		
Brake Rated Power	W	45		
Brake Holding Torque	N·m	15		
Encoder	Standard	Incremental Encoder 2500P/R		
Insulation Class		F		
Ambient Temperature		0~+40°C (No Freezing)		
Ambient Humidity		20~80% RH (Non-condensing)		
Enclosure		IP65(Except for Shaft Opening and Connectors)		

● Torque-speed Characteristics

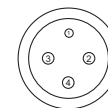


● Dimension



Servo Motor Model	EMM-180S143C	EMM-180S191C	EMM-180S239C/E	EMM-180S287C/E	EMM-180S382E	EMM-180S478E
L	307(375)	322(390)	342(410)	362(430)	397(465)	417(485)
LL	228(296)	243(311)	263(331)	283(351)	318(386)	338(406)
LH	138	138	138	138	138	138
F Lange	LR	79	79	79	79	79
	LE	3.2	3.2	3.2	3.2	3.2
	LC	180	180	180	180	180
	LA	200	200	200	200	200
	LB	114.3	114.3	114.3	114.3	114.3
LZ	13.5	13.5	13.5	13.5	13.5	13.5
S	35	35	35	35	35	35
Tap x Depth	M8x16	M8x16	M8x16	M8x16	M16x32	M16x32
Key	QK	65	65	65	65	65
	W	10	10	10	10	10
	T	8	8	8	8	8
	U	5	5	5	5	5

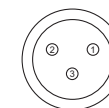
Motor Connector Specification



Receptacle: YD28J4Z

Pin NO.	Signal
1	GND
2	U
3	V
4	W

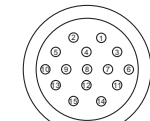
Brake Connector Specification



Receptacle: XS16J3A

Pin NO.	Signal
1	+24V
2	0V

Encoder Connector Specification



Receptacle: YD28J15Z

Pin NO.	Signal		
	Wire-saving Encoder	Absolute Encoder	Resolver
1	FG	FG	FG
2	+5V	VCC	
3	0V	0V	
4	A	SD+	SIN+
5	B	SD-	SIN-
6	Z	VB+	COS+
7	A-	VB-	COS-
8	B-		R1
9	Z-		R2

» 220 Series Servo Motor

● Features

- The max torque is up to 300% of rated torque.
- The max current is up to 300% of rated current.
- The max speed is up to 2250rpm.
- Be used to drive the feed shaft of various machineries.
- Various models (7.5KW~22.0KW, with brake etc).
- Standard mounted wire-saving encoder 2500rpm, optional absolute encoder 131072rpm or wire-saving.
- Standard protection configuration is IP54
- The malfunction ratio is less than 0.01% within 18 months warranty.

● Application

- SMM (Surface mounting machine)
- PCB puncher machine
- Robot arm
- Handing machinery
- Foodstuff processing machinery
- Textile machinery
- Injection molding machine, etc.



● Specification Description

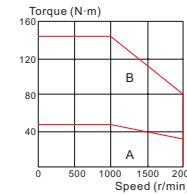
EMM - 220 S 478 D R 1 1

EMM	Motor Series	Designing Sequence	Rated Torque	Rated Speed	Encoder	Option Parts	Shaft End
EMHEATER Motor	220	S: Standard E: Enhanced	478: 47.8N·m 525: 52.5N·m 700: 70.0N·m 716: 71.6N·m 955: 95.5N·m 10E: 105N·m	C: 2000rpm D: 1500rpm E: 1000rpm	R: Resolver	1: None 2: With Oil Seal 3: With Brake 4: With Oil Seal, With Brake	1: Flat, Without Keys (Standard) 2: Flat, With Keys, With Screw Thread

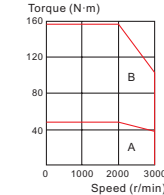
● Rated Value and Specification

Servo Motor Model	EMM-220-S						
	478D	700D	955D	525C	716C	10EC	
Power Supply Voltage	V 380V±15%						
Rated Output Power	KW	7.5	11	15	11	15	22
Rated Torque	N·m	47.8	70	95.5	52.5	71.6	105
Maximum Torque	N·m	143.4	175	210.1	157.5	179	231
Rated Current	Arms	19.5	28.5	38.5	27.5	34.8	50
Maximum Current	Arms	58.5	71.3	84.7	82.5	87	110
Rated Speed	r/min	1500			2000		
Maximum Speed	r/min	2250			2700		
Moment of Inertia	$\times 10^{-4} \text{kg}\cdot\text{m}^2$	186.2(193.6)	271.6(278.9)	338.8(346.1)	186.2(193.6)	271.6(278.9)	338.8(346.1)
Brake Rated Voltage	V	DC24V					
Brake Rated Power	W	37					
Brake Holding Torque	N·m	120					
Encoder	Standard	Resolver					
Insulation Class		F					
Ambient Temperature		0~+40°C (No Freezing)					
Ambient Humidity		20~80% RH (Non-condensing)					
Enclosure		IP54(Except for Shaft Opening and Connectors)					

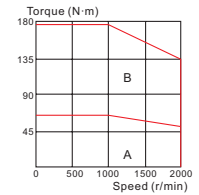
● Torque -speed Characteristics



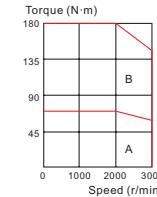
EMM-220S478E



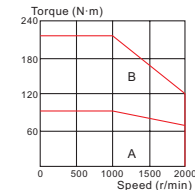
EMM-220S525C



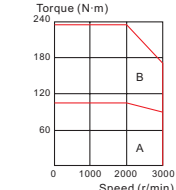
EMM-220S700D



EMM-220S716C



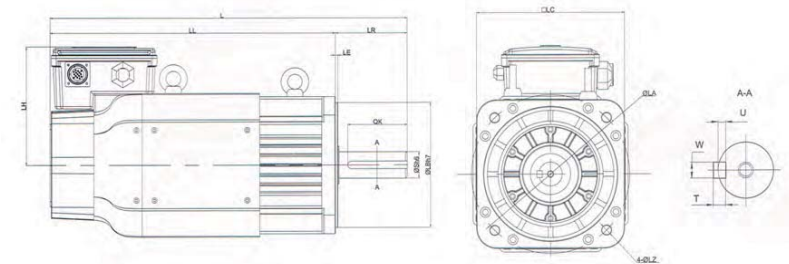
EMM-220S955D



EMM-220S10EC

A: Continuous Working Area
B: Repeatedly Working Area

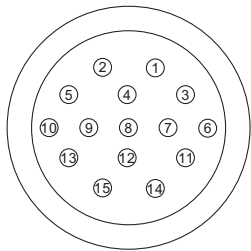
● Dimension



Servo Motor Model	EMM-220S488D	EMM-220S700D	EMM-220S955D	EMM-220S525C	EMM-220S716C	EMM-220S10EC
L	499(579)	499(579)	554(634)	554(634)	599(679)	599(679)
LL	383(463)	383(463)	438(518)	438(518)	483(563)	483(563)
LH	190	190	190	190	190	190
FLange	LR	116	116	116	116	116
	LE	4	4	4	4	4
	LC	220	220	220	220	220
	LA	235	235	235	235	235
	LB	200	235	235	235	235
	LZ	13.5	13.5	13.5	13.5	13.5
S	42	42	42	42	42	42
Tap x Depth	M16x32	M16x32	M16x32	M16x32	M16x32	M16x32
Key	QK	96	96	96	96	96
	W	12	12	12	12	12
	T	8	8	8	8	10
	U	5	5	5	5	6

(Note) The values in parentheses are for servo motors with brake

Encoder Connector Specification



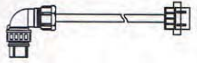





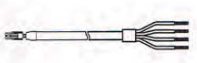




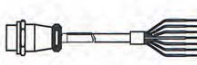
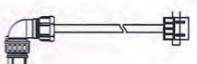



Receptacle: YD28J15Z

Pin NO.	Signal		
	Wire-saving Encoder	Absolute Encoder	Resolver
1	FG	FG	FG
2	+5V	VCC	
3	0V	0V	
4	A	SD+	SIN+
5	B	SD-	SIN-
6	Z	VB+	COS+
7	A-	VB-	COS-
8	B-		R1
9	Z-		R2

Servo Motor Adapter Table

Servo Motor				Servo Drive		
Series	Speed(rpm)	Power(KW)	Model	Single phase 220V	Three phase 380V	
60	3000	0.2	EMM-60S006A	EMA-05A[JA		
	3000	0.4	EMM-60S013A	EMA-05A[JA		
80	3000	0.5	EMM-80S016A	EMA-08A[JA		
	3000	0.75	EMM-80S024A	EMA-08A[JA		
	3000	1.0	EMM-80S032A	EMA-10A[JA		
110	2500	1.0	EMM-110S040B	EMB-15A[JA		
	2500	1.57	EMM-110S060B	EMB-15A[JA		
130	2500	1.0	EMM-130S040B	EMB-15A[JA		
	2500	1.3	EMM-130S050B	EMB-15A[JA		
	2500	1.57	EMM-130S060B	EMB-15A[JA		
	1000	0.63	EMM-130S060E	EMA-10A[JA		
	2500	1.96	EMM-130S075B	EMB-15A[JA		
	2000	1.57	EMM-130S075C	EMB-25A[JA		
	1000	0.79	EMM-130S075E	EMA-10A[JA		
	2500	2.6	EMM-130S100B	EMB-30A[JA		
	2000	2.1	EMM-130S100C	EMB-30A[JA		
	1500	1.57	EMM-130S100D	EMB-25A[JA		
	1000	1.0	EMM-130S100E	EMA-10A[JA		
	2000	3.1	EMM-130S150C	EMB-30A[JA		
	1500	2.35	EMM-130S150D	EMB-30A[JA		
	180	2000	3.0	EMM-180S143C	EMC-50A[JA	EMC-50B[JA
		2000	4.0	EMM-180S191C	EMC-50A[JA	EMC-50B[JA
2000		5.0	EMM-180S239C	EMC-50A[JA	EMC-50B[JA	
2000		6.0	EMM-180S287C	EMC-75A[JA	EMC-75B[JA	
1000		2.5	EMM-180S239E	EMC-50A[JA	EMC-50B[JA	
1000		3.0	EMM-180S287E	EMC-50A[JA	EMC-50B[JA	
1000		4.0	EMM-180S382E	EMC-50A[JA	EMC-50B[JA	
1000		5.0	EMM-180S478E	EMC-75A[JA	EMC-75B[JA	
220		1500	7.5	EMM-220S478D		EMD-1AB[JA
	1500	11	EMM-220S700D		EMD-1AB[JA	
	1500	15	EMM-220S955D		EMD-1EB[JA	
	2000	11	EMM-220S525C		EMD-1AB[JA	
	2000	15	EMM-220S716C		EMD-1EB[JA	
	2000	22	EMM-220S10EC		EMD-2BB[JA	

● Cables Specification Description

Name	Model	Specification	Name	Model	Specification
Power Cables	JSMA-04A□□□		Power Cables	JSDA-14A□□□	
	JSMA-04B□□□			JSDA-14B□□□	
	JSMB-04A□□□			JSDB-09A□□□	
	JSMB-04B□□□			JSDA-09B□□□	
	JSMC-04A□□□			JSDC-09A□□□	
	JSMC-04B□□□			JSDC-09B□□□	
	JSMD-04A□□□			JSRA-09A□□□	
	JSMB-04B□□□			JSRA-09B□□□	

Sales Outlets

