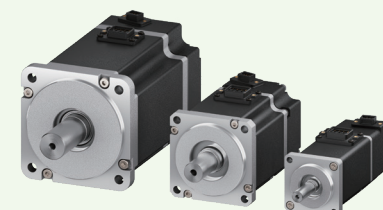


## E Servo Motor Features

- Speeds up to 6000 RPM
- Encoder resolution option 17 bits / 23 bits
- High servo control bandwidth allows for precise angular motor positioning
- Quick and easy installation interface
- IP67 option available for 50 W- 750 W, optional brake and key

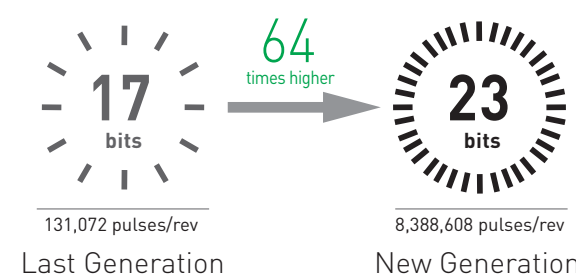


Optimize motor performance with E2 series Drives

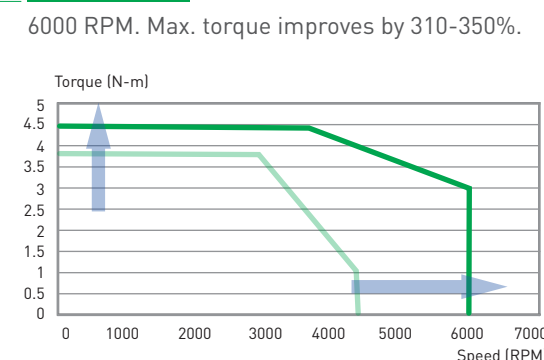
### Application

Panels, semiconductor, lasers, PCB drilling, machine tools, measurement/inspection, energy and other automation industries

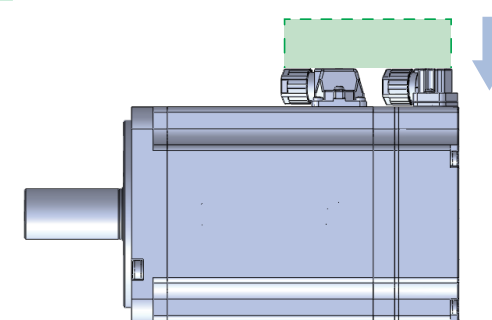
### 1 Improved Processing Accuracy



### 2 High Speed



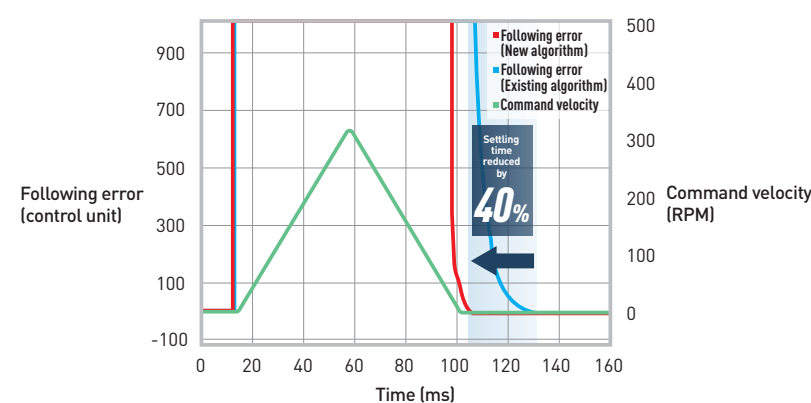
### 3 Compact Size



7% shorter than previous high. (Shown without brake.)

### 4 Tuning Functions

With our next-generation algorithm, the vibration of mechanism can be suppressed and the shaking in positioning can be solved, which improves the performance of servo motor to quickly enter the designated target position.



## E Motor Model Description

# EM1-C-M-05-2-B-E-0-A

Rated Speed / Maximum Speed<sup>1</sup>  
 A: 2000 / 3000(RPM)<sup>2</sup>  
 C: 3000 / 6000(RPM)<sup>3</sup>  
 D: 2000 / 5000(RPM)<sup>4</sup>

Inertia  
 M: Medium inertia

Output Power<sup>1</sup>

05: 50 W  
 10: 100 W  
 20: 200 W  
 40: 400 W  
 75: 750 W  
 1K: 1000 W  
 1A: 1200 W  
 2K: 2000 W

Drive Input Voltage

2: 220 Vac

Motor Shaft

Round shaft / without oil seal: A  
 Round shaft / with oil seal: B  
 With key and center tap / without oil seal: C  
 With key and center tap / with oil seal: D

Reserved

Standard: 0  
 (1 kW/1.2 kW/2 kW only)  
 IP67: R  
 (50 W-750 W only)

Encoder Type

17 bits(Incremental): C  
 17 bits(absolute): D  
 23 bits(Incremental): E  
 23 bits(absolute): F

Holding Break Options

Without holding brake: 0  
 With holding brake: B

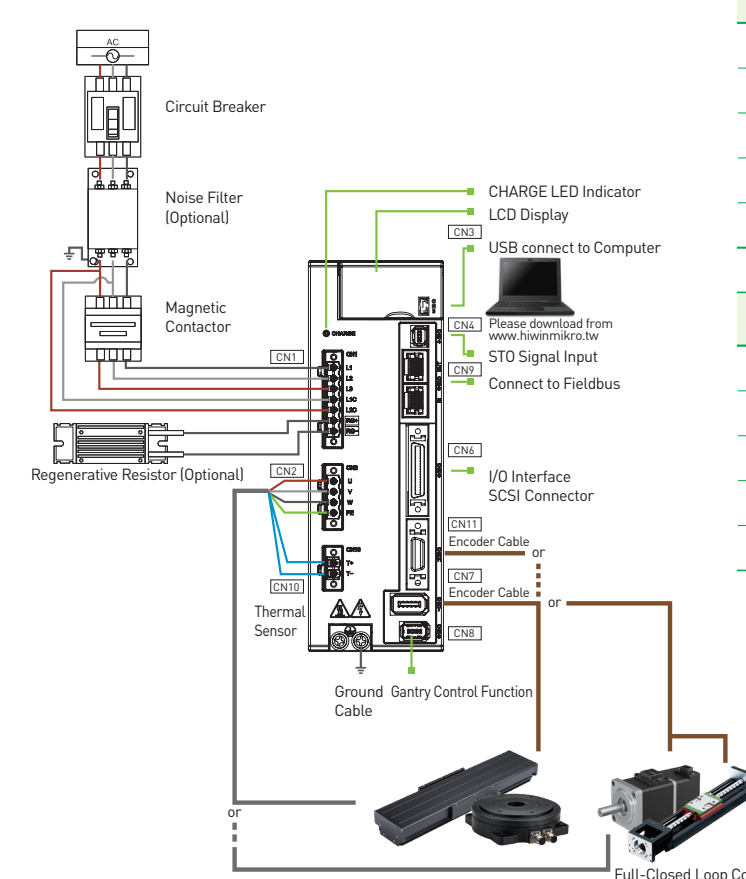
Note: 1.Refer to the motor specification parameter table for the relationship between motor speed and power.  
 2.1 kW  
 3.50 W-750 W  
 4.1.2 kW / 2 kW

Series	Driver Input Voltage	Rated Power	Specification <sup>1</sup>	Specification <sup>2</sup>	Power Extension Cable <sup>3</sup>		Encoder Extension Cable <sup>3</sup>	
					Without Holding Brake	With Holding Brake	Incremental	Absolute
E	Single/Three phase 220 V	50 W	EM1-C-M-05-2-□-□-R-□	ED2□-□□-003-1-A-00	HVPS04SA□□MB <sup>4</sup> HVPS04RA□□MB <sup>4</sup>	HVP506SA□□MB <sup>4</sup> HVP506RA□□MB <sup>4</sup>	HVE231S8□□MB <sup>4</sup> HVE231R8□□MB <sup>4</sup>	HVE23ASB□□MB <sup>4</sup> HVE23ARB□□MB <sup>4</sup>
		100 W	EM1-C-M-10-2-□-□-R-□					
		200 W	EM1-C-M-20-2-□-□-R-□					
		400 W	EM1-C-M-40-2-□-□-R-□					
		750 W	EM1-C-M-75-2-□-□-R-□					
	Three phase 220 V	1 kW	EM1-A-M-1K-2-□-□-0-□	ED2□-□□-006-1-A-00	HVP046BA□□MB HVP046CA□□MB	HVP046BA□□MB HVP046CA□□MB	HVE231B8□□MB HVE231CB□□MB	HVE23ABB□□MB HVE23ACB□□MB
		1.2 kW	EM1-D-M-1A-2-□-□-0-□	ED2□-□□-009-1-A-00				
		2 kW	EM1-D-M-2K-2-□-□-0-□	ED2□-□□-012-4-A-00				

Note: 1.Please refer E motor model description for options of motor shaft, oil seal and brake.  
 2.Please refer to E2 drive model description.  
 3.Standard Cable length is 3 m / 5 m / 7 m / 10 m. □□: 03, 05, 07, 10  
 4.R: IP67 (0 Degree)  
 S: IP67 (180 Degree)

## Drive Wiring Diagrams

50 W-1.2 kW (used with E2 Drive)



## With Single-Axis Robot Description

Power	Spec.	With Single-Axis Robot (KK)		Max. Load (Parallel)	Max. Load (Vertical)
50 W	EM1-C-M-05	KK40	KK50	20 kg	10 kg
100 W	EM1-C-M-10	KK40	KK50	30 kg	10 kg
200 W	EM1-C-M-20	KK80	KK86D	60 kg	20 kg
400 W	EM1-C-M-40	KK80	KK86D	80 kg	20 kg
750 W	EM1-C-M-75	KK130	-	100 kg	30 kg

Power	Spec.	With Single-Axis Robot (KA/KC)		Max. Load (Parallel)	Max. Load (Vertical)
100 W	EM1-C-M-10	KA100	-	30 kg	10 kg
100 W	EM1-C-M-10	KC50-B	-	10 kg	5 kg
200 W	EM1-C-M-20	KA136	KA170	50 kg	25 kg
400 W	EM1-C-M-40	KA136	KA170	100 kg	50 kg
400 W	EM1-C-M-40	KC80-B	-	80 kg	15 kg

# HIWIN MIKROSYSTEM

HIWIN MIKROSYSTEM New Generation AC Servo Motors



## HIWIN MIKROSYSTEM

Global Sales And Customer Service Site

HIWIN MIKROSYSTEM CORP.  
 No. 6, Jingke Central Rd.,  
 Taichung Precision Machinery Park,  
 Taichung 408211, Taiwan  
 Tel: +886-4-2355-0110  
 Fax: +886-4-2355-0123  
 www.hiwinmikro.tw  
 business@hiwinmikro.tw

HIWIN GmbH  
 OFFENBURG, GERMANY  
 www.hiwin.de  
 www.hiwin.eu  
 info@hiwin.de

HIWIN Schweiz GmbH  
 JONA, SWITZERLAND  
 www.hiwin.ch  
 info@hiwin.ch

HIWIN KOREA  
 SUWON - CHANGWON, KOREA  
 www.hiwin.kr  
 info@hiwin.kr

HIWIN JAPAN  
 KOBE · NAGOYA · TOKYO · TOHOKU ·  
 NAGANO · SHIZUOKA · HOKURIKU ·  
 HIROSHIMA · FUKUOKA · KUMAMOTO,  
 JAPAN  
 www.hiwin.co.jp  
 info@hiwin.co.jp

HIWIN s.r.o.  
 BRNO, CZECH REPUBLIC  
 www.hiwin.cz  
 info@hiwin.cz

HIWIN CHINA  
 SUZHOU, CHINA  
 www.hiwin.cn  
 info@hiwin.cn

HIWIN USA  
 CHICAGO, U.S.A.  
 www.hiwin.com  
 info@hiwin.com

HIWIN FRANCE  
 STRASBOURG, FRANCE  
 www.hiwin.fr  
 info@hiwin.de

Mega-Fabs Motion Systems, Ltd.  
 HAIFA, ISRAEL  
 www.mega-fabs.com  
 info@mega-fabs.com

HIWIN Srl  
 BRUGHERIO, ITALY  
 www.hiwin.it  
 info@hiwin.it

HIWIN SINGAPORE  
 SINGAPORE  
 www.hiwin.sg  
 info@hiwin.sg

# E Series

## AC Servo Motors & Drives

# Specification

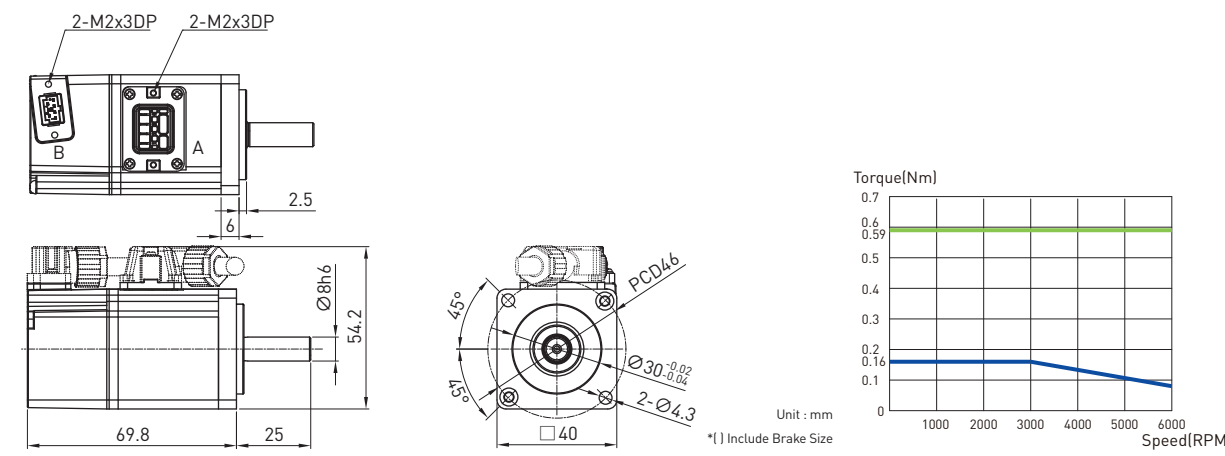
## Middle Inertia

50 W    100 W    200 W    400 W

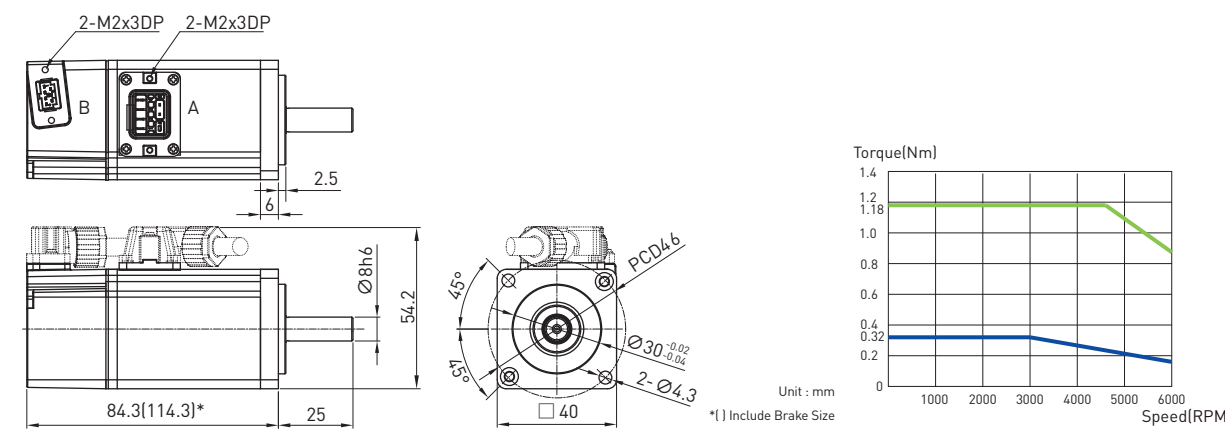
Motor Parameter	Symbol	Unit	EM1CM052□□□R□	EM1CM102□□□R□	EM1CM202□□□R□	EM1CM402□□□R□
Drive input voltage	V	V	AC220	AC220	AC220	AC220
Rated power	W	W	50	100	200	400
Rated torque	Tc	Nm	0.16	0.32	0.64	1.27
Rated current	Ic	A(rms)	0.64	0.78	1.6	2.5
Max. torque	Tp	Nm	0.59	1.18	2.24	4.44
Max. current	Ip	A(rms)	2.8	3.45	6.4	10
Rated speed	ωc	RPM	3000	3000	3000	3000
Max. speed	ωp	RPM	6000	6000	6000	6000
Torque constant	Kt	Nm / Arms	0.25	0.41	0.4	0.508
Back EMF constant	Ke	Vrms / KRPM	18.526	28.364	27.23	33.87
Resistance (line to line)	R	Ω	25.24	22.72	5.53	3.59
Inductance (line to line)	L	mH	13.09	13.86	8.76	7.22
Rotor inertia [with brake]	J	kg·m <sup>2</sup> (×10 <sup>-4</sup> )	0.0368 [0.0401]	0.0620 [0.0653]	0.263 [0.326]	0.48 [0.49]
Mass [with brake]	M	kg	0.30 [0.50]	0.41 [0.61]	0.80 [1.03]	1.20 [1.74]
Insulation class	-	-	Class F			
Protection class	-	-	Total enclosed, self-cooled, IP67 (except for shaft)			
Insulation resistance	-	-	10MΩ, DC 500 V			
Insulation voltage resistance	-	-	AC1500 V, 60 seconds			
Holding Brake Specifications						
Static friction torque	Tb	Nm	0.32	0.32	1.3	1.3
Enabled current	Ab	A	0.25	0.25	0.32	0.32
Brake input voltage	V	V	DC24±10%	DC24±10%	DC24±10%	DC24±10%
Braking time	to	ms	40	40	30	30
Release time	tr	ms	20	20	20	20

## Middle Inertia

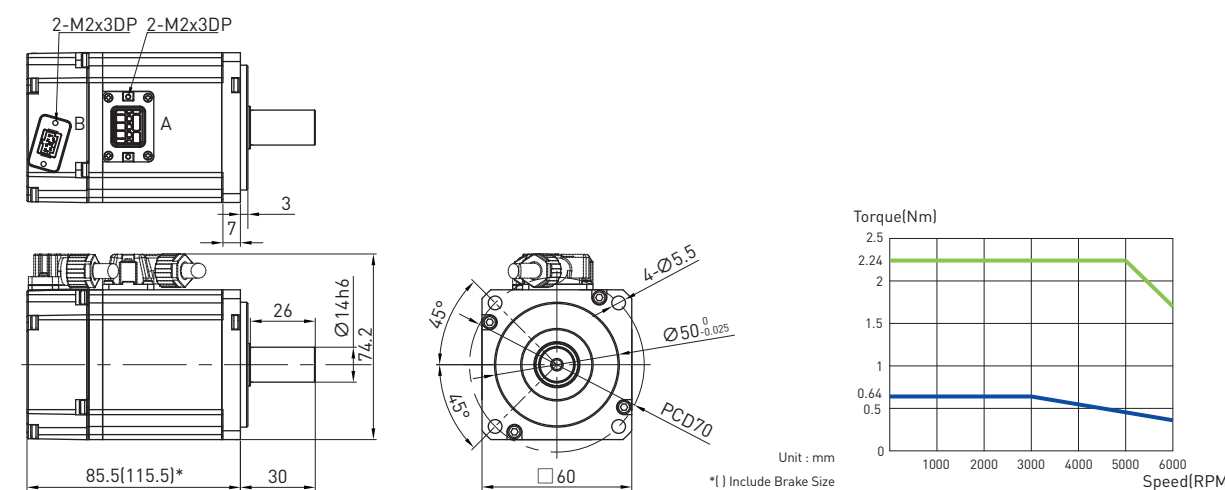
50 W



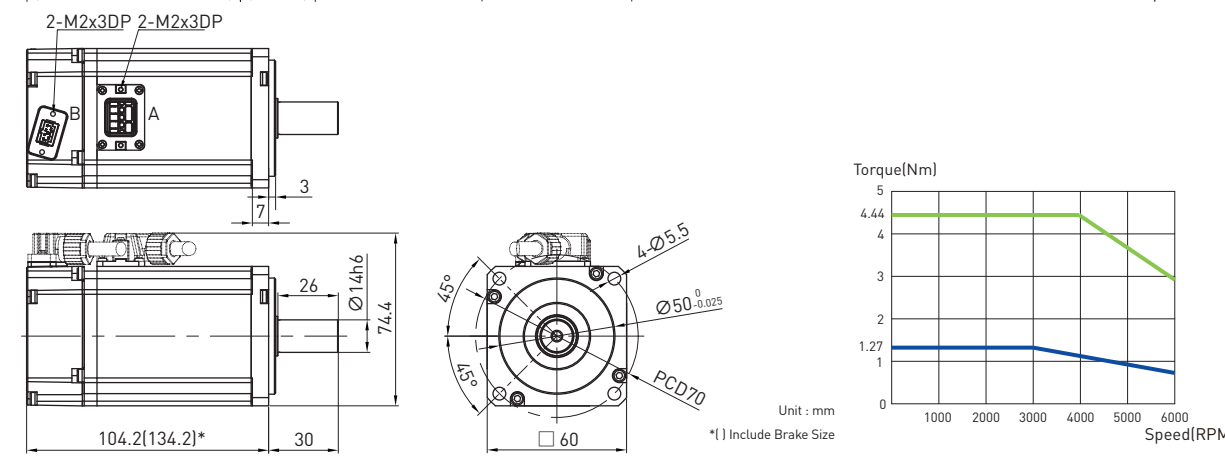
100 W



200 W

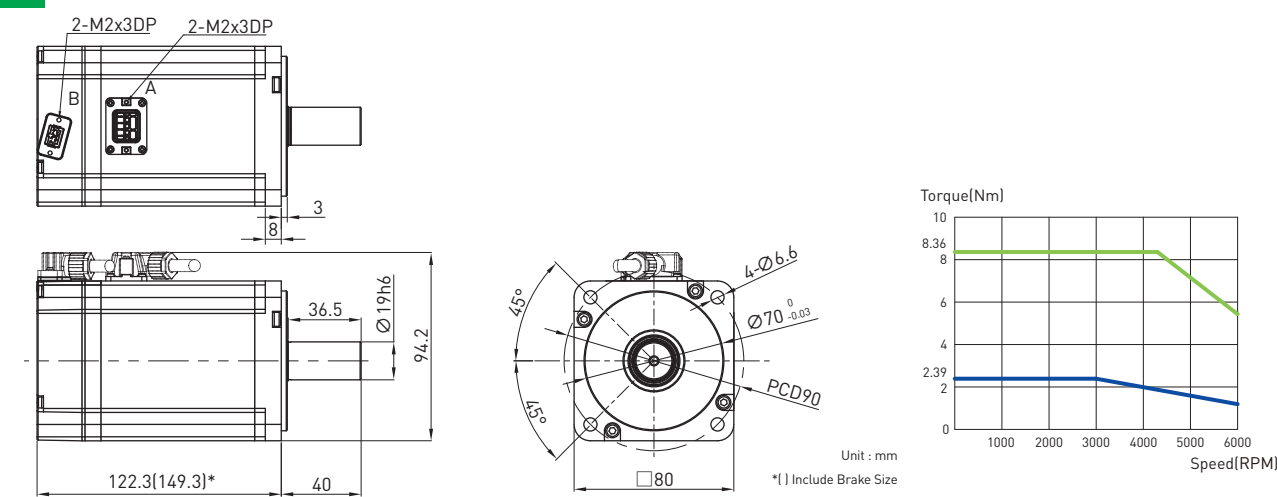


400 W

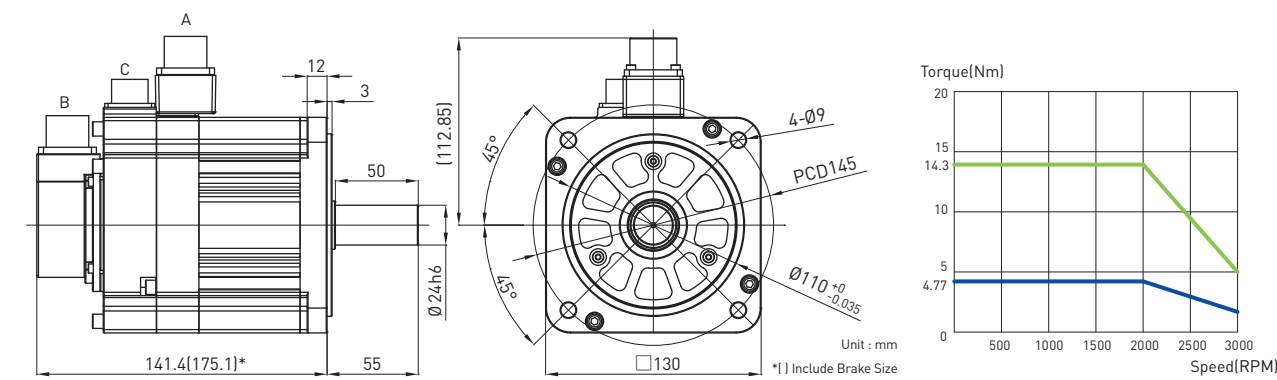


## Middle Inertia

750 W

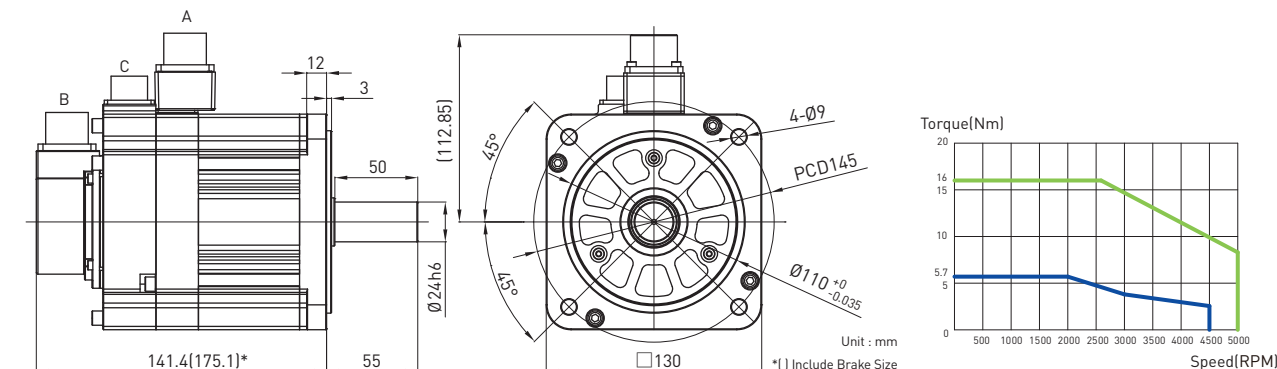


1 kW

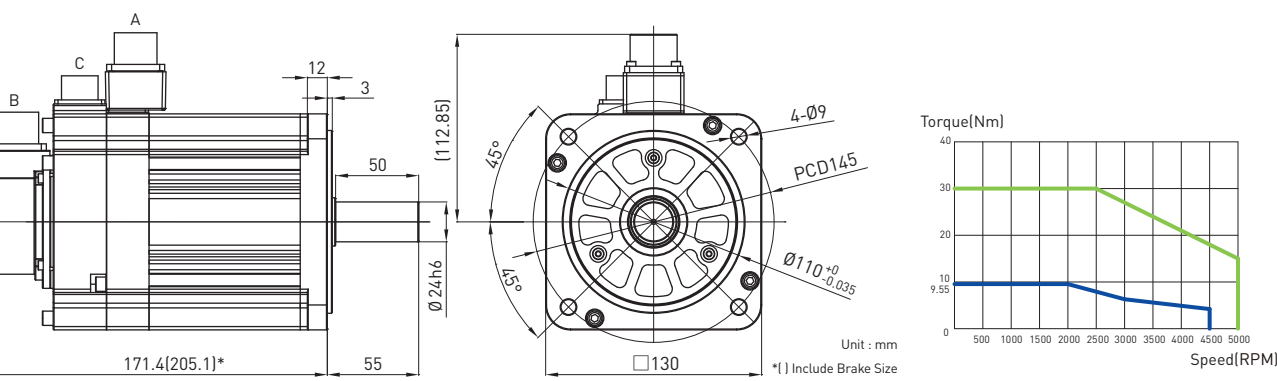


## Middle Inertia, High Speed

1.2 kW



2 kW



## Middle Inertia

750 W    1 kW    1.2 kW    2 kW

Motor Parameter	Symbol	Unit	EM1CM752□□□□	EM1AM1K2□□□□	EM1DM1A2□□□□	EM1DM2K2□□□□
Drive input voltage	V	V	AC220	AC220	AC220	AC220
Rated power	W	W	750	1000	1200	2000
Rated torque	Tc	Nm	2.39	4.77	5.73	9.55
Rated current	Ic	A(rms)	4.65	5.1	9.1	12
Max. torque	Tp	Nm	8.36	14.3	16	30
Max. current	Ip	A(rms)	18.6	15.3	27	42
Rated speed	ωc	RPM	3000	2000	2000	2000
Max. speed	ωp	RPM	6000	3000	5000	5000
Torque constant	Kt	Nm / Arms	0.514	0.935	0.63	0.796
Back EMF constant	Ke	Vrms / KRPM	33.48	54.15	41.52	50.49
Resistance (line to line)	R	Ω	1.08	0.81	0.482	0.264
Inductance (line to line)	L	mH	4.6	8	4.54	2.825
Rotor inertia [with brake]	J	kg·m <sup>2</sup> (×10 <sup>-4</sup> )	1.44 [1.47]	7.2 [8.0]	7.2 [8.0]	12.8 [13.3]
Mass [with brake]	M	kg	2.64 [3.30]	5.4 [6.2]	5.3 [6.1]	7.9 [8.7]
Insulation class	-	-	Class F			
Protection class	-	-	IP67	Total enclosed, self-cooled, IP65 (except for shaft and connector)		
Insulation resistance	-	-	10MΩ, DC 500V			
Insulation voltage resistance	-	-	AC1500V, 60 seconds			
Holding Brake Specifications						
Static friction torque	Tb	Nm	2.4	10	10	10
Enabled current	Ab	A	0.36	0.56	0.56	0.56
Brake input voltage	V	V	DC24 ±10%	DC24 ±10%	DC24 ±10%	DC24 ±10%
Braking time	to	ms	45	80	80	80
Release time	tr	ms	10	30	30	30

## E2 Drive Features

- 3.2 kHz speed response
- Tuneless function
- Advanced autotuning
- Ripple compensation
- Unique gantry control function
- Network with industrial communication devices
- Supports various motor types
- Built-in STO function
- Support various encoder interface protocols such as Digital, Analog, Tamagawa, EnDat, and BiSS-C

## Applications

Industries related to VDU, semiconductor, automation, laser cutting, PCB, etc.



## E2 Drive Model Description

