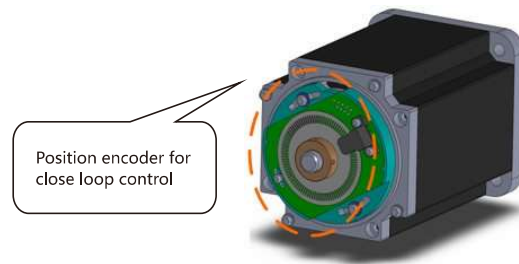


# Stepper Servo Motor

Simtach's new AM series stepper servo motors are based on Cz optimized magnetic circuit design and the latest compact M-shaped molds. The motor body uses high magnetic density stator and rotor materials with high energy efficiency.

- Built-in high-resolution encoder, support Z pulse homing
- The lightweight design of the AM series reduces the installation space of the motor
- Permanent magnet brake is optional, Z-axis brake is faster



## Naming of stepper servo motor

57   A   M   23   E   D   Z - Z  
 ①   ②   ③   ④   ⑤   ⑥   ⑦   ⑧

- |   |  |  |
|---|--|--|
| <p>① Base size</p> <p>④ Motor torque<br/>06:0.6Nm   30:3.0Nm<br/>120:12Nm</p> <p>⑦ Non-standard supplementary code<br/>Z:Encoder with Z signal output</p> | <p>② Step angle type code<br/>A: 1.8 degrees B: 1.2 degrees<br/>C: 0.72 degrees</p> <p>⑤ Encoder type<br/>E: 1000 line photoelectric encoder</p> <p>⑧ Brake motor code Z</p> | <p>③ Motor series code<br/>M: M series   None: Standard series</p> <p>⑥ Type of plug:<br/>C: Encoder AMP6 plug outlet<br/>D: Encoder DB9 plug outlet<br/>X: Encoder DB9/Motor AMP4 plug<br/>T: Encoder AMP6/Motor AMP4 plug<br/>H: Encoder AMP9/Motor AMP4 plug (high voltage)</p> |
|---|--|--|

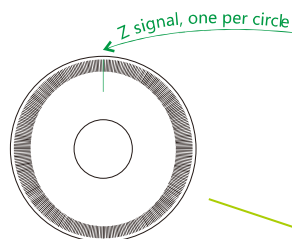
## Motor with brake



- Closed loop stepper motor with brake  
Suitable for Z-axis application environment. When the driver is powered off or alarms, the brake is applied to protect the workpiece and lock it to avoid free sliding.
- Permanent magnet brake  
Start/stop quickly, low heating
- 24V DC power supply  
Can use driver brake output port control  
Brake on/off, no need for external circuit

## Motor with Z signal encoder

- Closed loop stepper motor with Z signal  
Suitable for precision homing applications, Avoid the problem that the homing of the general sensor is biased due to the difference in the homing speed.
- Z signal differential output  
Z signal is 5V differential output, strong anti-interference ability
- PLUS driver with Z signal collector output  
PLUS driver adds Z signal reading and conversion output to realize Z signal output to PLC.  
PLUS driver integrates Z signal homing function



# Stepper Servo Motor

## Step servo motor specifications

EB+	EB-	EA+	EA-	VCC	GND
Green	Yellow	Brown	White	Red	Blue



42A series



42AM series



57 series



60 series

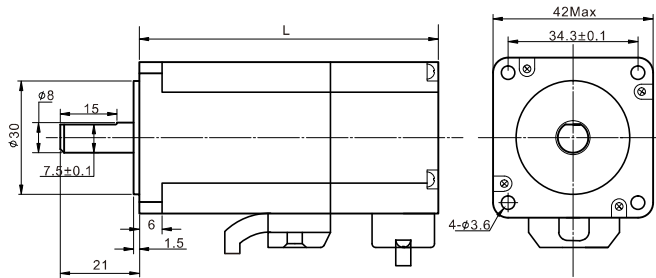


86 series

## Technical specifications

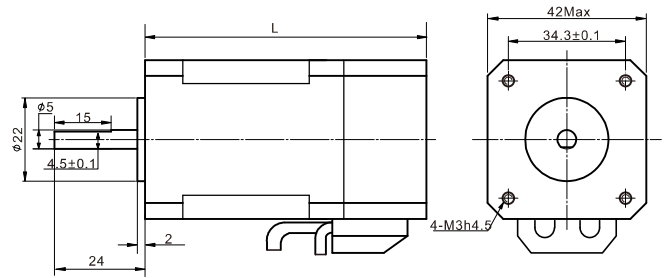
Model	Phase number	Step angle (°)	Holding torque (N.M)	Rated current (A)	Phase inductance (mH)	Phase resistance (Ohm)	Body length with brake (mm)	Rotor inertia (g.cm <sup>2</sup> )	Shaft diameter (mm)	Encoder resolution (ppr)	Motor body length L (mm)
42A03EC	2	1.8	0.3	2.0	1.9	1.6	-	77	8	4000	69
42A08EC	2	1.8	0.8	2.8	2.3	2.7	-	115	8	4000	85
42AM06ED	2	1.8	0.6	2.5	1.9	1.6	-	77	5	4000	67
42AM08ED	2	1.8	0.8	2.5	2.3	2.7	-	115	5	4000	79
57AM13ED	2	1.8	1.3	4.0	1.6	0.4	115	260	8	4000	77
57AM23ED	2	1.8	2.3	5.0	2.4	0.6	137	460	8	4000	98
57AM26ED	2	1.8	2.6	5.0	2.1	0.5	-	520	8	4000	106
57AM30ED	2	1.8	3.0	5.0	3.7	0.82	-	720	8	4000	124
60AM22ED	2	1.8	2.2	5.0	1.3	0.35	-	330	8	4000	79
60AM30ED	2	1.8	3.0	5.0	2.2	0.52	150	690	8	4000	107
60AM40ED	2	1.8	4.0	5.0	3.4	0.86	-	880	10	4000	124
86AM45ED	2	1.8	4.5	6.0	2.8	0.41	-	1400	14	4000	105
86AM65ED	2	1.8	6.5	6.0	4.1	0.47	-	2300	14	4000	127
86AM85ED	2	1.8	8.5	6.0	5.5	0.53	181	2800	14	4000	140
86AM120ED	2	1.8	12.0	6.0	8.3	1.72	220	4000	14	4000	182

### Dimensions of 42A series (mm)



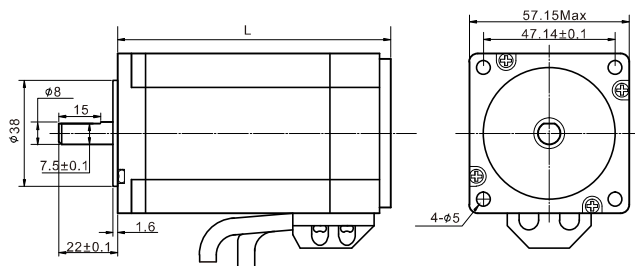
A+	A-	B+	B-
Red	Black	Yellow	Blue

### Dimensions of 42AM series (mm)



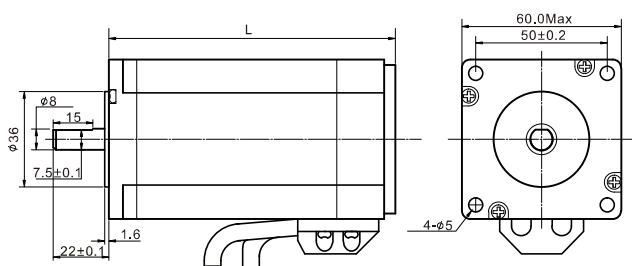
A+	A-	B+	B-
Red	Blue	Green	Black

### Dimensions of 57 series (mm)



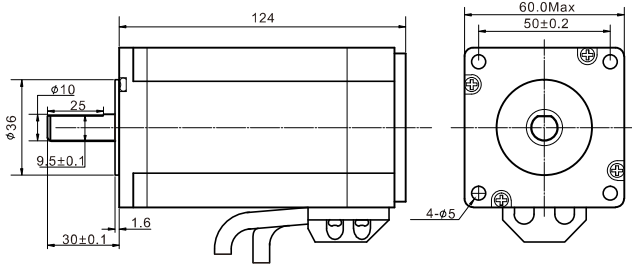
A+	A-	B+	B-
Red	Blue	Green	Black

### Dimensions of 60 series (mm)



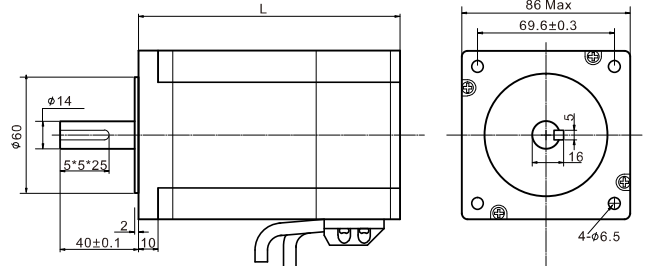
A+	A-	B+	B-
Red	Blue	Green	Black

### Dimensions of 60AM40ED (mm)



A+	A-	B+	B-
Red	Blue	Green	Black

### Dimensions of 86 series (mm)



A+	A-	B+	B-
Red	Blue	Green	Black

### High voltage stepper servo motor(matching driver: NT110)

EB+	EB-	EA+	EA-	VCC	GND
Green	Yellow	Brown	White	Red	Blue

86B8EH  
86B10EH



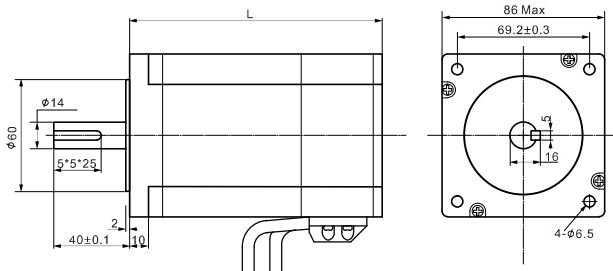
110B12EH  
110B20EH



### Technical specifications

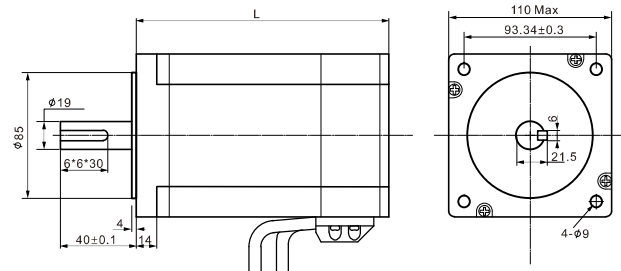
Model	Phase number	Step angle (°)	Holding torque (N.M)	Rated current (A)	Phase inductance (mH)	Phase resistance (Ohm)	Body length with brake	Rotor inertia (g.cm <sup>2</sup> )	Shaft diameter (mm)	Encoder resolution (ppr)	Motor body length L (mm)
86B8EH	3	1.2	8	6.0	17.4	2.6	195	2940	14	4000	150
86B10EH	3	1.2	10	6.0	18.9	2.7	221	4000	14	4000	178
110B12EH	3	1.2	12	4.2	13	1.2	-	10800	19	4000	162
110B20EH	3	1.2	20	5.2	18	1.9	-	17000	19	4000	244

### High voltage three-phase 86 series (mm)



U	V	W	PE
Red	Blue	Black	Yellow

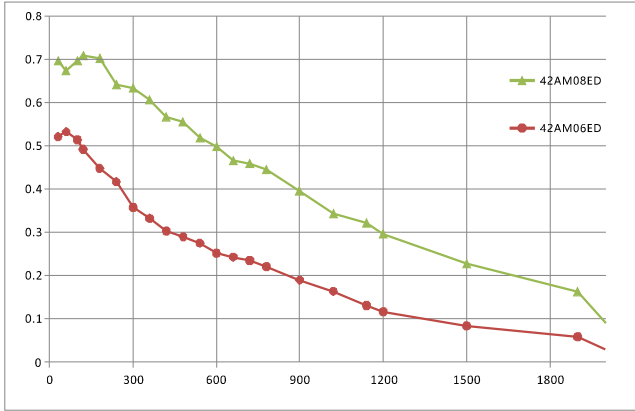
### High voltage three-phase 110 series (mm)



U	V	W	PE
Red	Blue	Black	Yellow

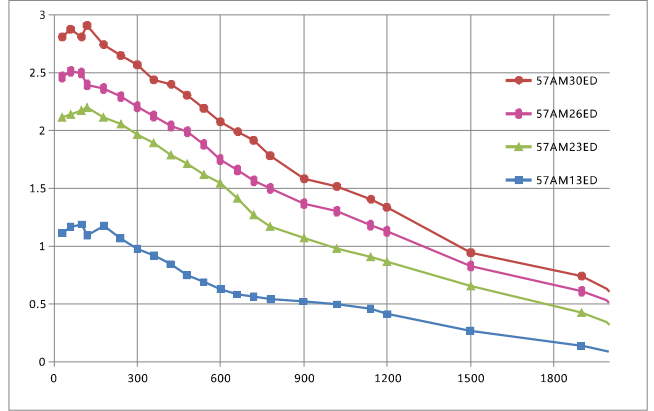
# Torque-Frequency Curve of Closed Loop Stepper Motors

Torque-frequency curve of 42 series stepper servo motors



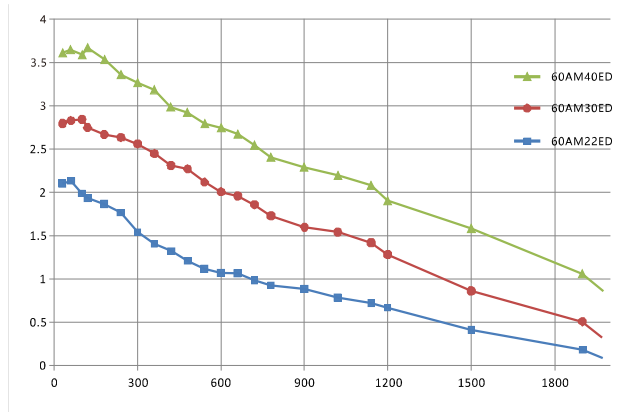
Driver: T42 Voltage: 24V DC

Torque-frequency curve of 57 series stepper servo motors



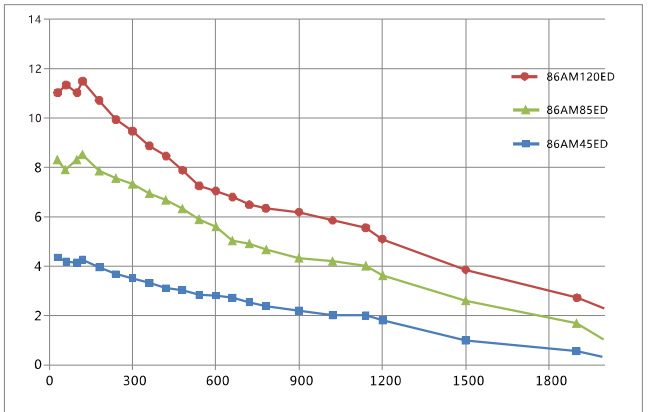
Driver: T60 Voltage: 36V DC

Torque-frequency curve of 60 series stepper servo motors



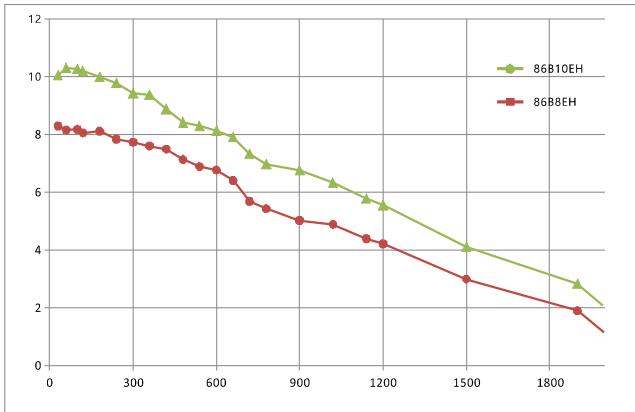
Driver: T60 Voltage: 48V DC

Torque-frequency curve of 86 series stepper servo motors



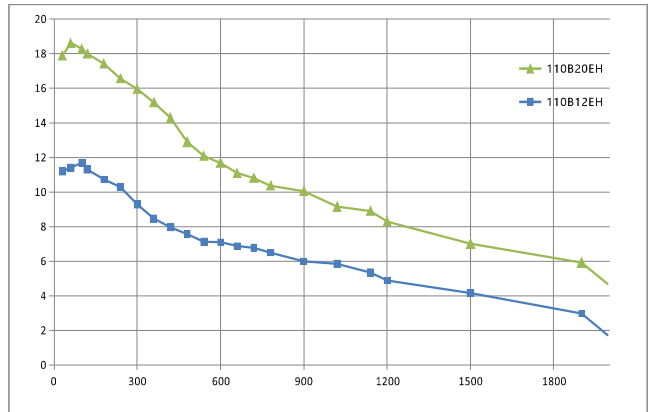
Driver: T86 Voltage: 60V DC

Torque-frequency curve of 86 series 3-phase high voltage stepper servo motors



Driver: NT110 Voltage: 220V DC

Torque-frequency curve of 110 series 3-phase high voltage stepper servo motors



Driver: NT110 Voltage: 220V DC