Leadshine

Stock Code: 002979

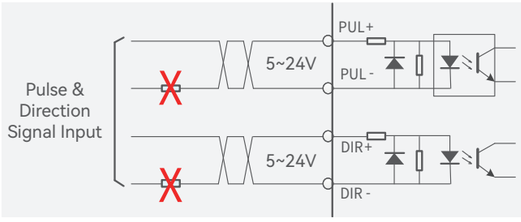
EM1 Series

New Generation Digital Stepper Drive

Product Highlights

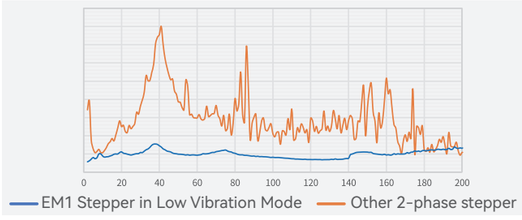
NEW Compatible with 5-24 V pulse input

- Opto-coupling isolation supports differential signal input, compatible with 5-24V pulse signal. No resistor required when using 24V input.



High Response & Low Vibration

- High Response Mode and Low Vibration Mode can be set using 2nd dip switch. Integrated with anti- resonance algorithm,motor jitter can be prevented when running at low speed.



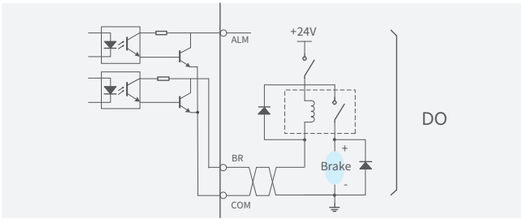
NEW 2nd DIP switches

- Can be used to set filter time, double pulse mode, limit pulse frequency 500 kHz (default 200 kHz), etc.

Dip Switch	Function	Description
SW 9	Microfine / filter setting	-
SW10	-	No filtering / filtering
SW11	auto-tuning setting	Power-on auto-tuning / no auto-tuning
SW12	Alarm output configuration setting	Often open / often closed
SW13	Effective edge settings	Rising edge / falling edge
SW14	Pulse mode setting	Single-pulse / double-pulse
SW15	Limit pulse frequency selection	500kHz /200kHz

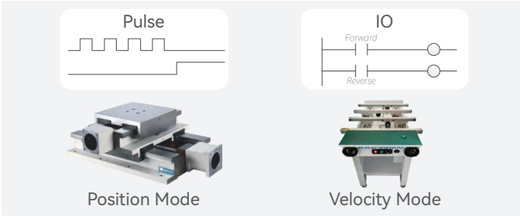
With alarm and brake output

- With alarm and brake output function, suitable for a variety of applications.



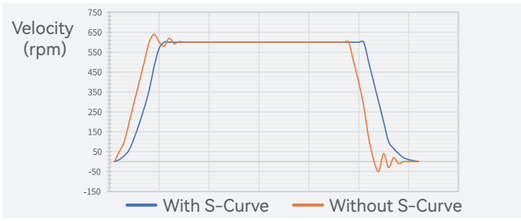
NEW Support both pulse and IO control

- Can be switched using tuning software to meet the operation requirements of more scenarios.



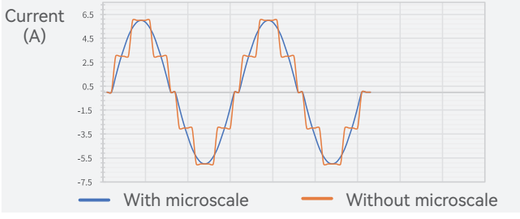
S-Curve

- Integrated S-Curve acceleration and deceleration Smooth speed curve, motor starts and stops at more stable pace.



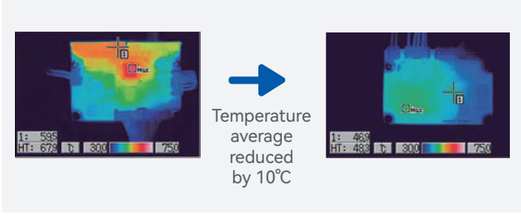
Built-in microscale

- Built-in microscopy power ridge for smooth motion curves.



Lower motor running temperature

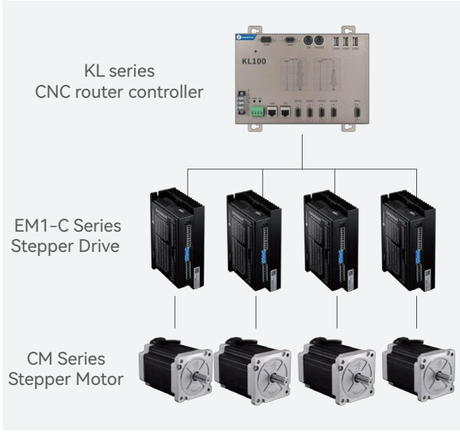
- High-precision current control, suppress electromagnetic noise, lowering motor temperature.



Product Solutions

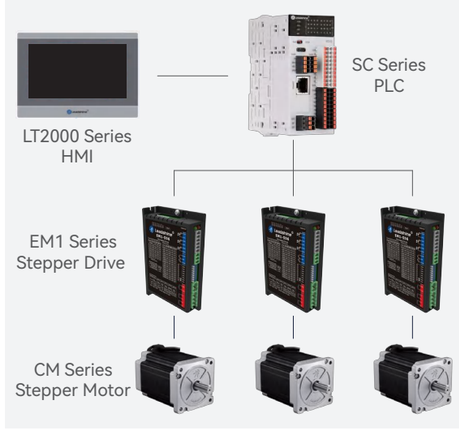
Woodworking CNC Router

- Simple tuning process using EM1-C Series Stepper Drive and CM series Stepper Motor.
- Up to 25% higher torque with low heating and lower vibration.
- Integrated with alarm and brake output for operational safety.



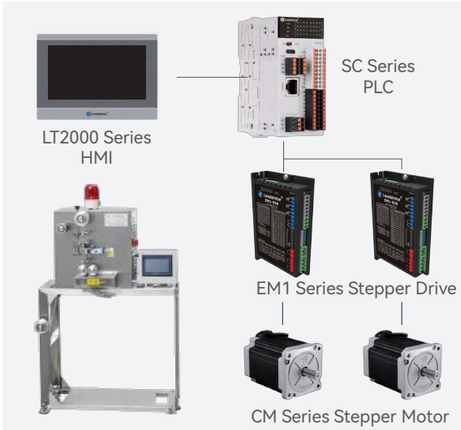
Labeling Machine

- Pulse control stepper system for easy setup of the machines.
- Precise label roller control and product conveying system using new EM1 series stepper drive.



Food Packaging Machine

- Full range of EM1 series stepper drives available for various type of machine application with matching stepper motors from NEMA 8 to 34.
- Pulse and IO control can be used for control using new EM1 series stepper drives.



Standard

EM1 series Stepper Drive

Drive Model						
	EM1-422	EM1-432	EM1-542	EM1-556	EM1-870	EM1-882AC
Dimension (L*W*H)	86*55.5*20.5		118*75.5*25.5	118*75.5*34		151*97*52
Matching Motors (Frame Size)	20/28/35/42	35/42	57	57/60	60/86	86
Input Voltage	20~36Vdc	20~36Vdc	24~50Vdc	24~50Vdc	24~80Vdc	20~70Vac 30~100Vdc
Max. Continuous Current Output	2.2A	3.2A	4.2A	5.6A	7.0A	8.2A
Pulse Voltage Input	5~24Vdc					
Max. Pulse Frequency	200kHz、500kHz Configurable					
Max. Current Output (Signal)	100mA（30Vdc Max. Voltage）					

Ports & Connectors

DIP Switch 2

Switch	Settings
SW9	Microminiature/Filter
SW10	
SW11	Auto Tuning
SW12	Alarm Output
SW13	Signal Edge
SW14	Pulse Mode
SW15	Pulse Frequency Limit
SW16	Gain Switching

Output

Pin	Function
ALM	Alarm Signal
BR	Brake Signal
COM	Signal Common

Power Port

Pin	Function
GND	Power input port
Vdc	

Input

Pin	Function
A+	Motor Phase-A
A-	
B+	Motor Phase-B
B-	

RS232 Port

Pin	Signal	Label
1	TxD	RS232 Transmit
2	GND	Ground
3	RxD	RS232 Receive
4	+5V	5V Power Supply Positive (50mA)

LED Indicator

Light	Signal
Green	Power ON PWR
Red	Alarm ALM

Input

Pin	Function
PUL+	Pulse
PUL-	
DIR+	Direction
DIR-	
ENA+	Enable
ENA-	

DIP Switch 1

Switch	Settings	Switch	Settings
SW1	Dynamic Current Direction	SW5	Precision
SW2		SW6	
SW3		SW7	
SW4	Half/Full Current	SW8	

Model Number

□ EM1 - □ 5 56 □ □ - □□□

Number of Axis

blank	Single
2	Dual

Product Series

EM	Digital Stepper

Series

blank	Classic series
1	Pulse series

Control Mode

blank	Pulse type
IO	IO type

Max. Input Voltage

4	40V
5	50V
8	80V

Peak Current Output

22	2.2A
42	4.2A
56	5.6A
70	7A
82	8.2A

Drive Version

blank	Standard version
C	Economy version

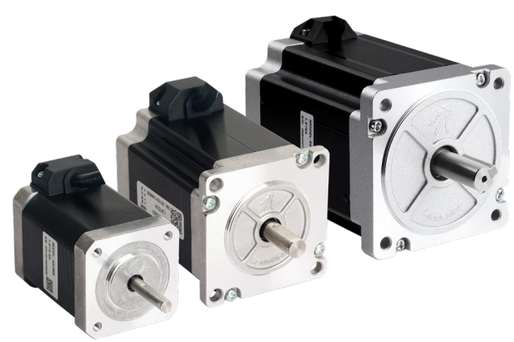
Input Power

blank	DC
AC	AC

Custom Code

XXX

CM Series Stepper Motor



Flange Size:

From NEMA 08(20mm) to NEMA 34(86mm)
2phase:20mm,28mm,35mm,42mm,57mm,60mm,86mm

Options

Dual shaft
IP65 waterproof
Encoder
Gearbox
Brake

Great Stability | **High torque** | **High consistency** | **Low Heating**

Specifications

Step Angle	Flange Size (mm)	Length (mm)	Model	Rated Current (A)	Holding Torque (N·m)	Matched Drive	Remark
2-Phase1.8°	NEMA 8 (20mm)	33	20CM003	0.6	0.03	EM1-422	
		45	20CM005	0.6	0.05	EM1-422	
	NEMA 11 (28mm)	32	28CM006	1.2	0.06	EM1-422	
		41	28CM010	1.2	0.1	EM1-422	
		51	28CM013	1.2	0.13	EM1-422	
	NEMA 14 (35mm)	33	35CM015	1.2	0.15	EM1-422	
		47	35CM04	1.5	0.4	EM1-422	
	NEMA 17 (42mm)	33	42CM02-1A	1	0.2	EM1-422	
			42CM02	1.5	0.2	EM1-422	
		40	42CM04-1A	1	0.4	EM1-422	
			42CM04	1.5	0.4	EM1-422	
		47	42CM06-1A	1.5	0.6	EM1-422	
			42CM06	2.5	0.6	EM1-432	High speed
			42CM06-SZ	2.5	0.6	EM1-432	Dual shaft
		79	42CM06-BZ	2.5	0.6	EM1-432	Brake
		60	42CM08-1A	1.5	0.8	EM1-422	
			42CM08	2.5	0.8	EM1-432	High speed
			42CM08-SZ	2.5	0.8	EM1-432	Dual shaft
		92	42CM08-BZ	2.5	0.8	EM1-432	Brake
	NEMA 23 (57mm)	41	57CM06	3	0.6	EM1-542	
		55	57CM13-3A	3	1.3	EM1-542	
			57CM13	4	1.3	EM1-542	
			57CM13-SZ	4	1.3	EM1-542	Dual shaft
		96	57CM13-BZ	4	1.3	EM1-542	Brake
		65	57CM13-FS	4	1.3	EM1-542	IP65
		76	57CM23-3A	3	2.3	EM1-556	
			57CM23-4A	4	2.3	EM1-556	
			57CM23	5	2.3	EM1-870	High speed
			57CM23-SZ	5	2.3	EM1-870	Dual shaft
		116	57CM23-BZ	5	2.3	EM1-870	Brake
		90	57CM23-FS	5	2.3	EM1-870	IP65
		85	57CM26-4A	4	2.6	EM1-556	
			57CM26	5	2.6	EM1-870	High speed
		84	57CM26-SZ	5	2.6	EM1-870	Dual shaft

Step Angle	Flange Size (mm)	Length (mm)	Model	Rated Current (A)	Holding Torque (N·m)	Matched Drive	Remark
	NEMA 24 (60mm) Installation 57mm	67	D57CM21-4A	4	2.1	EM1-556	
			D57CM21	6	2.1	EM1-870	High speed
			D57CM21-SZ	6	2.1	EM1-870	
		88	D57CM31-4A	4	3.1	EM1-556	
			D57CM31	6	3.1	EM1-870	High speed
			D57CM31-SZ	6	3.1	EM1-870	Dual shaft
	NEMA 24 (60mm)	67	60CM22X	5	2.2	EM1-870	
			60CM22X-SZ	5	2.2	EM1-870	Dual shaft
		85	60CM30X	5	3.0	EM1-870	
			60CM30X-SZ	5	3.0	EM1-870	Dual shaft
		125	60CM30X-BZ	5	3.0	EM1-870	Brake
		110	60CM35X-FS	5	3.5	EM1-870	IP65
	NEMA 34 (86mm)	65	86CM35	4	3.5	EM1-870	
		80	86CM45	6	4.5	EM1-870	
			86CM45-SZ	6	4.5	EM1-870	Dual shaft
		114	86CM45-BZ	6	4.5	EM1-870	Brake
		90	86CM45-FS	6	4.5	EM1-870	IP65
		98	86CM80	6	8.0	EM1-882AC	
		118	86CM85	6	8.5	EM1-882AC	
			86CM85-SZ	6	8.5	EM1-882AC	Dual shaft
		152	86CM85-BZ	6	8.5	EM1-882AC	Brake
		128	86CM85-FS	6	8.5	EM1-882AC	IP65
		129	86CM120	6	12	EM1-882AC	
		163	86CM120-BZ	6	12	EM1-882AC	Brake
		164	86CM120-FS	6	12	EM1-882AC	IP65

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