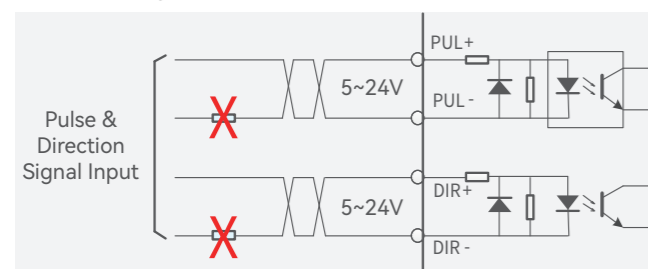


Product Highlights

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.



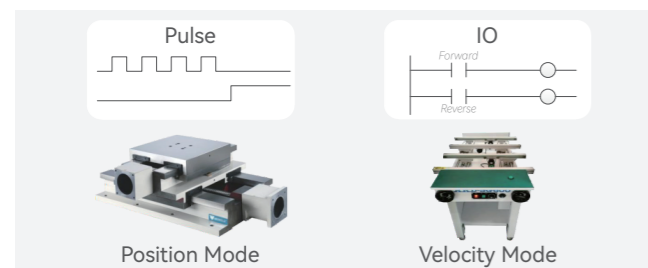
NEW 2nd DIP switches

- 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 |

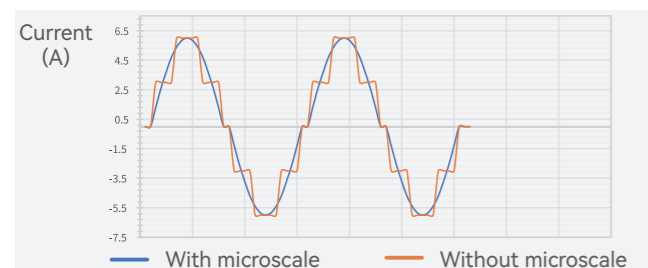
NEW Support both pulse and IO control

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



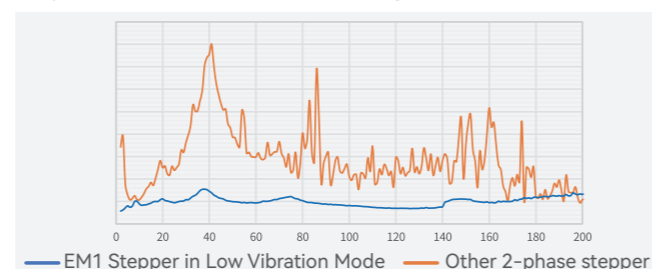
Built-in microscale

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



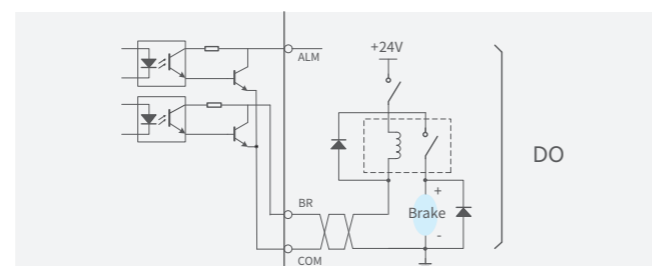
High Response & Low Vibration

- 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.



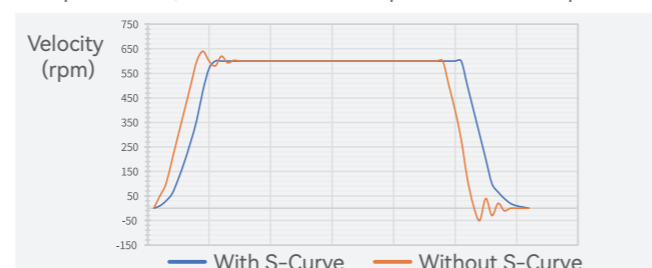
With alarm and brake output

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



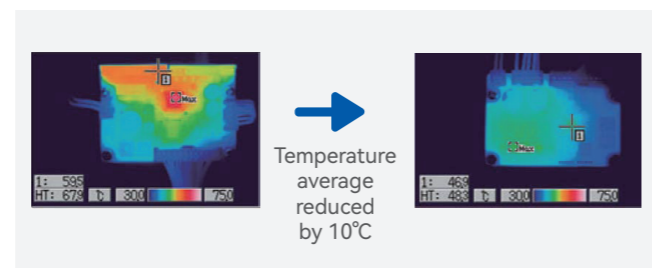
S-Curve

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



Lower motor running temperature

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



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 | | |

| Custom Code | | | |
|-------------|--|--|--|
| XXX | | | |

| Input Power | |
|-------------|----|
| blank | DC |
| AC | AC |

| Drive Version | |
|---------------|------------------|
| blank | Standard version |
| C | Economy version |

| Peak Current Output | | | |
|---------------------|------|----|------|
| 22 | 2.2A | 42 | 4.2A |
| 56 | 5.6A | 70 | 7A |
| 82 | 8.2A | | |

Standard series EM1 & Economic series EM1-C Comparison

| Function | Standard type EM1 series | Economic type EM1-C series |
|------------------------------------|--------------------------|----------------------------|
| Microscale | ✓ | ✓ |
| Anti-resonance | ✓ | |
| S-curve | ✓ | ✓ |
| High Response & Low Vibration Mode | ✓ | |
| Brake output | ✓ | |
| Alarm output | ✓ | |
| IO control | ✓ | |
| Overcurrent Alarm | ✓ | ✓ |
| Overvoltage Alarm | ✓ | ✓ |
| Low Voltage Alarm | ✓ | |
| Disconnection Detection | ✓ | |
| Overheat Detection | ✓ | ✓ |

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) | | | | | | | | | | | |

Economic

EM1-C series Stepper Drive

| Drive Model | EM1-322C | | EM1-442C | | EM1-542C | | EM1-556C | | EM1-860C | |
|--------------------------------|-------------------|--------------|----------|---------------|----------|-----------|----------|--|-----------------------|--|
| | Dimension (L*W*H) | 86*55.5*20.5 | | 118*75.5*25.5 | | 151*97*52 | | | | |
| Matching Motors (Frame Size) | 20/28/35/42 | | 42/57 | | 57 | | 57/60 | | 86 | |
| Input Voltage | 20~30Vdc | | 20~40Vdc | | 24~50Vdc | | 24~50Vdc | | 20~70Vac 30~100Vdc | |
| Max. Continuous Current Output | 2.2A | | 4.2A | | 4.2A | | 5.6A | | 7.2A | |
| Pulse Voltage Input | 5~24Vdc | | | | | | | | | |
| Max. Pulse Frequency | 200kHz | | | | | | | | | |

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 | SW5 | Precision |
| SW2 | | | |
| SW3 | Direction | SW6 | |
| SW4 | Half/Full Current | SW7 | |
| | | SW8 | |

Ports & Connectors

LED Indicator

| Light | Signal |
|-------|--------------|
| Green | Power ON PWR |
| Red | Alarm ALM |

Input

| Pin | Function |
|-----------|-----------|
| PUL+(+5V) | Pulse |
| PUL-(-5V) | |
| DIR+(+5V) | Direction |
| DIR-(-5V) | |
| ENA(+5V) | Enable |
| ENA-(-5V) | |

Power Port

| Pin | Function |
|-----|------------------|
| GND | Power input port |
| +V | |

Motor Port

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

DIP Switch

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

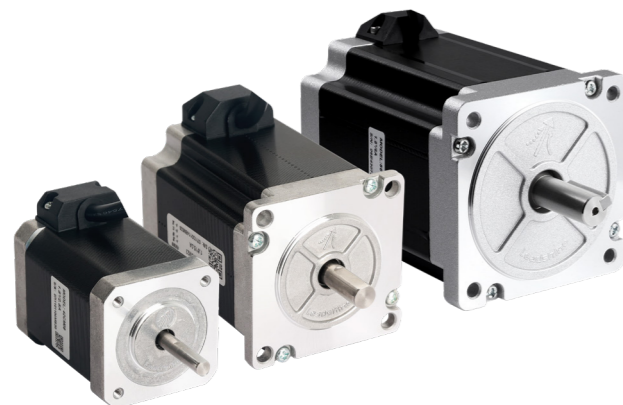
Power Port (For AC Voltage Input)

| Pin | Function |
|-----|------------------|
| AC | Power input port |
| AC | |

Output (For EM1-860C)

| Pin | Function |
|--------|--------------|
| Alarm+ | Alarm Signal |
| Alarm- | |
| Brake+ | Brake Signal |
| Brake- | |

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-Phase 1.8° | NEMA 8 (20mm) | 33 | 20CM003 | 0.6 | 0.03 | DM1-422 | |
| | | 45 | 20CM005 | 0.6 | 0.05 | DM1-422 | |
| | NEMA 11 (28mm) | 32 | 28CM006 | 1.2 | 0.06 | DM1-422 | |
| | | 41 | 28CM010 | 1.2 | 0.1 | DM1-422 | |
| | | 51 | 28CM013 | 1.2 | 0.13 | DM1-422 | |
| | NEMA 14 (35mm) | 33 | 35CM015 | 1.2 | 0.15 | DM1-422 | |
| | | 47 | 35CM04 | 1.5 | 0.4 | DM1-422 | |
| | NEMA 17 (42mm) | 33 | 42CM02-1A | 1 | 0.2 | DM1-422 | |
| | | | 42CM02 | 1.5 | 0.2 | DM1-422 | |
| | | 40 | 42CM04-1A | 1 | 0.4 | DM1-422 | |
| | | | 42CM04 | 1.5 | 0.4 | DM1-422 | |
| | | 47 | 42CM06-1A | 1.5 | 0.6 | DM1-422 | |
| | | | 42CM06 | 2.5 | 0.6 | DM1-432 | High speed |
| | | | 42CM06-SZ | 2.5 | 0.6 | DM1-432 | Dual shaft |
| | | 79 | 42CM06-BZ | 2.5 | 0.6 | DM1-432 | Brake |
| | | | 42CM08-1A | 1.5 | 0.8 | DM1-422 | |
| | | 60 | 42CM08 | 2.5 | 0.8 | DM1-432 | High speed |
| | 42CM08-SZ | | 2.5 | 0.8 | DM1-432 | Dual shaft | |
| | 92 | 42CM08-BZ | 2.5 | 0.8 | DM1-432 | Brake | |

| Step Angle | Flange Size (mm) | Length (mm) | Model | Rated Current (A) | Holding Torque (N·m) | Matched Drive | Remark |
|-------------------|------------------|----------------|------------|-------------------|----------------------|---------------|------------|
| 2-Phase 1.8° | NEMA 23 (57mm) | 41 | 57CM06 | 3 | 0.6 | DM1-542 | |
| | | 55 | 57CM13-3A | 3 | 1.3 | DM1-542 | |
| | | | 57CM13 | 4 | 1.3 | DM1-542 | |
| | | | 57CM13-SZ | 4 | 1.3 | DM1-542 | Dual shaft |
| | | 96 | 57CM13-BZ | 4 | 1.3 | DM1-542 | Brake |
| | | 65 | 57CM13-FS | 4 | 1.3 | DM1-542 | IP65 |
| | | 76 | 57CM23-3A | 3 | 2.3 | DM1-556 | |
| | | | 57CM23-4A | 4 | 2.3 | DM1-556 | |
| | | | 57CM23 | 5 | 2.3 | DM1-870 | High speed |
| | | | 57CM23-SZ | 5 | 2.3 | DM1-870 | Dual shaft |
| | | 116 | 57CM23-BZ | 5 | 2.3 | DM1-870 | Brake |
| | | 90 | 57CM23-FS | 5 | 2.3 | DM1-870 | IP65 |
| | | | 57CM26-4A | 4 | 2.6 | DM1-556 | |
| | | 85 | 57CM26 | 5 | 2.6 | DM1-870 | High speed |
| | | | 84 | 57CM26-SZ | 5 | 2.6 | DM1-870 |
| | | NEMA 24 (60mm) | 67 | D57CM21-4A | 4 | 2.1 | DM1-556 |
| D57CM21 | 6 | | | 2.1 | DM1-870 | High speed | |
| D57CM21-SZ | 6 | | | 2.1 | DM1-870 | | |
| Installation 57mm | 88 | | D57CM31-4A | 4 | 3.1 | DM1-556 | |
| | | D57CM31 | 6 | 3.1 | DM1-870 | High speed | |
| | | D57CM31-SZ | 6 | 3.1 | DM1-870 | Dual shaft | |
| NEMA 24 (60mm) | 67 | 60CM22X | 5 | 2.2 | DM1-870 | | |
| | | 60CM22X-SZ | 5 | 2.2 | DM1-870 | Dual shaft | |
| | 85 | 60CM30X | 5 | 3.0 | DM1-870 | | |
| | | 60CM30X-SZ | 5 | 3.0 | DM1-870 | Dual shaft | |
| | 125 | 60CM30X-BZ | 5 | 3.0 | DM1-870 | Brake | |
| 110 | 60CM35X-FS | 5 | 3.5 | DM1-870 | IP65 | | |
| NEMA 34 (86mm) | 65 | 86CM35 | 4 | 3.5 | DM1-870 | | |
| | | 80 | 86CM45 | 6 | 4.5 | DM1-870 | |
| | | | 86CM45-SZ | 6 | 4.5 | DM1-870 | Dual shaft |
| | 114 | 86CM45-BZ | 6 | 4.5 | DM1-870 | Brake | |
| | 90 | 86CM45-FS | 6 | 4.5 | DM1-870 | IP65 | |
| | 98 | 86CM80 | 6 | 8.0 | DM1-882AC | | |
| | | 118 | 86CM85 | 6 | 8.5 | DM1-882AC | |
| | 86CM85-SZ | | 6 | 8.5 | DM1-882AC | Dual shaft | |
| | 152 | 86CM85-BZ | 6 | 8.5 | DM1-882AC | Brake | |
| | 128 | 86CM85-FS | 6 | 8.5 | DM1-882AC | IP65 | |
| | 129 | 86CM120 | 6 | 12 | DM1-882AC | | |
| | 163 | 86CM120-BZ | 6 | 12 | DM1-882AC | Brake | |
| | | 164 | 86CM120-FS | 6 | 12 | DM1-882AC | IP65 |

Product Solutions

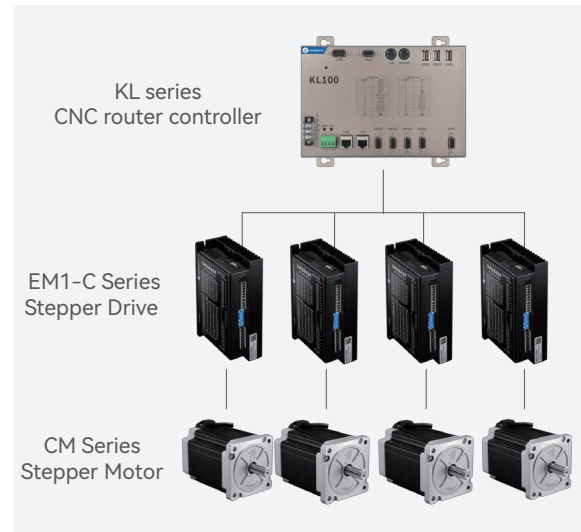
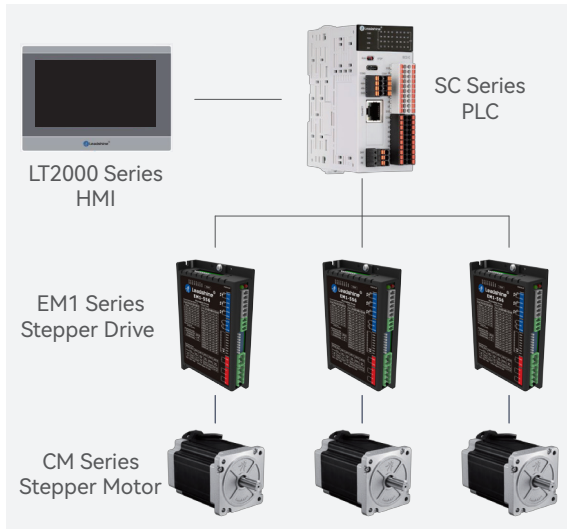
Woodworking CNC Router



- 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.



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