

- Bus type stepping driver  
DP3CL DP3C series stepping driver
- Pulse type stepping driver  
DP3F DP3L1 series stepping driver
- Stepping motor  
MP3 series stepping motor



# Stepping system

Bus type stepping driver · Pulse type stepping driver  
Stepping motor

# Bus type stepping driver

## DP3C closed-loop bus stepping driver

- Integrating EtherCAT bus technology
- Fast response
- Strong anti-interference ability
- Significantly improved performance



## DP3CL open loop bus stepping driver

- Excellent value
- Low cost while retaining the high performance and stability of DP3C



## ■ Integrating EtherCAT bus technology, the communication is faster

Support COE (CANopen over EtherCAT) protocol, conform to the CiA402 standard and support 32 axes. Support the master station with standard EtherCAT protocol. The communication cycle between the master station and the slave station can reach 32 axes 1ms at most.

## ■ Simple wiring and convenient equipment maintenance

A network cable replaces the traditional pulse direction signal cable, and is equipped with power cable and encoder cable, making the wiring simpler. It can greatly reduce the cable cost, labor cost and maintenance cost.



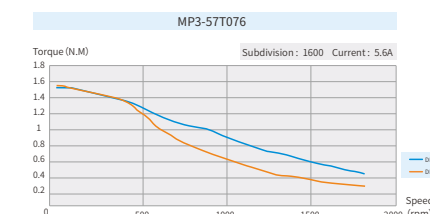
## ■ Higher reliability and anti-interference

Relying on the low bus load and point-to-point physical layer of EtherCAT bus, it can greatly suppress the generation of interference and clutter, and significantly improve the reliability and anti-interference ability of the system.

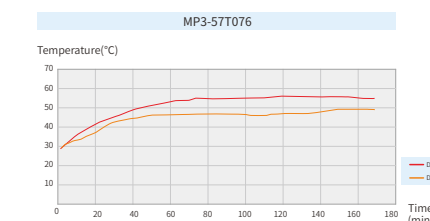
## ■ A new generation of control algorithm with better performance

EtherCAT bus technology combined with the latest control algorithm, greatly improves the performance

The torque is increased, which significantly improves the high-speed performance of the motor, up to 2000rpm.



The motor runs more smoothly and the temperature ising is significantly reduced



## Application scenario

### DP3C,DP3CL series bus stepping driver

It is suitable for electronics, laser and occasions requiring multi-axis control.

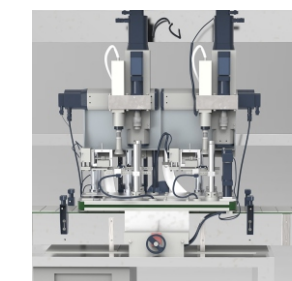
- 01 Stripping machine
- 02 Marking machine
- 03 Graph plotter
- 04 Medical equipment
- 05 Electronic processing equipment
- 06 Engraving machine
- 07 Laser machine
- 08 Cutting machine
- 09 Numerical control machine
- 10 Automatic assembly equipment



Graph plotter



Filling machine



Capping machine



Mask machine

Hardware interface

DP3C series

① LED display status

| Signal | Explanation             |
|--------|-------------------------|
| E_TX+  | EtherCAT data send +    |
| E_TX-  | EtherCAT data send -    |
| E_RX+  | EtherCAT data receive + |
| E_RX-  | EtherCAT data receive - |

\*Note: the cable length between EtherCAT bus nodes is recommended to be no more than 50m. It is recommended to use CAT5e 100M Ethernet cable with double-layer shielding layer or better.

③ Control signal interface

| Signal | Explanation                                                                                                                                                                                                                                                                                                     |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SI1+   | Differential input signal SI1, 24V is effective, max input frequency 200KHz, default probe input signal 1                                                                                                                                                                                                       |
| SI1-   |                                                                                                                                                                                                                                                                                                                 |
| SI2+   | Differential input signal SI2, 24V is effective, max input frequency 200KHz, default probe input signal 2                                                                                                                                                                                                       |
| SI2-   |                                                                                                                                                                                                                                                                                                                 |
| SI3    | Single ended input signal SI3-SI7, 12~24V is effective, max input frequency 10KHz, signal definition can be set. I3 default is origin point, I4, I5 default are positive/negative limit, I6, I7 default is general purpose. COMI is common terminal of singleended signal input, common anode or common cathode |
| SI6    |                                                                                                                                                                                                                                                                                                                 |
| SI4    |                                                                                                                                                                                                                                                                                                                 |
| SI7    |                                                                                                                                                                                                                                                                                                                 |
| SI5    |                                                                                                                                                                                                                                                                                                                 |
| COMI   |                                                                                                                                                                                                                                                                                                                 |
| SO1+   | Differential output signal OUT1, output max current 100mA, withstand voltage 30VDC, default is alarm output                                                                                                                                                                                                     |
| SO1-   |                                                                                                                                                                                                                                                                                                                 |
| SO2+   | Differential output signal OUT2, output max current 100mA, withstand voltage 30VDC, default is in place signal                                                                                                                                                                                                  |
| SO2-   |                                                                                                                                                                                                                                                                                                                 |
| SO3    | Single ended output, common cathode, max current 100mA, withstand voltage 30VDC                                                                                                                                                                                                                                 |
| SO6    | Single ended output, common cathode, max current 100mA, withstand voltage 30VDC                                                                                                                                                                                                                                 |
| SO4    | Single ended output, common cathode, max current 100mA, withstand voltage 30VDC                                                                                                                                                                                                                                 |
| 24V    | Used together with braking output                                                                                                                                                                                                                                                                               |
| SO5    | Single ended output, common cathode, max current 100mA, withstand voltage 30VDC                                                                                                                                                                                                                                 |
| BRK+   | Braking output +, max 500mA, withstand voltage 24V, can connect the brake directly without connecting the relay                                                                                                                                                                                                 |
| COMO   | Common terminal of the output common cathode                                                                                                                                                                                                                                                                    |
| BRK-   | Braking output -, max 500mA, withstand voltage 24V, can connect the brake directly without connecting the relay                                                                                                                                                                                                 |

\*Note: the standard configuration is without Z signal. If Z phase homing is required, the motor and encoder cables supporting Z signal shall be selected.

④ Encoder signal input terminal

| Signal | Explanation                                                                   |
|--------|-------------------------------------------------------------------------------|
| PE     | Shielding ground                                                              |
| NC     | Reserved signal                                                               |
| NC     | Reserved signal                                                               |
| VCC    | 5V power supply output, provided by the driver, only for encoder power supply |
| GND    |                                                                               |
| EZ+    | Encoder phase Z signal +                                                      |
| EZ-    | Encoder phase Z signal -                                                      |
| EB+    | Encoder phase B signal +                                                      |
| EB-    | Encoder phase B signal -                                                      |
| EA+    | Encoder phase A signal +                                                      |
| EA-    | Encoder phase A signal -                                                      |

\*Note: please use the special cable provided by Xinje company for communication. RS232 default communication parameters: baud rate 115200bps, data bit 8, stop bit 1, even parity, station no.1.

⑥ Power supply terminal

| Signal | Explanation                 |
|--------|-----------------------------|
| GND    | Power supply ground         |
| VDC    | Power supply positive input |

\*Note: Xinje's standard power cable diameter is 0.75mm².

⑦ Upper computer communication RS232 port

| Signal | Explanation   |
|--------|---------------|
| TXD    | RS232 send    |
| RXD    | RS232 receive |
| GND    | RS232 ground  |

\*Note: please use the special cable provided by Xinje company for communication. RS232 default communication parameters: baud rate 115200bps, data bit 8, stop bit 1, even parity, station no.1.

⑧ Node address selection knob

The node address can be set through the combination of two hexadecimal rotary dialing codes MSD (high bit) and LSD (low bit).

⑤ Motor winding terminal

| Signal | Explanation             |
|--------|-------------------------|
| A+     | Motor winding phase A + |
| B+     | Motor winding phase B + |
| A-     | Motor winding phase A - |
| B-     | Motor winding phase B - |

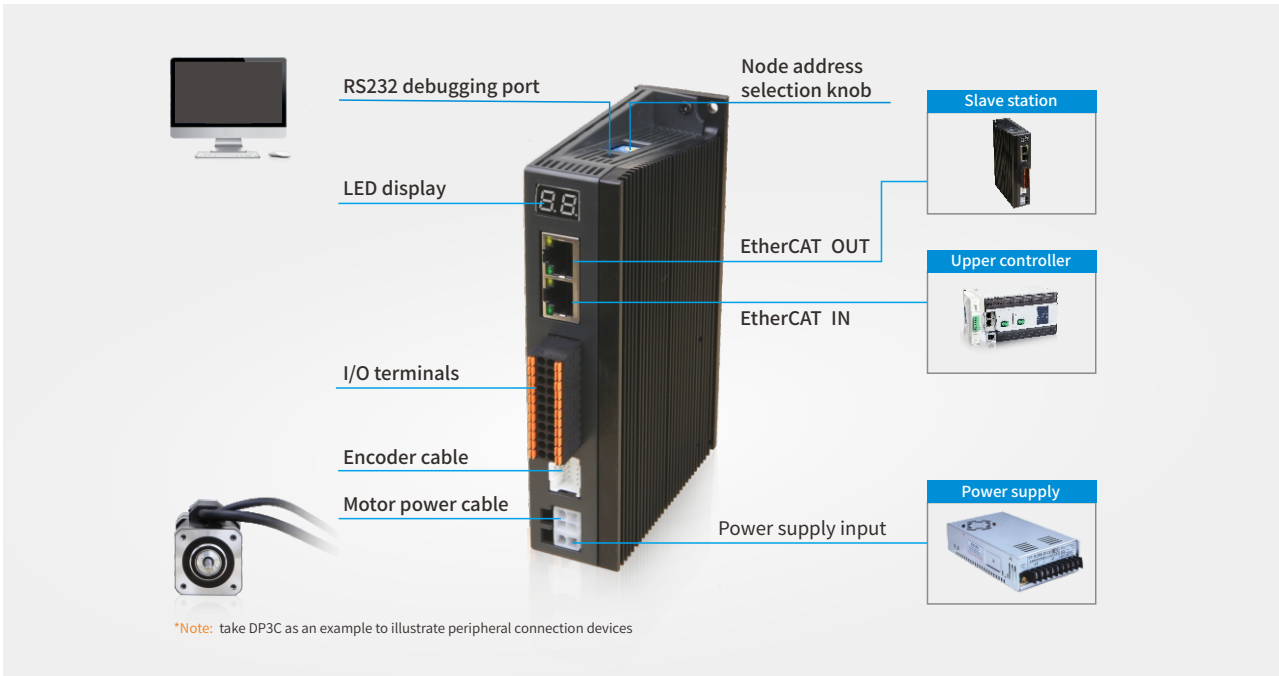
\*Note: Xinje's standard power cable diameter is 0.75mm².

DP3C series displays operation speed, state machine/operation mode, node address, alarm fault and other information through two digits LED.

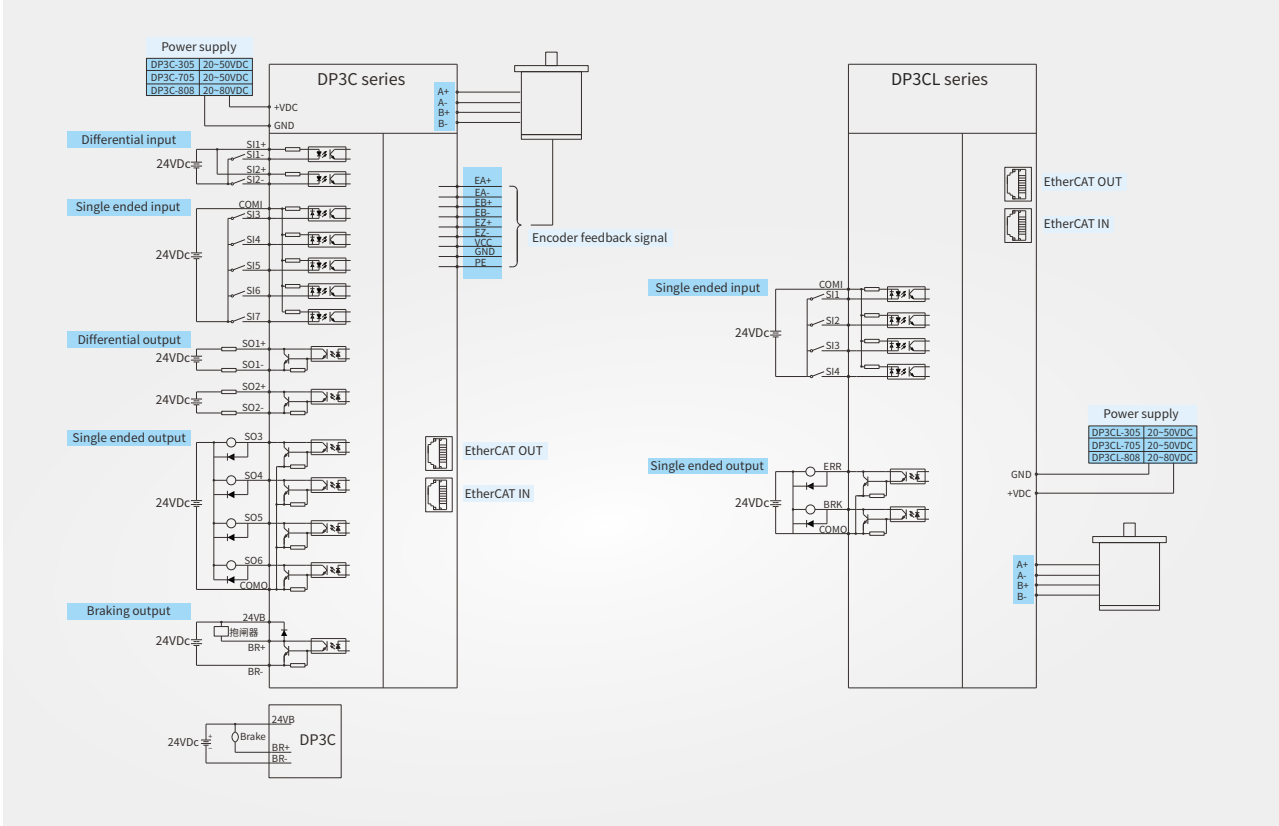
| Stage                                                           | Display information                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power on initial stage                                          | After the driver is powered on, the two LEDs are on for 0.5s, and display the actual node address of the current driver in hexadecimal. During this period, the LED node address flashes at an interval of 1s (0.5s on and 0.5s off). The time is 5s in total. After that, it enters the normal operation stage |
| Normal operation stage (parameter modification display content) | Speed (r/s)<br>Operation mode, state machine: hexadecimal display (default)<br>Node address: always on display                                                                                                                                                                                                  |

\*Note: during initialization and normal operation, if the node address is changed, the LED flashes at an interval of 1s (0.5s on, 0.5s off), and then continues to return to the original state after 5s.

Driver peripheral circuit



Driver wiring diagram



DP3CL series

① Power and alarm indicator light

| Color       | Function                 |
|-------------|--------------------------|
| Green light | Power supply display PWR |
| Red light   | Fault alarm indicator    |

\*Note: when a fault occurs, the indicator light flashes continuously, pauses for one second and then flashes continuously.

② Upper computer communication RS232 port

| Signal | Explanation   |
|--------|---------------|
| TXD    | RS232 send    |
| RXD    | RS232 receive |
| GND    | RS232 ground  |

\*Note: please use the special cable provided by Xinje company for communication. RS232 default communication parameters: baud rate 115200bps, data bit 8, stop bit 1, even parity, station no.1.

③ EtherCAT terminal

| Signal | Explanation             |
|--------|-------------------------|
| E_TX+  | EtherCAT data send +    |
| E_TX-  | EtherCAT data send -    |
| E_RX+  | EtherCAT data receive + |
| E_RX-  | EtherCAT data receive - |

\*Note: the cable length between EtherCAT bus nodes is recommended to be no more than 50m. It is recommended to use CAT5e 100M Ethernet cable with double-layer shielding layer or better.

④ Control signal terminal

| Signal | Explanation                                                                                                                                                                                                                                                            |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SI1    | Single ended input signal SI1-SI4, 24V is effective, max pulse frequency 10KHz, the signal definition can be set. SI1, SI2, SI3, SI4 default is alarm clear, left/right limit and originpoint. COMI is single ended input signal common terminal, supports NPN and PNP |
| SI2    |                                                                                                                                                                                                                                                                        |
| SI3    |                                                                                                                                                                                                                                                                        |
| SI4    |                                                                                                                                                                                                                                                                        |
| COMI   |                                                                                                                                                                                                                                                                        |
| COMO   | Output common terminal COM                                                                                                                                                                                                                                             |
| ERR    | Alarm output, max 50mA, withstand voltage 24V                                                                                                                                                                                                                          |
| BRK    | Braking output, max 500mA, withstand voltage 24V, can connect the brake directly without connecting the relay                                                                                                                                                          |

⑤ Motor and power supply input interface

| Interface | Function               |
|-----------|------------------------|
| A+, A-    | Motor phase A          |
| B+, B-    | Motor phase B          |
| GND       | DC power supply ground |
| +V        | DC power supply +      |

⑥ Top dial switch

| Dial number   | Explanation                    |
|---------------|--------------------------------|
| SW1, SW2, SW3 | Dynamic current setting        |
| SW4           | Half current/full current mode |
| SW5, SW6      | Filter time                    |
| SW7           | Direction                      |
| SW8           | Station switching              |

Product model

| Driver model naming

DP3 C L - 70 5

①      ②      ③      ④      ⑤

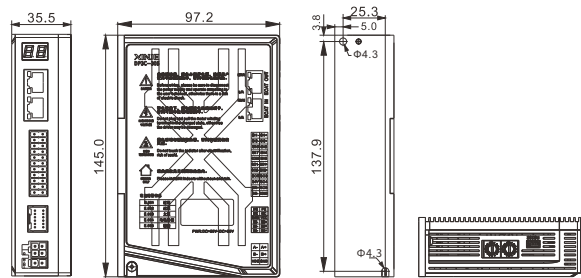
| ① Name |                 | ② Series |                | ③ Control type |                     | ④ Driver output peak current |         | ⑤ Driver max power supply voltage |         |
|--------|-----------------|----------|----------------|----------------|---------------------|------------------------------|---------|-----------------------------------|---------|
| Sign   | Product name    | Sign     | Product series | Sign           | Current             | Sign                         | Current | Sign                              | Current |
| DP3    | Stepping driver | C        | Bus type       | L              | Open loop control   | 30                           | 3.0A    | 5                                 | 50V     |
|        |                 |          |                | None           | Closed-loop control | 70                           | 7.0A    | 8                                 | 80V     |
|        |                 |          |                |                |                     | 80                           | 8.4A    |                                   |         |

Driver specification

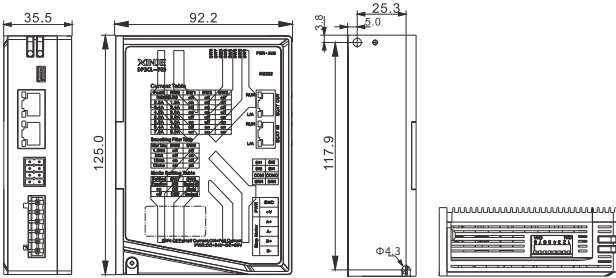
| Driver model                          |                         | DP3C-305                                                                                                                                            | DP3C-705                                                      | DP3C-808 | DP3CL-305                                                              | DP3CL-705                                                     | DP3CL-808 |
|---------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|----------|------------------------------------------------------------------------|---------------------------------------------------------------|-----------|
| Input power supply voltage (VDC)      |                         | 20~50                                                                                                                                               | 20~50                                                         | 20~80    | 20~50                                                                  | 20~50                                                         | 20~80     |
| Recommended power supply voltage(VDC) |                         | 24~36                                                                                                                                               | 57motor recommended 24~36;86 or high-speed motor recommend48V | 48Above  | 24~36                                                                  | 57motor recommended 24~36;86 or high-speed motor recommend48V | 48Above   |
| Using environment(A)                  |                         | 1~3                                                                                                                                                 | 1~7                                                           | 1~8.4    | 1~3                                                                    | 1~7                                                           | 1~8.4     |
| Adaptive motor (base)                 |                         | 42                                                                                                                                                  | 57/60                                                         | 86       | 42                                                                     | 57/60                                                         | 86        |
| External dimension (mm)               |                         | 97.2*145.0*35.5                                                                                                                                     |                                                               |          | 92.2*125.0*35.5                                                        |                                                               |           |
| Input signal                          |                         | Alarm output, in place output, brake signal output, user-defined output                                                                             |                                                               |          | Origin input, positive/negative limit, alarm clear, user-defined input |                                                               |           |
| Output signal                         |                         | Alarm output, brake signal output, user-defined output                                                                                              |                                                               |          | Alarm output, brake signal output, user-defined output                 |                                                               |           |
| Alarm function                        |                         | Over current, over voltage, out of tolerance, communication error, etc                                                                              |                                                               |          |                                                                        |                                                               |           |
| Debugging software                    |                         | Xinje stepping driver software                                                                                                                      |                                                               |          |                                                                        |                                                               |           |
| Using environment                     | Use occasion            | Try to avoid dust, oil mist and corrosive gas. Combustible gas and conductive dust are prohibited in places with high humidity and strong vibration |                                                               |          |                                                                        |                                                               |           |
|                                       | Ambient temperature     | 0℃~50℃                                                                                                                                              |                                                               |          |                                                                        |                                                               |           |
|                                       | Max working temperature | 60℃                                                                                                                                                 |                                                               |          |                                                                        |                                                               |           |
|                                       | Humidity                | 40%~90% RH(no condensation or water droplets)                                                                                                       |                                                               |          |                                                                        |                                                               |           |
|                                       | Vibration               | 5.9m/s² Max                                                                                                                                         |                                                               |          |                                                                        |                                                               |           |
|                                       | Storage temperature     | -20℃~65℃                                                                                                                                            |                                                               |          |                                                                        |                                                               |           |

Driver dimension (Unit: mm)

DP3C-305,DP3C-705,DP3C-808

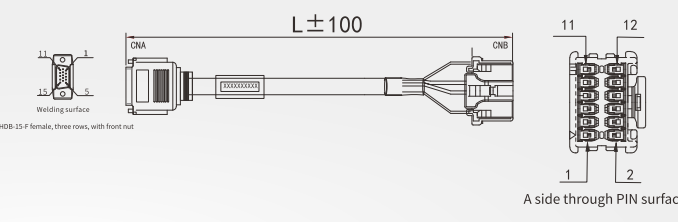


DP3CL-305,DP3CL-705,DP3CL-808



Accessories

| Encoder cable

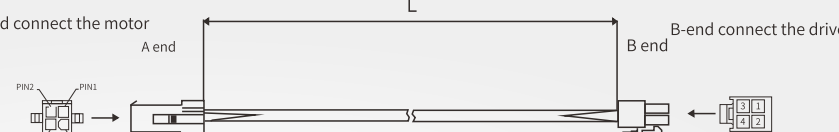


| Model    | Length L(m) |
|----------|-------------|
| CP-MD-2  | 2           |
| CP-MD-3  | 3           |
| CP-MD-5  | 5           |
| CP-MD-8  | 8           |
| CP-MD-10 | 10          |
| CP-MD-12 | 12          |
| CP-MD-16 | 16          |

| CNA side   | 1    | 2      | 3            | 11    | 12          | 13         |
|------------|------|--------|--------------|-------|-------------|------------|
| Color      | Blue | Yellow | Yellow black | Green | Green black | Blue black |
| Definition | A+   | VCC    | GND          | B+    | B-          | A-         |
| CNB side   | 11   | 5      | 6            | 9     | 10          | 12         |

\*Note: if Z signal output is required, please use encoder cable [CP-MD-Z-length].

| Power cable



| Model      | Length L(m) |
|------------|-------------|
| CM-MP07-2  | 2           |
| CM-MP07-3  | 3           |
| CM-MP07-5  | 5           |
| CM-MP07-8  | 8           |
| CM-MP07-10 | 10          |
| CM-MP07-12 | 12          |
| CM-MP07-16 | 16          |

| A end PIN  | 1     | 2     | 3    | 4            |
|------------|-------|-------|------|--------------|
| Definition | B+    | A+    | A-   | B-           |
| Color      | Black | Brown | Blue | Yellow green |
| B end PIN  | 2     | 1     | 3    | 4            |

\*Note: for customers who want to make cable by themselves, they can choose JAMP-M4-P4 accessory package, which contains the terminals of driver and motor, and can press the cables by themselves. If you need this bus driver with open-loop motor, please choose JAMP-M4 accessories, including the driver terminal, which can press the cable by yourself.

| EtherCAT bus cable

| Model     | Length (m) |
|-----------|------------|
| JC-CB-0P1 | 0.1        |
| JC-CB-0P2 | 0.2        |
| JC-CB-0P3 | 0.3        |
| JC-CB-0P5 | 0.5        |
| JC-CB-1   | 1          |
| JC-CB-3   | 3          |
| JC-CB-5   | 5          |
| JC-CB-10  | 10         |
| JC-CB-20  | 20         |

| Power supply cable



| Model    | Length (m) |
|----------|------------|
| JC-PM-20 | 2          |

Each driver will be delivered with a power cable for free. For additional needs, the purchase models are as follows:

# Pulse type stepping driver

## DP3F closed-loop pulse stepping driver

- Closed loop control and torque lifting to prevent step loss
- Higher running speed and acceleration
- More stable operation at low speed
- The plug-in wiring is simple and fast
- Pulse and direction input voltage support 5V and 24V
- Comprehensive overvoltage, overcurrent, undervoltage and short circuit protection functions

Applicable occasions: various small and medium-sized automation equipment and instruments, such as engraving machine, stripping machine, cutting machine, etc.



## DP3L1 open loop pulse stepping driver

- Smaller size and space saving
- Reliable quality and excellent performance
- Large output, fast speed, stable operation and low temperature rising
- Pulse direction supports 5~24V
- New open loop IO stepping driver:  
Dial code speed regulation, IO trigger, stable start and stop, uniform speed, widely used in conveying equipment, docking station, PCB feeder

Applicable occasions: all kinds of small and medium-sized automation equipment and instruments, such as labeling machine, 3C, photovoltaic, lithium battery, bearing, labeling canned, winding machine



## DP3L high voltage open loop pulse stepping driver

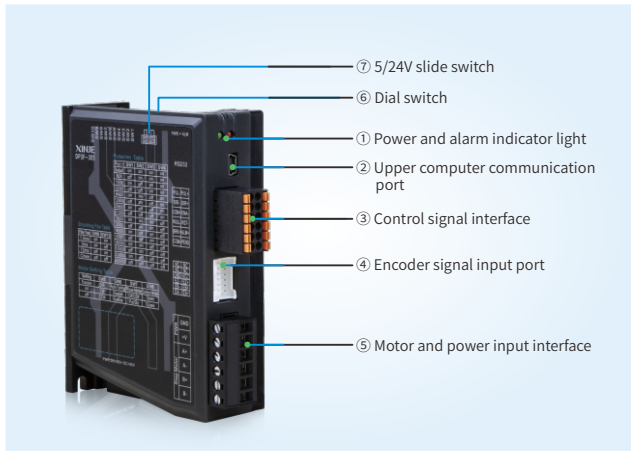
- Supply voltage 220~240VAC
- Pulse and direction input voltage support 5V and 24V
- New control algorithm, significantly improved performance  
The medium and high speed torque is 10~30% higher than the original product

Applicable occasions: slicer, clothing packaging machine, non-woven bag making machine, glove machine, etc.



# Hardware interface

## DP3F series



### ① Power and alarm indicator light

| Color       | Function              |
|-------------|-----------------------|
| Green light | Power display PWR     |
| Red light   | Fault alarm indicator |

| Flashing message           | Fault explanation                     |
|----------------------------|---------------------------------------|
| Flash once                 | Over current or short circuit         |
| Flash continuously twice   | Over voltage                          |
| Flash continuously 3 times | Under voltage                         |
| Flash continuously 4 times | Open circuit or poor contact of motor |
| Flash continuously 5 times | Position overlimit                    |

### ② Flashing message

| Signal | Explanation   |
|--------|---------------|
| TXD    | RS232 send    |
| RXD    | RS232 receive |
| GND    | RS232 ground  |

\*Note: please use the special cable provided by Xinje company for communication. RS232 default communication parameters: baud rate 115200bps, data bit 8, stop bit 1, even parity, station no.1.

\*Note: when a fault occurs, the indicator light flashes continuously, pauses for one second and then flashes continuously.

### ③ Control signal interface

| Signal  | Function                      |
|---------|-------------------------------|
| PUL+    | Pulse control signal          |
| PUL-    |                               |
| DIR+    | Direction control signal      |
| DIR-    |                               |
| ENA-    | Enable input signal           |
| RST-    | Alarm clear input signal      |
| COM+    | Input signal common terminal  |
| ALM+    | Alarm output signal           |
| PEND+/Z | In place/Z signal output      |
| BRK+    | Brake output signal           |
| COM-    | Output signal common terminal |

### ④ Output signal common terminal

| Sign | Name                                                                          |
|------|-------------------------------------------------------------------------------|
| NC   | Reserved signal                                                               |
| NC   | Reserved signal                                                               |
| NC   | Reserved signal                                                               |
| NC   | Reserved signal                                                               |
| VCC  | 5V power supply output, provided by the driver, only for encoder power supply |
| GND  |                                                                               |
| EZ+  | Encoder Z phase signal +                                                      |
| EZ-  | Encoder Z phase signal -                                                      |
| EB+  | Encoder B phase signal +                                                      |
| EB-  | Encoder B phase signal -                                                      |
| EA+  | Encoder A phase signal +                                                      |
| EA-  | Encoder A phase signal -                                                      |

### ⑤ Motor and power input interface

| Interface | Function               |
|-----------|------------------------|
| A+, A-    | Motor phase A          |
| B+, B-    | Motor phase B          |
| GND       | DC power supply ground |
| +V        | DC power supply +      |

### ⑥ Dial switch

| Dial switch | Function                                    |
|-------------|---------------------------------------------|
| SW1-SW4     | Subdivision setting                         |
| SW5         | Motor operation initial direction selection |
| SW6         | Z/in place signal                           |
| SW7         | Control signal pulse mode selection         |
| SW8         | Open/closed loop selection                  |
| SW9         | Command smooth filter                       |
| SW10        |                                             |

## DP3L1 series



### ① Power and alarm indicator light

| Color       | Function              |
|-------------|-----------------------|
| Green light | Power display PWR     |
| Red light   | Fault alarm indicator |

\*Note: when a fault occurs, the indicator light flashes continuously, pauses for one second and then flashes continuously.

| Flashing message           | Fault explanation                     |
|----------------------------|---------------------------------------|
| Flash once                 | Over current or short circuit         |
| Flash continuously twice   | Over voltage                          |
| Flash continuously 4 times | Open circuit or poor contact of motor |

### ② Control signal interface

| Interface | Function                      |
|-----------|-------------------------------|
| PUL+      | Pulse signal input +          |
| PUL-      | Pulse signal input -          |
| DIR+      | Pulse direction input +       |
| DIR-      | Pulse direction input -       |
| ENA+      | Enable/release signal input + |
| ENA-      | Enable/release signal input - |
| ERR       | Driver error signal output    |
| COM       | Error signal ground           |

### ④ Power supply interface

| Interface | Function               |
|-----------|------------------------|
| GND       | DC power supply ground |
| +V        | DC power supply +      |

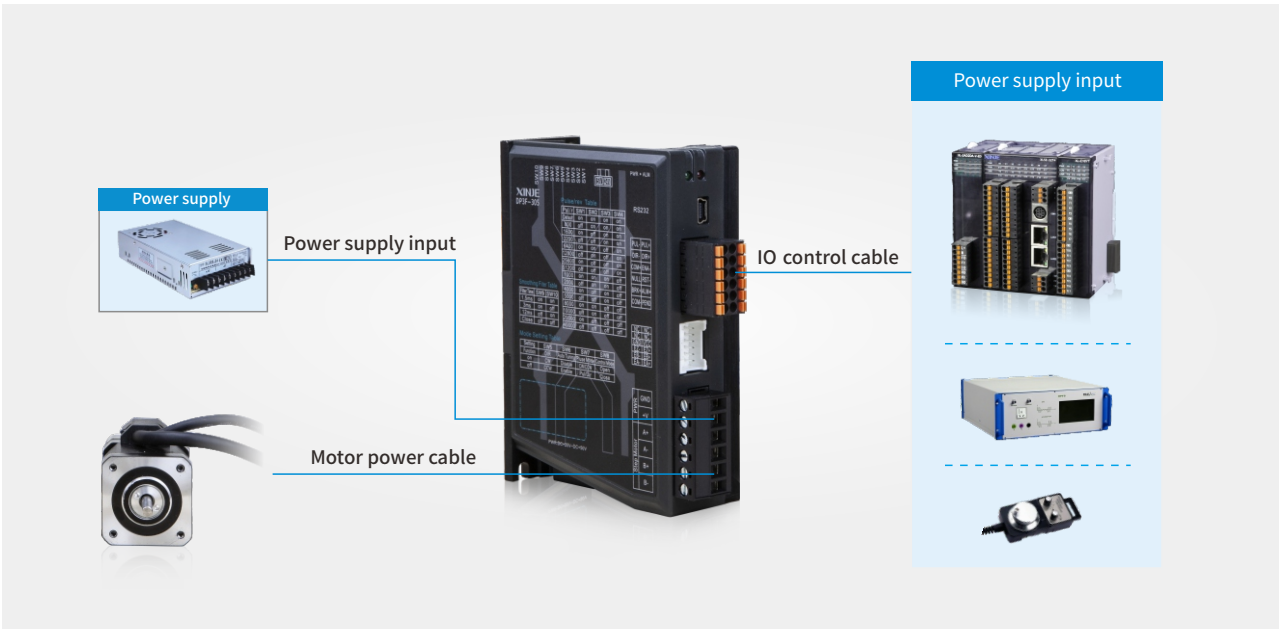
### ⑤ Motor power cable interface

| Interface | Function      |
|-----------|---------------|
| A+, A-    | Motor phase A |
| B+, B-    | Motor phase B |

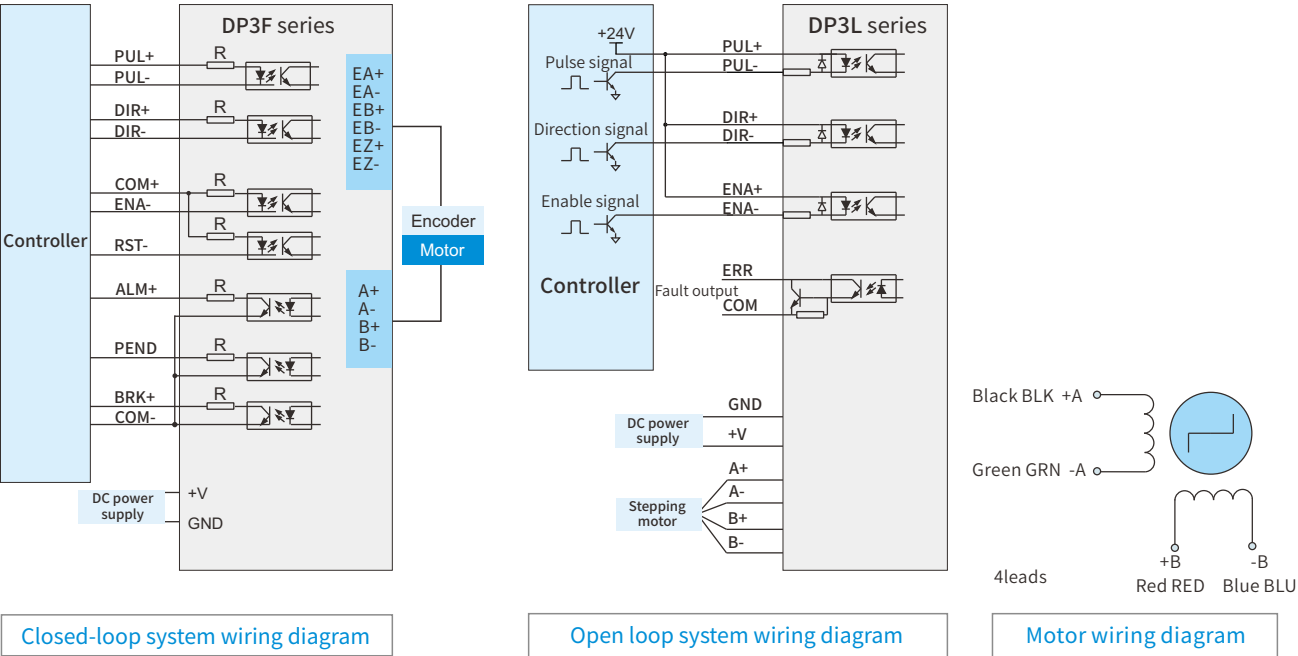
### ③ Dial switch

| Dial switch | Function                     |
|-------------|------------------------------|
| SW1~SW3     | Dynamic current setting      |
| SW4         | Half/full current setting    |
| SW5~SW8     | Subdivision accuracy setting |

Driver peripheral circuit



Driver wiring diagram



Product model

Driver naming rule

DP3 L - 110 22 A 3

|                |                    |               |                    |                              |         |                                   |         |
|----------------|--------------------|---------------|--------------------|------------------------------|---------|-----------------------------------|---------|
| ① Name         |                    | ② Series      |                    | ③ Driver output peak current |         | ④ Driver max power supply voltage |         |
| Sign           | Product name       | Sign          | Product series     | Sign                         | Current | Sign                              | Voltage |
| DP3            | Stepping driver    | F             | Closed-loop type   | 22                           | 2.2A    | 4                                 | 40V     |
|                |                    | L             | Open loop type     | 30                           | 3.0A    | 5                                 | 50V     |
|                |                    | L1            | Driver type        | 42                           | 4.2A    | 8                                 | 80V     |
|                |                    |               |                    | 56                           | 5.6A    | 22                                | 220V    |
|                |                    |               |                    | 70                           | 7.0A    |                                   |         |
|                |                    |               |                    | 80                           | 8.0A    |                                   |         |
|                |                    |               |                    | 110                          | 11.0A   |                                   |         |
| ⑤ Voltage type |                    | ⑥ Driver type |                    |                              |         |                                   |         |
| Sign           | Power supply type  | Sign          | Driver type        |                              |         |                                   |         |
| A              | AC/DC power supply | 3             | Three-phase driver |                              |         |                                   |         |
| None           | DC power supply    | None          | Two-phase driver   |                              |         |                                   |         |

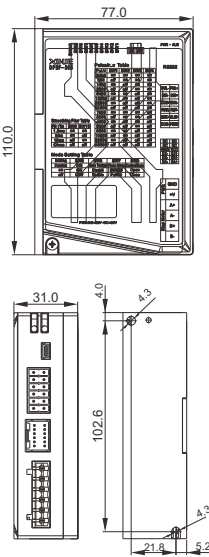
Driver specification

|                     |                                    | DP3F closed-loop pulse type                    |               |                 |                   |
|---------------------|------------------------------------|------------------------------------------------|---------------|-----------------|-------------------|
| Driver model        |                                    | DP3F-305                                       | DP3F-705      | DP3F-808        | DP3F-808A         |
| Basic specification | Input power supply voltage (V)     | DC 20~50                                       | DC 20~50      | DC 20~80        | AC 20~80          |
|                     | Output current peak value (A)      | 1~3                                            | 1~7           | 1~8.4           | 1~8.4             |
|                     | Adaptive motor (base)              | 42                                             | 57/86         | 86              | 86                |
|                     | Dimension (mm)                     | 110*77*31                                      | 110*77*31     | 135*86.7*35.5   | 131*112.2*35      |
|                     | Stepping pulse frequency (kHz)     | 24V signal 200K, 5V differential signal 500K   |               |                 |                   |
| Use environment     | Control signal input voltage (VDC) | 5/24(slide switch setting)                     |               |                 |                   |
|                     | Use occasion                       | Avoid dust, oil mist and corrosive gas         |               |                 |                   |
|                     | Ambient temperature                | 0°C~50°C                                       |               |                 |                   |
|                     | Max working temperature            | 60°C                                           |               |                 |                   |
|                     | Humidity                           | 40%~90% RH (no condensation or water droplets) |               |                 |                   |
|                     | Vibration                          | 5.9m/s² Max                                    |               |                 |                   |
|                     | Storage temperature                | -20°C~65°C                                     |               |                 |                   |
|                     |                                    |                                                |               |                 |                   |
|                     |                                    | DP3L1 economic open-loop pulse type            |               |                 |                   |
| Driver model        |                                    | DP3L1-224                                      | DP3L1-565     | DP3L1-805A      | DP3L1-808A        |
| Basic specification | Input power supply voltage (V)     | DC 20~40                                       | DC 20~50      | DC20-80/AC20-50 | DC 20~110/AC20~80 |
|                     | Output current peak value (A)      | 0.5~2.2                                        | 1.4~5.6       | 2.7~8.4         | 2.7~8.4           |
|                     | Adaptive motor (base)              | 42                                             | 57/86         | 86              | 86                |
|                     | Dimension (mm)                     | 80*55*21.3                                     | 105*75.8*27.8 | 150*97.5*52.6   | 150*97.5*56       |
|                     | Stepping pulse frequency (kHz)     | 200 KHz                                        |               |                 |                   |
| Use environment     | Control signal input voltage (VDC) | 5-24V                                          |               |                 |                   |
|                     | Use occasion                       | Avoid dust, oil mist and corrosive gas         |               |                 |                   |
|                     | Ambient temperature                | 0°C~50°C                                       |               |                 |                   |
|                     | Max working temperature            | 60°C                                           |               |                 |                   |
|                     | Humidity                           | 40%~90% RH(no condensation or water droplets)  |               |                 |                   |
|                     | Vibration                          | 5.9m/s² Max                                    |               |                 |                   |
|                     | Storage temperature                | -20°C~65°C                                     |               |                 |                   |
|                     |                                    |                                                |               |                 |                   |

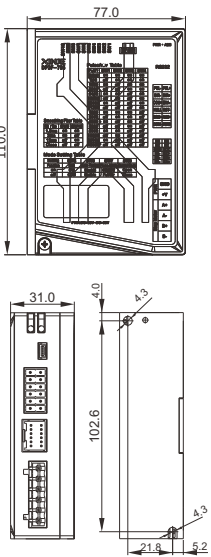
# Driver dimension

(Unit: mm)

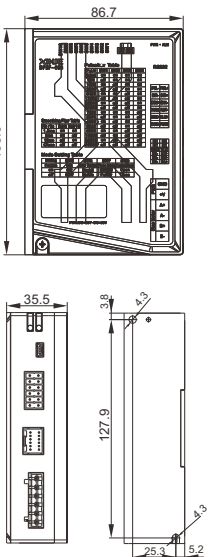
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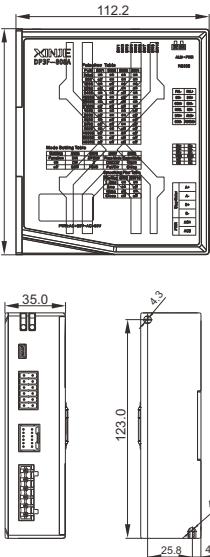
DP3F-705



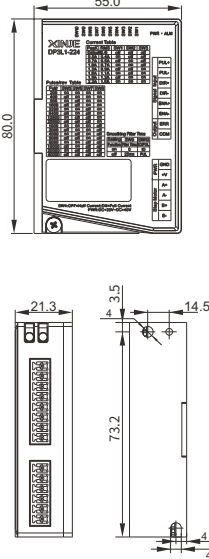
DP3F-808



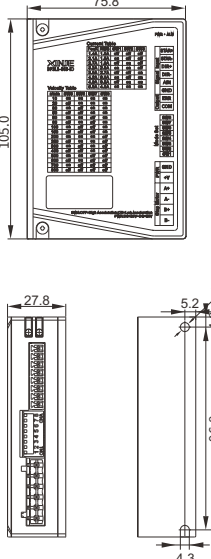
DP3F-808A



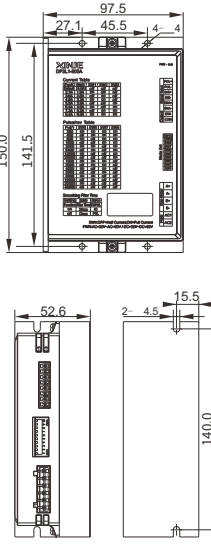
DP3L1-224



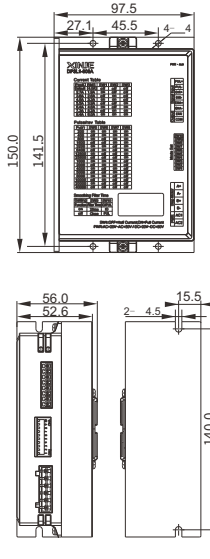
DP3L1-565/DP3L1-565-IO



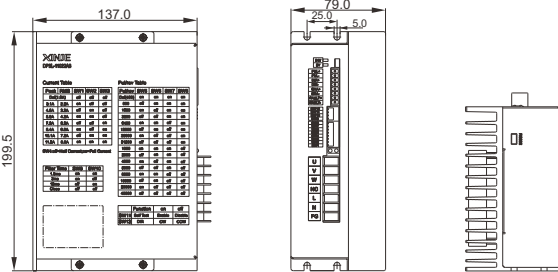
DP3L1-805A



DP3L1-808A



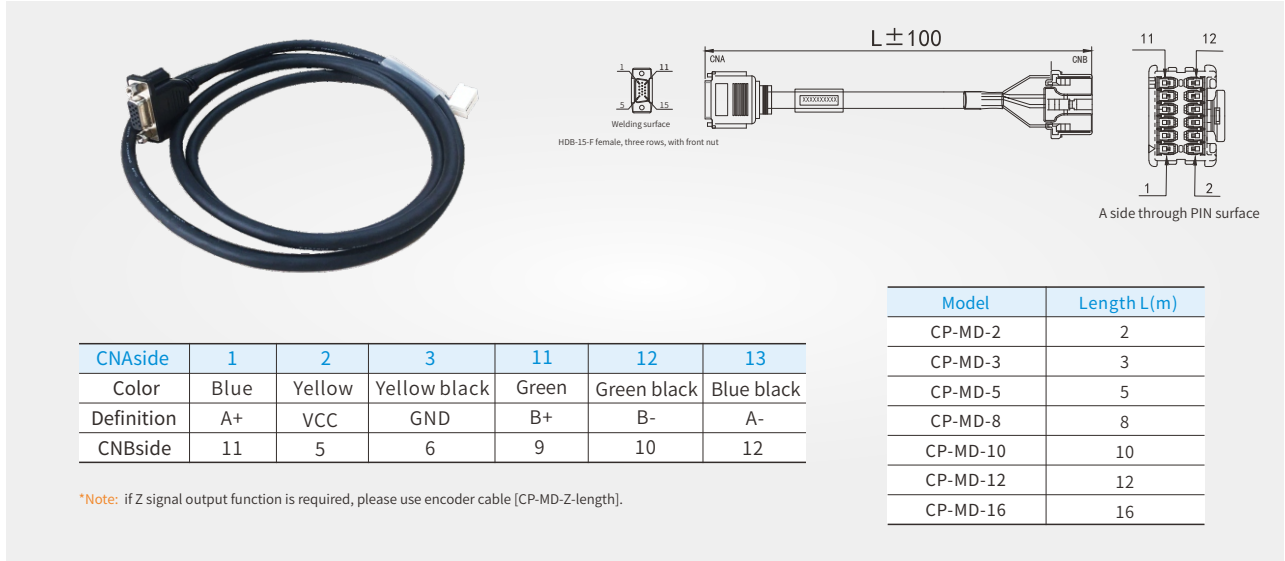
DP3L-11022A3



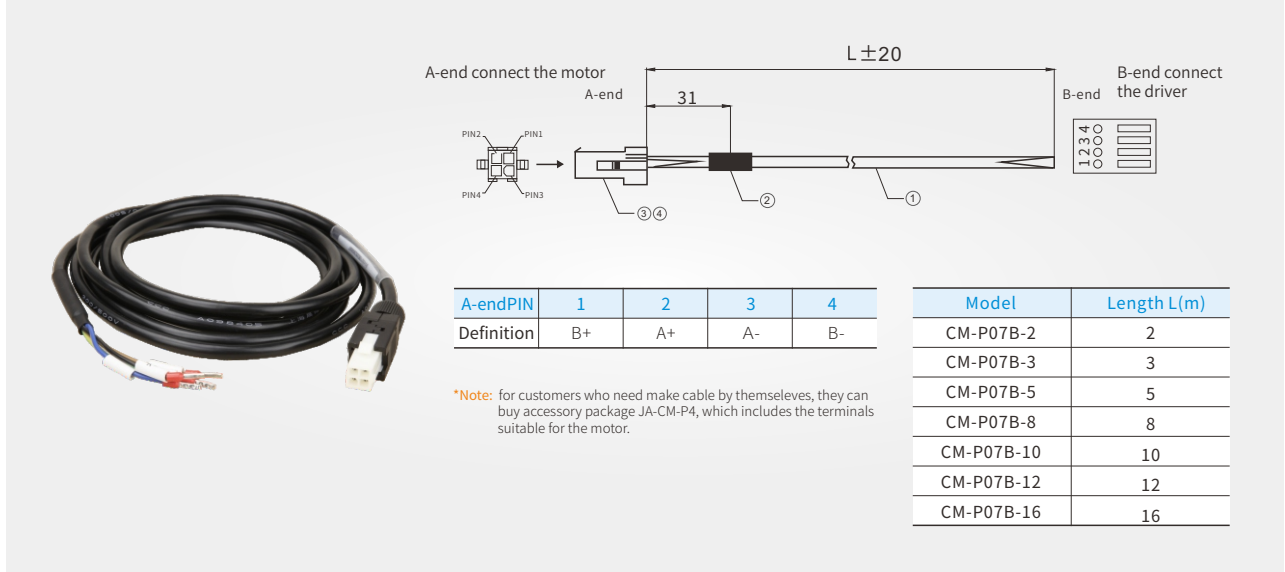
# Accessories

\*Note: suitable for DP3F series

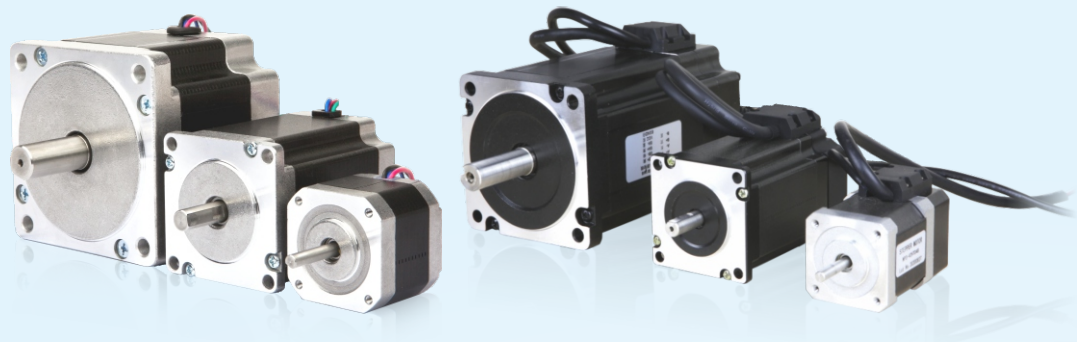
## | Encoder cable



## | Length



# Stepping motor



## Motor naming rule

MP3- 57 H □ □ 076 - □  
① ② ③ ④ ⑤ ⑥ ⑦

| ① Name |                | ② Base number |             | ③ Open close loop type |                          | ④ Special motor type |                  | ⑤ Brake type |                 | ⑥ Body length |             | ⑦ General customized code |                                        |
|--------|----------------|---------------|-------------|------------------------|--------------------------|----------------------|------------------|--------------|-----------------|---------------|-------------|---------------------------|----------------------------------------|
| Sign   | Product name   | Sign          | Base number | Sign                   | Type                     | Sign                 | Type             | Sign         | Power-off brake | Sign          | Body length | Sign                      | Type                                   |
| MP3    | Stepping motor |               | 42          | H                      | Standard open loop motor | I                    | Waterproof motor | Vacant       | Brake type      | 040           | 40mm        | B                         | Right angle flat (without keyway)shaft |
|        |                |               | 57          |                        |                          |                      |                  |              |                 | 048           | 48mm        | D                         | Shaft diameter change                  |
|        |                |               | 60          |                        |                          |                      |                  |              |                 | 056           | 56mm        | L                         | Shaft length change                    |
|        |                |               | 86          |                        |                          |                      |                  |              |                 | 060           | 60mm        | Z                         | Z phase output closed-loop motor       |
|        |                |               | 110         |                        |                          |                      |                  |              |                 | 065           | 65mm        |                           |                                        |
|        |                |               | 130         |                        |                          |                      |                  |              |                 | 076           | 76mm        |                           |                                        |
|        |                |               |             |                        |                          |                      |                  |              |                 | 080           | 80mm        |                           |                                        |
|        |                |               |             |                        |                          |                      |                  |              |                 | 088           | 88mm        |                           |                                        |
|        |                |               |             |                        |                          |                      |                  |              |                 | 118           | 118mm       |                           |                                        |
|        |                |               |             |                        |                          |                      |                  |              |                 | 150           | 150mm       |                           |                                        |

\*Note: the body length of the closed-loop motor needs to add the encoder length based on the open-loop motor. The encoder cable lengths include: 42 motor 18mm, 57 motor 20mm, 60 motor 22mm, 86 motor 26mm.

## Adaptation table of closed-loop motor and driver

| Closed-loop motor model |              | Base number (mm) | Step angle (°) | Holding torque (N.m) | Phase current (A) | Motor shaft   | Motor shaft diameter (mm) | Adaptive driver |
|-------------------------|--------------|------------------|----------------|----------------------|-------------------|---------------|---------------------------|-----------------|
| Standard series         | Brake series |                  |                |                      |                   |               |                           |                 |
| MP3-42T048              | /            | 42               | 1.8            | 0.5                  | 1.68              | Flat          | 5                         | DP3F/C-305      |
| MP3-42T060              | /            |                  | 1.8            | 0.8                  | 1.7               | Flat          | 5                         |                 |
| MP3-57T056              | /            | 57               | 1.8            | 1.3                  | 4                 | Flat          | 8                         | DP3F/C-705      |
| MP3-57T056-D6.35        | /            |                  | 1.8            | 1.3                  | 4                 | Flat          | 6.35                      |                 |
| MP3-57T076              | MP3-57TZ076  |                  | 1.8            | 2.3                  | 5                 | Flat          | 8                         |                 |
| MP3-57T088              | MP3-57TZ088  |                  | 1.8            | 3                    | 5                 | Flat          | 8                         |                 |
| MP3-57T110              | /            |                  | 1.8            | 3                    | 4                 | Flat          | 8                         |                 |
| MP3-60T088              | MP3-60TZ088  | 60               | 1.8            | 3                    | 5                 | Flat          | 8                         | DP3F/C-808      |
| MP3-86T080              | MP3-86TZ080  |                  | 1.8            | 4.5                  | 6                 | Flat key 5*25 | 14                        |                 |
| MP3-86T080-D12.7        | /            | 86               | 1.8            | 4.5                  | 6                 | Flat key 5*25 | 12.7                      |                 |
| MP3-86T098              | MP3-86TZ098  |                  | 1.8            | 8                    | 6                 | Flat key 5*25 | 14                        |                 |
| MP3-86T118              | MP3-86TZ118  |                  | 1.8            | 8.5                  | 6                 | Flat key 5*25 | 14                        |                 |
| MP3-86T118-D12.7        | /            |                  | 1.8            | 8.5                  | 6                 | Flat key 5*25 | 12.7                      |                 |
| MP3-86T150              | MP3-86TZ150  |                  | 1.8            | 12                   | 6                 | Flat key 5*25 | 14                        |                 |

## Adaptation table of three-phase open loop motor and driver

| Three-phase open loop motor model |              | Base number (mm) | Step angle (°) | Holding torque (N.m) | Phase current (A) | Motor shaft   | Motor shaft diameter (mm) | Adaptive driver |
|-----------------------------------|--------------|------------------|----------------|----------------------|-------------------|---------------|---------------------------|-----------------|
| Standard series                   | Brake series |                  |                |                      |                   |               |                           |                 |
| MP3-110H3153                      | /            | 110              | 1.2            | 12                   | 6                 | Flat key 6*30 | 19                        | DP3L-11022A3    |
| MP3-110H3186                      | /            |                  | 1.2            | 16                   | 6.4               | Flat key 6*30 | 19                        |                 |
| MP3-110H3221                      | /            |                  | 1.2            | 20                   | 6.9               | Flat key 6*30 | 19                        |                 |
| MP3-130H3223                      | /            | 130              | 1.2            | 28                   | 6.9               | Flat key 8*36 | 24                        |                 |
| MP3-130H3255                      | /            |                  | 1.2            | 35                   | 6.9               | Flat key 8*36 | 24                        |                 |
| MP3-130H3319                      | /            |                  | 1.2            | 50                   | 6.9               | Flat key 8*36 | 24                        |                 |

## Adaptation table of two-phase open loop motor and driver

| Open loop motor model |              | Base number (mm) | Step angle (°) | Holding torque (N.m) | Phase current (A) | Motor shaft   | Motor shaft diameter (mm) | Adaptive driver           |
|-----------------------|--------------|------------------|----------------|----------------------|-------------------|---------------|---------------------------|---------------------------|
| Standard series       | Brake series |                  |                |                      |                   |               |                           |                           |
| MP3-42H040            | /            | 42               | 1.8            | 0.46                 | 1.7               | Flat          | 5                         | DP3CL-305<br>DP3L-224     |
| MP3-42H048            | /            |                  | 1.8            | 0.5                  | 1.68              | Flat          | 5                         |                           |
| MP3-42H060            | /            |                  | 1.8            | 0.8                  | 1.7               | Flat          | 5                         |                           |
| MP3-57H044            | /            | 57               | 1.8            | 0.6                  | 3                 | Flat          | 8                         | DP3CL-705<br>DP3L-425/565 |
| MP3-57H056            | MP3-57HZ056  |                  | 1.8            | 1.3                  | 4                 | Flat          | 8                         |                           |
| MP3-57H056-D6.35      | /            |                  | 1.8            | 1.2                  | 4                 | Flat          | 6.35                      |                           |
| MP3-57H076            | MP3-57HZ076  |                  | 1.8            | 2.3                  | 5                 | Flat          | 8                         |                           |
| MP3-57H088            | MP3-57HZ088  |                  | 1.8            | 3                    | 5                 | Flat          | 8                         |                           |
| MP3-57H110            | /            |                  | 1.8            | 3                    | 4                 | Flat          | 8                         |                           |
| MP3-60H088            | MP3-60HZ088  |                  | 1.8            | 3                    | 5                 | Flat          | 8                         |                           |
| MP3-86H065            | MP3-86HZ065  | 86               | 1.8            | 3.5                  | 4                 | Flat key 5*25 | 14                        | DP3CL-808<br>DP3L-808     |
| MP3-86H065-D12.7      | /            |                  | 1.8            | 3.5                  | 4                 | Flat key 5*25 | 12.7                      |                           |
| MP3-86H080            | MP3-86HZ080  |                  | 1.8            | 4.5                  | 6                 | Flat key 5*25 | 14                        |                           |
| MP3-86H080-D12.7      | /            |                  | 1.8            | 4.5                  | 6                 | Flat key 5*25 | 12.7                      |                           |
| MP3-86H098            | MP3-86HZ098  |                  | 1.8            | 8                    | 6                 | Flat key 5*25 | 14                        |                           |
| MP3-86H098-D12.7      | /            |                  | 1.8            | 8                    | 6                 | Flat key 5*25 | 12.7                      |                           |
| MP3-86H118            | MP3-86HZ118  |                  | 1.8            | 8.5                  | 6                 | Flat key 5*25 | 14                        |                           |
| MP3-86H118-D12.7      | /            |                  | 1.8            | 8.5                  | 6                 | Flat key 5*25 | 12.7                      |                           |
| MP3-86H150            | MP3-86HZ150  |                  | 1.8            | 12                   | 6                 | Flat key 5*25 | 14                        |                           |

## Motor mounting dimension

(Unit: mm)

### Closed-loop motor

#### 42 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-42T048 | 66      | 97         |
| MP3-42T060 | 78      | 109        |

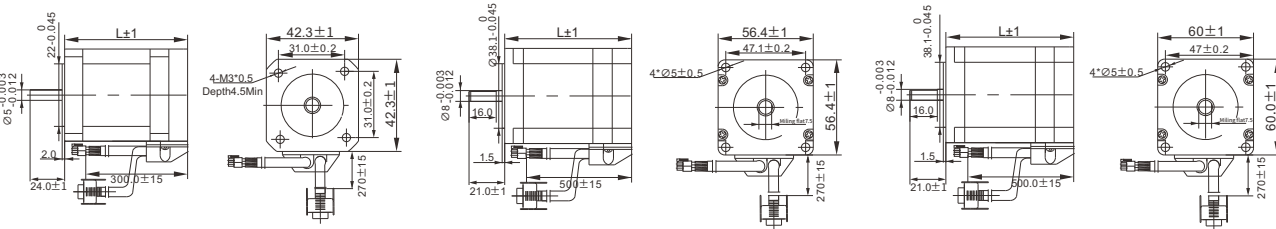
#### 57 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-57T056 | 76      | 116        |
| MP3-57T076 | 96      | 136        |
| MP3-57T110 | 130     | 150        |

#### Large 57 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-57T088 | 110     | 150        |

\*Note: this motor adopts the body width of 60 motor and the front cover of 57 motor. The installation method is the same as that of 57 motor. With a relatively short body length, the holding torque of 3N can be achieved, which improves the stability of the motor.

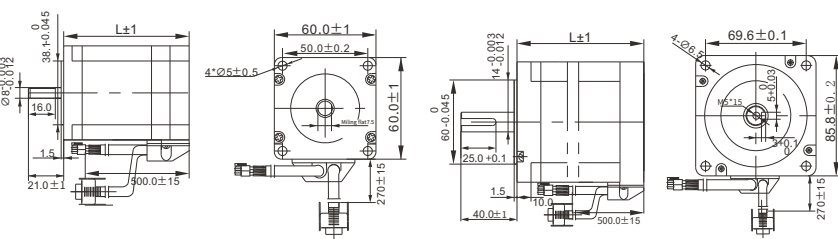


#### 60 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-60T088 | 110     | 150        |

#### 86 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-86T080 | 106     | 149        |
| MP3-86T098 | 122     | 155        |
| MP3-86T118 | 144     | 187        |
| MP3-86T150 | 174     | 217        |

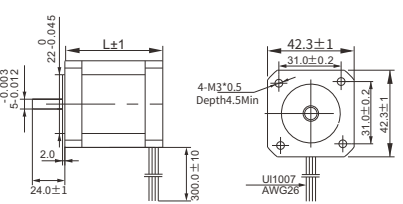


Motor mounting dimension (Unit: mm)

Two-phase open loop motor

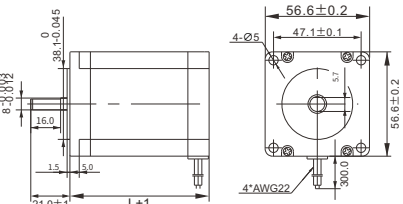
42 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-42H040 | 39.5    | 70         |
| MP3-42H048 | 48      | 79         |
| MP3-42H060 | 60      | 91         |



57 series

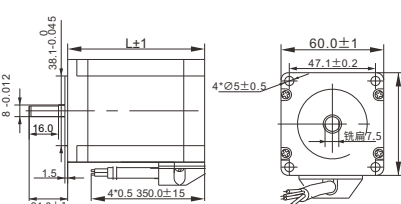
| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-57H056 | 56      | 96         |
| MP3-57H076 | 76      | 116        |
| MP3-57H110 | 110     | 150        |



General 57 series

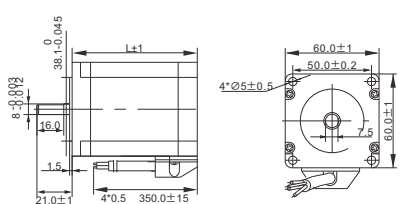
| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-57H088 | 88      | 128        |

\*Note: this motor adopts the body width of 60 motor and the front cover of 57 motor. The installation method is the same as that of 57 motor. With a relatively short body length, the holding torque of 3N can be achieved, which improves the stability of the motor.



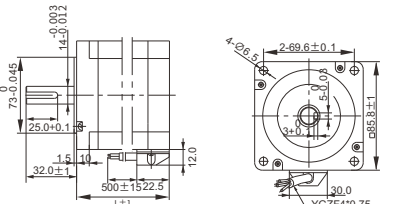
60 series

| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-60H088 | 88      | 128        |



86 series

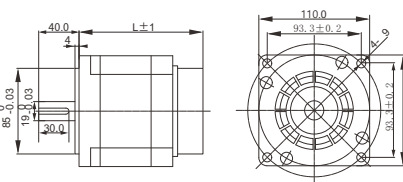
| Model      | L(mm)   |            |
|------------|---------|------------|
|            | General | With brake |
| MP3-86H065 | 65      | 108        |
| MP3-86H080 | 80      | 123        |
| MP3-86H098 | 98      | 141        |
| MP3-86H118 | 118     | 161        |
| MP3-86H150 | 150     | 193        |



Three-phase open loop motor

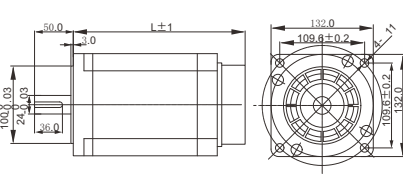
110 series

| Model        | L(mm)   |            |
|--------------|---------|------------|
|              | General | With brake |
| MP3-110H3153 | 151     | /          |
| MP3-110H3186 | 185     | /          |
| MP3-110H3221 | 219     | /          |



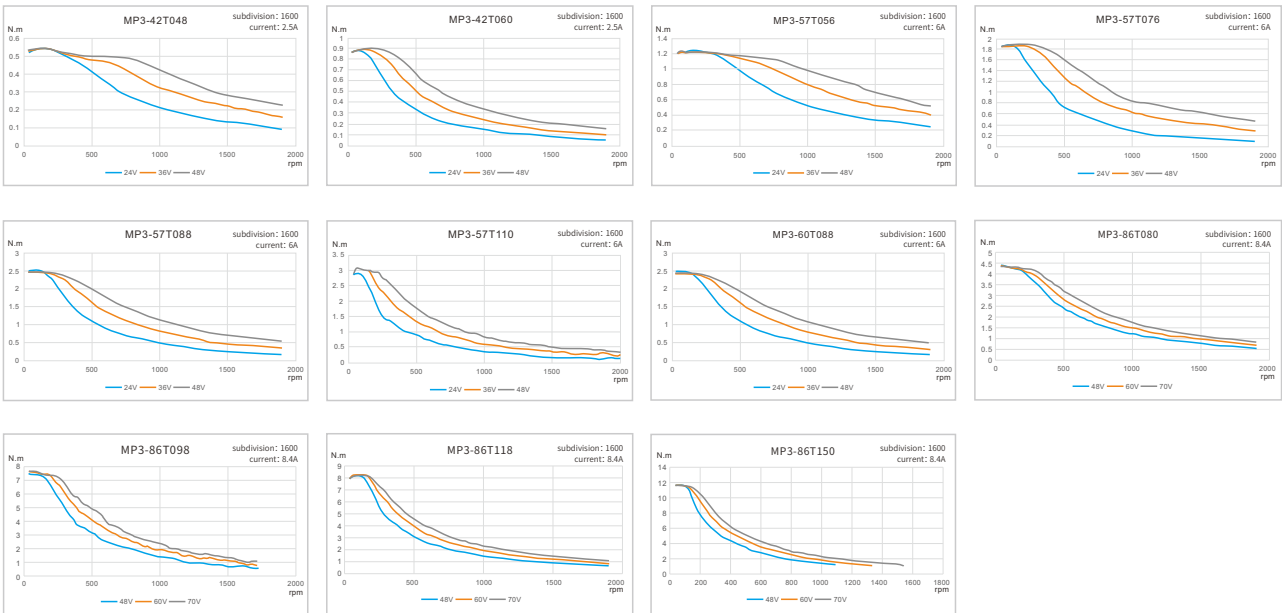
130 series

| Model        | L(mm)   |            |
|--------------|---------|------------|
|              | General | With brake |
| MP3-130H3223 | 222     | /          |
| MP3-130H3255 | 254     | /          |
| MP3-130H3319 | 319     | /          |

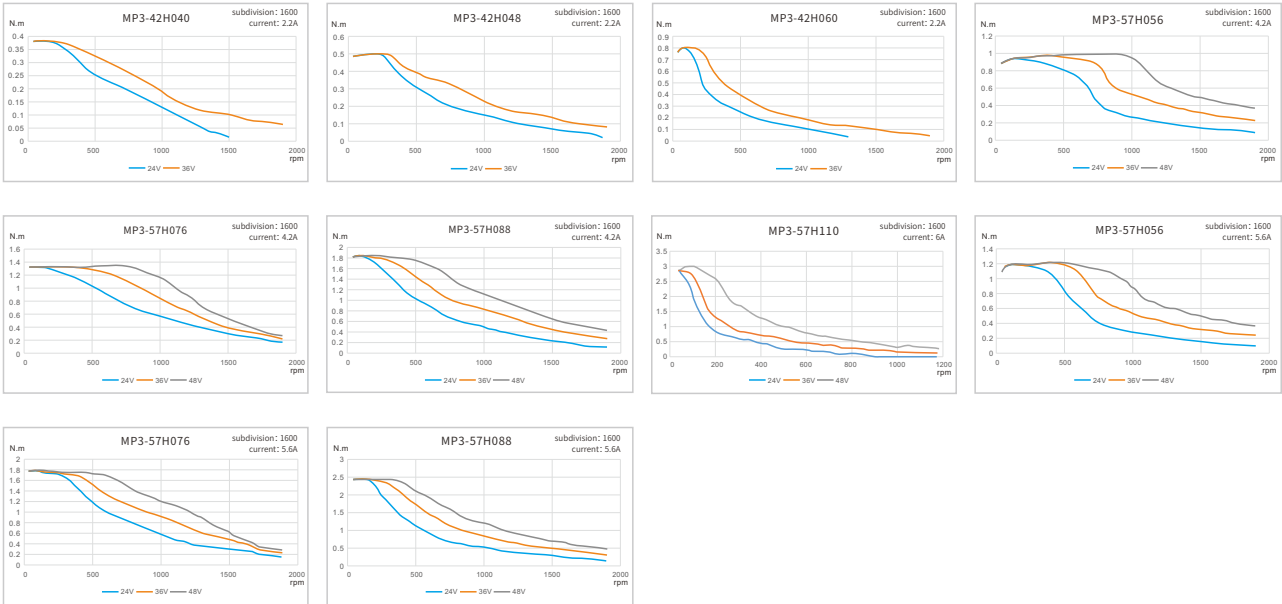


Motor torque frequency characteristic diagram

Closed-loop series (the follow current is peak current)

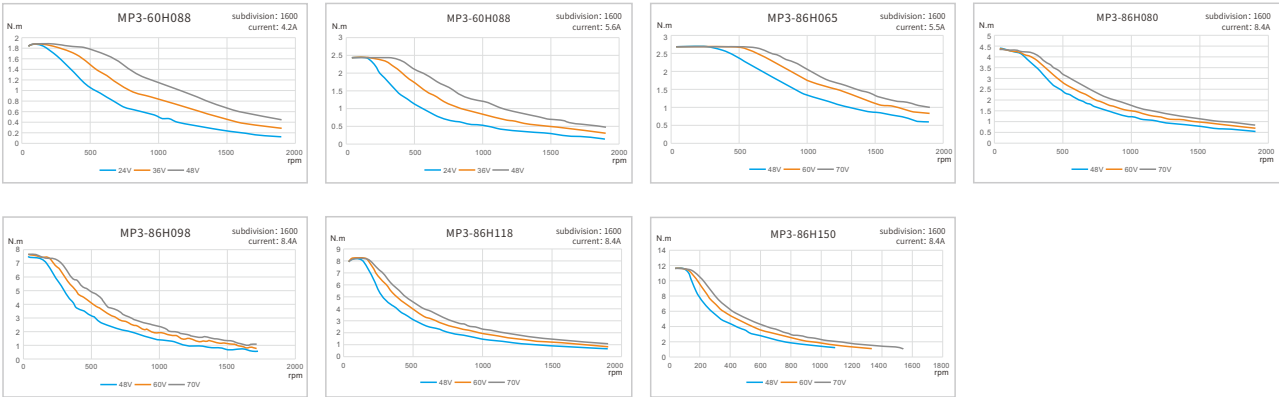


Two-phase open loop series (the follow current is peak current)

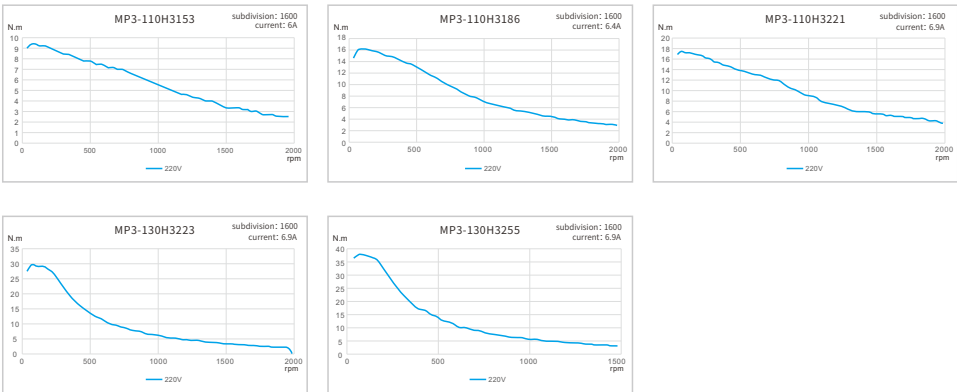


# Motor torque frequency characteristic diagram

## | Two-phase open loop series (the follow current is peak current)



## | Three-phase open loop series (the follow current is peak current)



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# Vision system

IoT industrial controller · Industrial panel PC