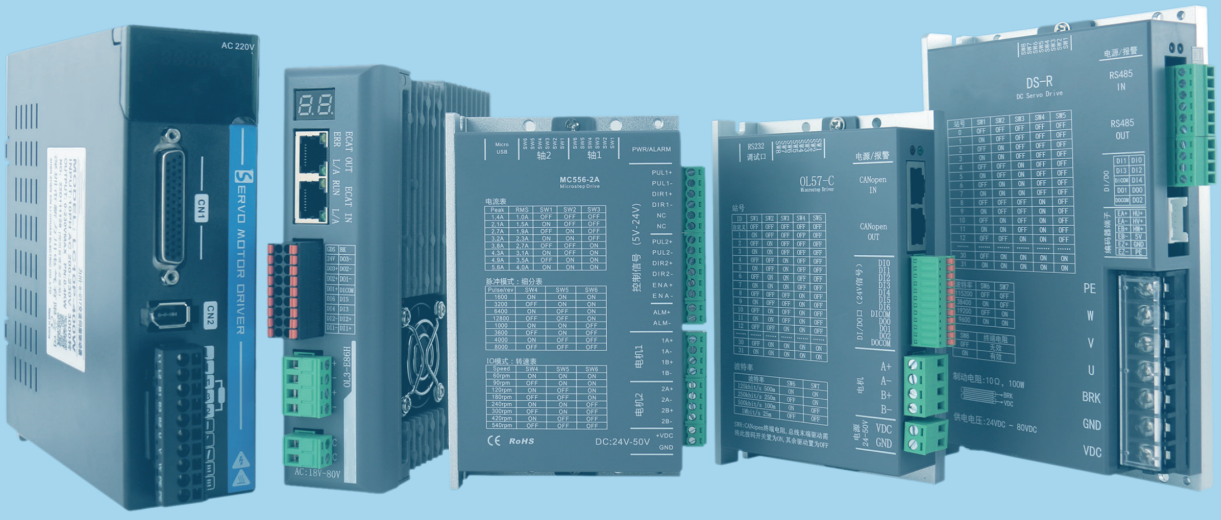
# Servo Comprehensive Manual

VKE



## Содержание

## MC425E 2 Phase Digital Driver


### Technical parameter

- Voltage input range: DC18V～36V
- Maximum peak current: 2.5A
- Subdivision range: 400～6400ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage, overcurrent, tracking error out of tolerance, etc.

### Environmental parameters

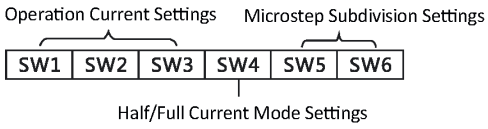
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～50℃
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

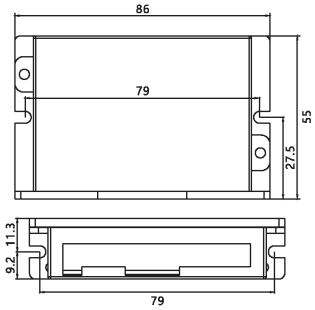
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 4 microstep subdivisions can be set for the Driver through 2 dial switches SW5~SW6. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL is the negative terminal of pulse signal control; DIR is the negative terminal of direction signal; ENA is the negative terminal of enable signal; OPT is the positive terminal of pulse/direction/enable signal (5V public terminal). |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | DC power supply, operation input voltage range: 18V-36V DC, 24V DC is suggested. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs.Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 86x55x20.5mm, installation pitch of holes: 79mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

Subdivision precision, dynamic and half/full currents can be se for MC425E Driver through 6-bit dial switch as follows：




### Microstep subdivision setting




### Working current setting

| Output peak current | SW1 | SW2 | SW3 |
|---|---|---|---|
| 0.5A | on | on | on |
| 0.7A | off | on | on |
| 1.0A | on | off | on |
| 1.3A | off | off | on |
| 1.6A | on | on | off |
| 1.9A | off | on | off |
| 2.2A | on | off | off |
| 2.5A | off | off | off |

### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 |
|---|---|---|
| 400 | on | on |
| 1600 | off | on |
| 3200 | on | off |
| 6400 | off | off |

## MC442E 2 Phase Digital Driver

### Technical parameter

- Voltage input range: DC20V～40V
- Maximum peak current: 4.2A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage overcurrent, tracking error out of tolerance, etc.

### Environmental parameters

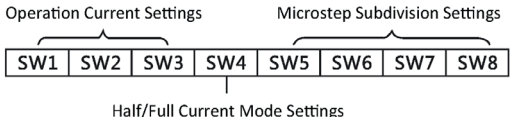
- Voltage input range: DC20V～50V
- Maximum peak current: 4.2A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage, overcurrent, tracking error out of tolerance, etc.

### Drive function description

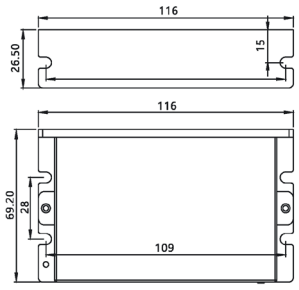
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 16 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal; ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | DC power supply, operation input voltage range: 18V~36V DC, 24V DC operation voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 116x69.2x26.5mm, installation pitch of holes: 109mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

Subdivision precision, operating and half/full currents can be set for MC442E Driver through 8-bit dial switch as follows：




### Microstep subdivision setting



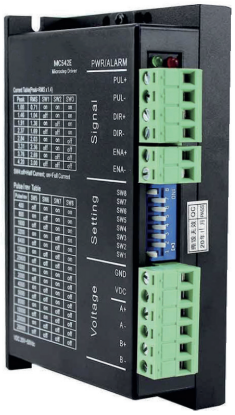

### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.0A | 0.71A | on | on | on |
| 1.46A | 1.04A | off | on | on |
| 1.91A | 1.36A | on | off | on |
| 2.37A | 1.69A | off | off | on |
| 2.84A | 2.03A | on | on | off |
| 3.31A | 2.36A | off | on | off |
| 3.76A | 2.69A | on | off | off |
| 4.2A | 3.0A | off | off | off |

### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 400 | off | on | on | on |
| 800 | on | off | on | on |
| 1600 | off | off | on | on |
| 3200 | on | on | off | on |
| 6400 | off | on | off | on |
| 12800 | on | off | off | on |
| 25600 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 25000 | off | off | off | off |

## MC542E 2 Phase Digital Driver



### Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 4.2A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage, overcurrent, tracking error out of tolerance, etc.

### Environmental parameters

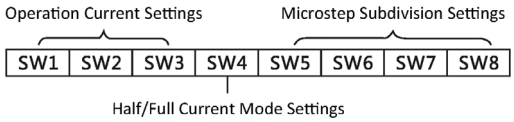
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～50℃
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

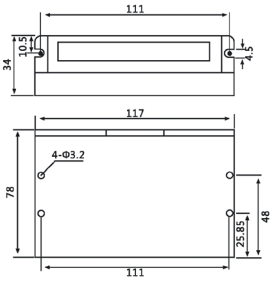
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 15 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal, ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals, When A and B phase windings are switched, the Motor direction on will be reversed; |
| Power connector | DC power supply, operation input voltage range: 20V~50VDC, 36VDC operation voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 117x78x34mm, installation pitch of holes: 111mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

Subdivision precision, dynamic and half/full currents can be set for MC542E Driver through 8-bit dial switch as follows:




### Microstep subdivision setting



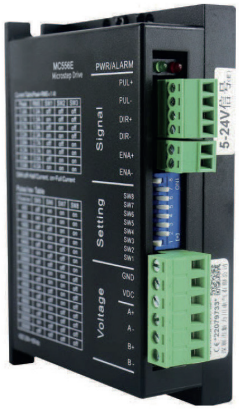

### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.0A | 0.71A | on | on | on |
| 1.46A | 1.04A | off | on | on |
| 1.91A | 1.36A | on | off | on |
| 2.37A | 1.69A | off | off | on |
| 2.84A | 2.03A | on | on | off |
| 3.31A | 2.36A | off | on | off |
| 3.76A | 2.69A | on | off | off |
| 4.2A | 3.0A | off | off | off |

### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 400 | off | on | on | on |
| 800 | on | off | on | on |
| 1600 | off | off | on | on |
| 3200 | on | on | off | on |
| 6400 | off | on | off | on |
| 12800 | on | off | off | on |
| 25600 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 25000 | off | off | off | off |

# MC556E 2 Phase Digital Driver



## Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 5.6A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage, overcurrent, tracking error out of tolerance, etc.

## Environmental parameters

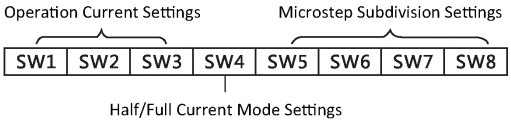
- Voltage input range: DC24V～110V/AC18V～80V
- Maximum peak current: 7.2A
- Subdivision range: 400～51200ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage, overcurrent, tracking error out of tolerance, etc.

## Drive function description

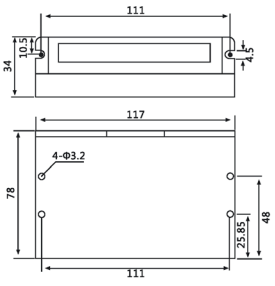
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 15 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal; ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | DC/AC power supply, operation input voltage range: 20 ~ 50 VDC, 36VDC input voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 117 x 78 x 34mm, installation pitch of holes: 111mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

Subdivision precision, dynamic and half/full currents can be set for MC556E Driver through 8-bit dial switch as follows:




## Microstep subdivision setting



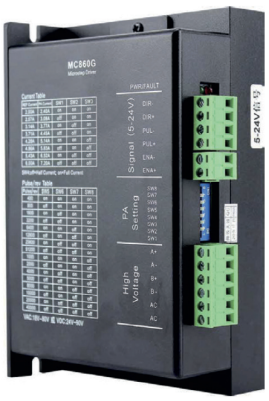

## Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.4A | 1.0A | off | off | off |
| 2.1A | 1.5A | on | off | off |
| 2.7A | 1.9A | off | on | off |
| 3.2A | 2.3A | on | on | off |
| 3.8A | 2.7A | off | off | on |
| 4.3A | 3.1A | on | off | on |
| 4.9A | 3.5A | off | on | on |
| 5.6A | 4.0A | on | on | on |

## Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 400 | off | on | on | on |
| 800 | on | off | on | on |
| 1600 | off | off | on | on |
| 3200 | on | on | off | on |
| 6400 | off | on | off | on |
| 12800 | on | off | off | on |
| 25600 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 25000 | off | off | off | off |

# MC860G 2 Phase Digital Driver



## Technical parameter

- Voltage input range: DC24V～110V/AC18V～80V
- Maximum peak current: 7.2A
- Subdivision range: 400～51200ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With protection functions such as overvoltage, overcurrent, tracking error out of tolerance, etc.

## Environmental parameters

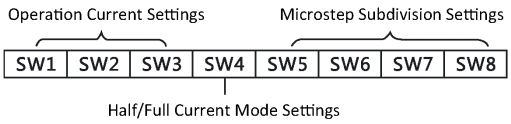
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～50℃
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

## Drive function description

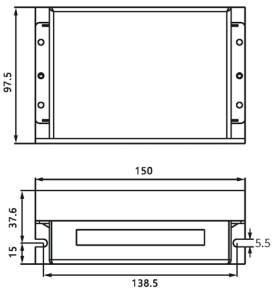
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 15 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal; ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | Powered by AC/DC power supply, the voltage range is 24~110VDC or 18~80VAC, and the terminals are not divided into positive and negative poles.Recommended power supply DC 48V, power greater than 250W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 150x97.5x52.6mm, installation pitch of holes: 138.5mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

Subdivision precision, operating and half/full currents can be set for MC860G Driver through 8-bit dial switch as follows:




## Microstep subdivision setting



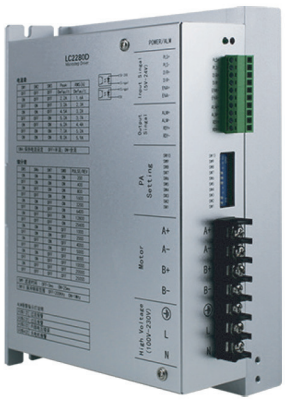

## Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 2.4A | 2.0A | on | on | on |
| 3.08A | 2.57A | off | on | on |
| 3.77A | 3.14A | on | off | on |
| 4.45A | 3.71A | off | off | on |
| 5.14A | 4.28A | on | on | off |
| 5.83A | 4.86A | off | on | off |
| 6.52A | 5.43A | on | off | off |
| 7.2A | 6.0A | off | off | off |

## Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 400 | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

# LC2280D 2 Phase Digital Driver



## Technical parameter

- Voltage input range: AC110V～280V
- Maximum peak current: 7.0A
- Subdivision range: 400～60000ppr
- Pulse form: pulse + direction (do not support c
- Impulse response frequency: 0～1MHz
- The pulse stops for 1.5S, and the coil current is reduced to half of the set value
- With over-voltage, over-current, motor lack of equal p

## Environmental parameters

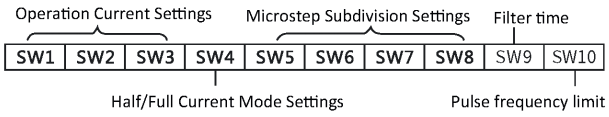
- Voltage input range: DC18V～36V
- Maximum peak current: 2.5A
- Subdivision range: 400～6400ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

## Drive function description

| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | The number of micro-step subdivisions of the driver is set by four DIP switches SW5~SW8. There are 16 micro-step subdivisions in total. When the user sets subdivisions, the driver should be stopped first.For score setting, please follow the driver panel instructions. |
| Output current setting | The output current of the driver is set by four DIP switches SW1~SW4, and there are 16 output currents in total. For the specific output current setting, please refer to the driver panel description. |
| Automatic half -flow function | About 0.3 seconds after the pulse train stops, the current is automatically reduced by 50% (the actual value is 55%), and the heat generation is theoretically reduced by 65%, which reduces the heat generation of the motor and the driver and improves the reliability. |
| Signal interface | PUL+ and PUL- are the positive and negative ends of the control pulse signal; DIR+ and DIR- are the positive and negative ends of the direction signal: ENA+ and ENA- are the positive and negative ends of the enable signal, ALM+ and ALM- are the alarm signal output , RDY+ and RDY- are ready for signal output. |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. When the A and B two-phase windings are exchanged, the direction of the motor can be reversed. |
| Power connector | Powered by AC power, working input voltage range: 110V ~ 280VAC. |
| Indicator light | The drive has two indicator lights, red and green. The green light is the power indicator, which is always on when the drive is powered on; the red light is the fault indicator, which is always on when there is an overvoltage or overcurrent fault. After the fault is cleared, the red light goes out. When the drive fails, only a power cycle and re-enable can clear the fault. |
| Installation Notes | The external dimensions of the driver are: 203 x 147 x 78mm, and the mounting hole distance is 193mm.It can be installed horizontally or vertically (vertical installation is recommended). When installing, it should be close to the metal cabinet to facilitate heat dissipation. |

## Parameter setting

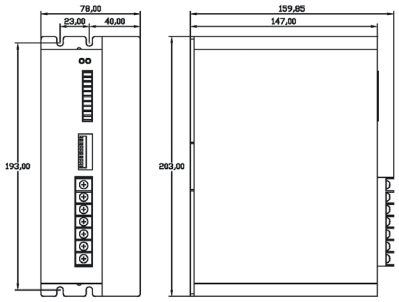
The LC2280D driver uses a 10-digit dial switch to set the subdivision accuracy, dynamic current, filter and pulse frequency, which are described in detail as follows:




## Working current setting

| Peak current | Mean Current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| default | | off | off | off |
| 2.2A | 1.6A | on | off | off |
| 3.2A | 2.3A | off | on | off |
| 4.5A | 3.2A | on | on | off |
| 5.2A | 3.7A | off | off | on |
| 6.2A | 4.4A | on | off | on |
| 7.3A | 5.2A | off | on | on |
| 8.2A | 5.9A | on | on | on |

## Microstep subdivision setting




## Microstep subdivision setting

| Subdivision | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 400 | off | on | on | on |
| 800 | on | off | on | on |
| 1600 | off | off | on | on |
| 3200 | on | on | off | on |
| 6400 | off | on | off | on |
| 12800 | on | off | off | on |
| 25600 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 25000 | off | off | off | off |

## MC425-Mini 2 Phase Digital Driver

### Technical parameter

- Voltage input range: DC18V～36V
- Maximum peak current: 2.5A
- Subdivision range: 400～6400ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

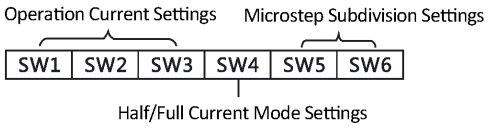
- Storage temperature: -20°C～65°C
- Operating temperature: 0°C～50°C
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

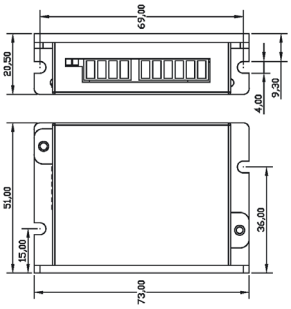
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 4 microstep subdivisions can be set for the Driver through 2 dial switches SW5~SW6. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL is the negative terminal of pulse signal control; DIR is the negative terminal of direction signal; ENA is the negative terminal of enable signal; OPT is the positive terminal of pulse/direction/enable signal (5V public terminal). |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | DC power supply, operation input voltage range: 18V-36V DC, 24V DC is suggested. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs.Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 73x51x20.5mm, installation pitch of holes: 69mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

Subdivision precision, dynamic and half/full currents can be set for MC425-Mini Driver through 6-bit dial switch as follows:




### Microstep subdivision setting



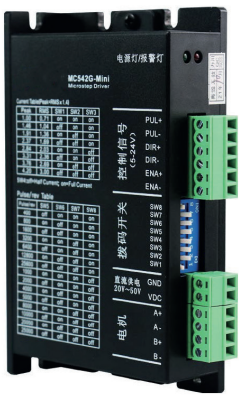

### Working current setting

| Output peak current | SW1 | SW2 | SW3 |
|---|---|---|---|
| 0.5A | on | on | on |
| 0.7A | off | on | on |
| 1.0A | on | off | on |
| 1.3A | off | off | on |
| 1.6A | on | on | off |
| 1.9A | off | on | off |
| 2.2A | on | off | off |
| 2.5A | off | off | off |

### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 |
|---|---|---|
| 400 | on | on |
| 1600 | off | on |
| 3200 | on | off |
| 6400 | off | off |

## MC542-Mini 2 Phase Digital Driver



### Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 4.2A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

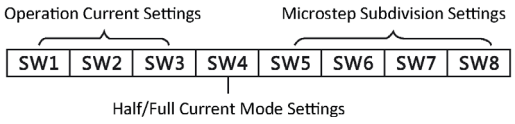
- Voltage input range: DC20V～50V
- Maximum peak current: 5.6A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Drive function description

| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 15 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal, ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals, When A and B phase windings are switched, the Motor direction on will be reversed; |
| Power connector | DC power supply, operation input voltage range: 20V~50VDC, 36VDC operation voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 116x69.2x26.5mm, installation pitch of holes: 109mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

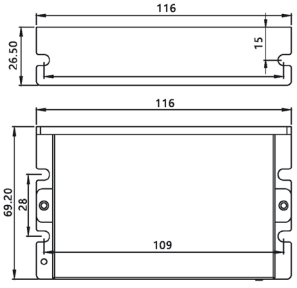
Subdivision precision, dynamic and half/full currents can be set for MC542-Mini Driver through 8-bit dial switch as follows:




### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.0A | 0.71A | on | on | on |
| 1.46A | 1.04A | off | on | on |
| 1.91A | 1.36A | on | off | on |
| 2.37A | 1.69A | off | off | on |
| 2.84A | 2.03A | on | on | off |
| 3.31A | 2.36A | off | on | off |
| 3.76A | 2.69A | on | off | off |
| 4.2A | 3.0A | off | off | off |

### Microstep subdivision setting




### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 400 | off | on | on | on |
| 800 | on | off | on | on |
| 1600 | off | off | on | on |
| 3200 | on | on | off | on |
| 6400 | off | on | off | on |
| 12800 | on | off | off | on |
| 25600 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 25000 | off | off | off | off |

## MC556-Mini 2 Phase Digital Driver


### Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 5.6A
- Subdivision range: 200～25600ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

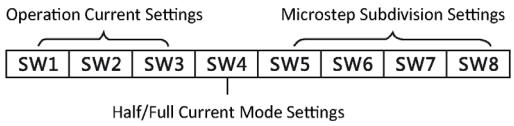
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～50℃
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

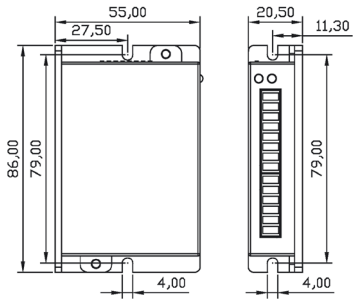
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 15 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal; ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | DC/AC power supply, operation input voltage range: 20 ~ 50 VDC, 36VDC input voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 86 x 55 x 20.5mm, installation pitch of holes: 79mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

Subdivision precision, dynamic and half/full currents can be set for MC556-Mini Driver through 8-bit dial switch as follows:




### Microstep subdivision setting



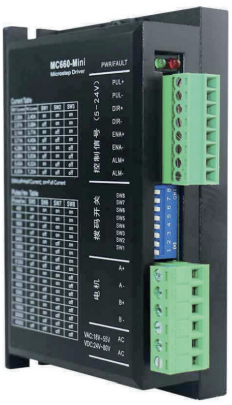

### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.4A | 1.0A | off | off | off |
| 2.1A | 1.5A | on | off | off |
| 2.7A | 1.9A | off | on | off |
| 3.2A | 2.3A | on | on | off |
| 3.8A | 2.7A | off | off | on |
| 4.3A | 3.1A | on | off | on |
| 4.9A | 3.5A | off | on | on |
| 5.6A | 4.0A | on | on | on |

### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 400 | off | on | on | on |
| 800 | on | off | on | on |
| 1600 | off | off | on | on |
| 3200 | on | on | off | on |
| 6400 | off | on | off | on |
| 12800 | on | off | off | on |
| 25600 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 25000 | off | off | off | off |

## MC660-Mini 2 Phase Digital Driver



### Technical parameter

- Voltage input range: DC24V～80V/AC18V～55V
- Maximum peak current: 7.2A
- Subdivision range: 400～51200ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

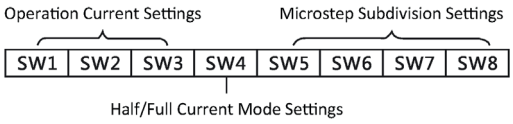
- Voltage input range: DC24V～110V/AC18V～80V
- Maximum peak current: 7.2A
- Subdivision range: 400～51200ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Drive function description

| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | The number of micro-step subdivisions of the driver is set by four DIP switches SW5~SW8. There are 16 micro-step subdivisions in total. When the user sets subdivisions, the driver should be stopped first.For score setting, please follow the driver panel instructions. |
| Output current setting | The output current of the driver is set by three DIP switches SW1~SW3, and its output current has 8 gears. For the specific output current setting, please refer to the driver panel description. |
| Automatic half -flow function | The user can set the automatic half-flow function of the driver through the SW4 switch. OFF means that the quiescent current is set to half of the dynamic current, and ON means that the quiescent current and dynamic current are the same.In general use, SW4 should be set to OFF to reduce the heat generation of the motor and driver and improve reliability. About 0.3 seconds after the pulse train stops, the current will automatically decrease by 50% (actual value55%), the calorific value is theoretically reduced by 65%. |
| Signal interface | PUL+ and PUL- are the positive and negative ends of the control pulse signal; DIR+ and DIR- are the positive and negative ends of the direction signal: ENA+ and ENA- are the positive and negative ends of the enable signal, ALM+ and ALM- are the alarm output. |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. When the A and B two-phase windings are exchanged, the direction of the motor can be reversed. |
| Power connector | Use AC/DC power supply, the voltage range is 24~80VDC or 18~55VAC, the terminals are not divided into positive and negative poles, the recommended power supply is DC 48V, and the power is greater than 250W. |
| Indicator light | The drive has two indicator lights, red and green. The green light is the power indicator, when the driver is powered on, the green light is always on; the red light is the fault indicator, when there is an overvoltage or overcurrent fault, the fault The light is always on. After the fault is cleared, the red light goes out. When the drive fails, only a power cycle and re-enable can clear the fault. |

### Parameter setting

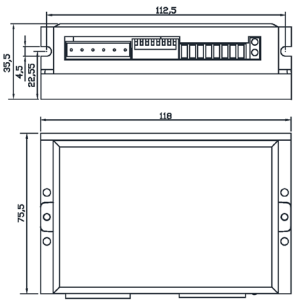
Subdivision precision, dynamic and half/full currents can be set for MC660-Mini Driver through 8-bit dial switch as follows:




### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 2.4A | 2.0A | on | on | on |
| 3.08A | 2.57A | off | on | on |
| 3.77A | 3.14A | on | off | on |
| 4.45A | 3.71A | off | off | on |
| 5.14A | 4.28A | on | on | off |
| 5.83A | 4.86A | off | on | off |
| 6.52A | 5.43A | on | off | off |
| 7.2A | 6.0A | off | off | off |

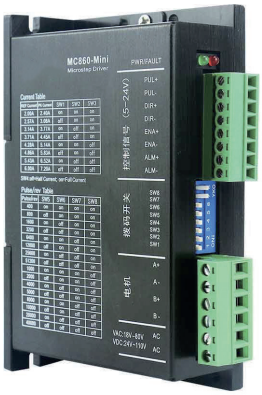
### Microstep subdivision setting




### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 400 | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

## MC860-Mini 2 Phase Digital Driver



### Technical parameter

- Voltage input range: DC24V～110V/AC18V～80V
- Maximum peak current: 7.2A
- Subdivision range: 400～51200ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

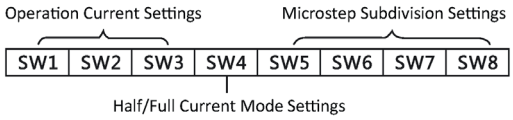
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～50℃
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

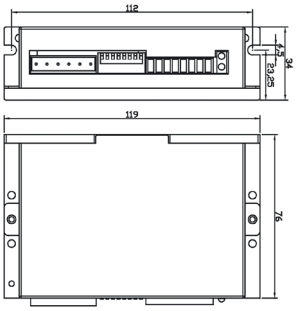
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | The number of micro-step subdivisions of the driver is set by four DIP switches SW5~SW8. There are 16 micro-step subdivisions in total. When the user sets subdivisions, the driver should be stopped first.For score setting, please follow the driver panel instructions. |
| Output current setting | The output current of the driver is set by three DIP switches SW1~SW3, and its output current has 8 gears. For the specific output current setting, please refer to the driver panel description. |
| Automatic half -flow function | The user can set the automatic half-flow function of the driver through the SW4 switch. OFF means that the quiescent current is set to half of the dynamic current, and ON means that the quiescent current and dynamic current are the same.In general use, SW4 should be set to OFF to reduce the heat generation of the motor and driver and improve reliability. About 0.3 seconds after the pulse train stops, the current will automatically decrease by 50% (actual value55%), the calorific value is theoretically reduced by 65%. |
| Signal interface | PUL+ and PUL- are the positive and negative ends of the control pulse signal; DIR+ and DIR- are the positive and negative ends of the direction signal: ENA+ and ENA- are the positive and negative ends of the enable signal, ALM+ and ALM- are the alarm output. |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. When the A and B two-phase windings are exchanged, the direction of the motor can be reversed |
| Power connector | Use AC/DC power supply, the voltage range is 24~110VDC or 18~80VAC, the terminals are not divided into positive and negative poles, the recommended power supply is DC 48V, and the power is greater than 250W. |
| Indicator light | The drive has two indicator lights, red and green. The green light is the power indicator, when the driver is powered on, the green light is always on; the red light is the fault indicator, when there is an overvoltage or overcurrent fault, the faultThe light is always on. After the fault is cleared, the red light goes out. When the drive fails, only a power cycle and re-enable can clear the fault. |
| Installation Notes | The external dimensions of the driver are: 119 x 76 x 34mm, and the mounting hole distance is 112mm It can be installed horizontally or vertically (vertical installation is recommended). When installing, it should be close to the metal cabinet to facilitate heat dissipation. |

### Parameter setting

Subdivision precision, dynamic and half/full currents can be set for MC860-Mini Driver through 8-bit dial switch as follows：




### Microstep subdivision setting



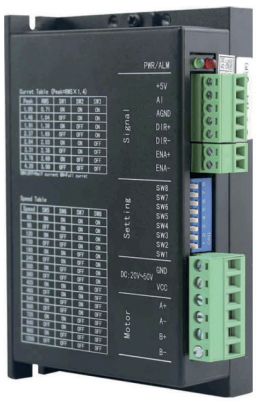

### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 2.4A | 2.0A | on | on | on |
| 3.08A | 2.57A | off | on | on |
| 3.77A | 3.14A | on | off | on |
| 4.45A | 3.71A | off | off | on |
| 5.14A | 4.28A | on | on | off |
| 5.83A | 4.86A | off | on | off |
| 6.52A | 5.43A | on | off | off |
| 7.2A | 6.0A | off | off | off |

### Microstep subdivision setting

| Steps/revolution | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 400 | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

## MC542P Analog Stepper Driver



### Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 4.2A
- Analog input voltage range: 0~5V (can be customized as 0~10V input)
- Insulation resistance: 500M
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

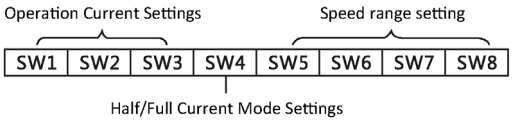
- Voltage input range: DC24V～110V/AC18V～80\
- Maximum peak current: 7.2A
- Analog input voltage range: 0~5V (can be customized as 0~10V input)
- Insulation resistance: 500M
- With overcurrent, overvoltage and other protection functions.

### Drive function description

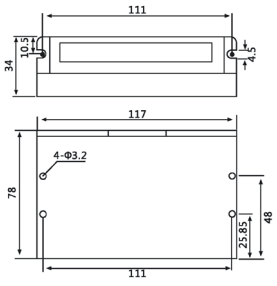
| Drive function | Instructions |
|---|---|
| Speed range setting | The four DIP switches SW5~SW8 are used to set the speed range of the drive. There are 16 speed ranges in total. When the user sets the speed, the drive should be stopped first. For the setting of the specific speed range, please follow the instructions on the drive panel. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | +5V and AGND are the positive and negative terminals of the 5V power output; AI is the analog voltage input terminal; DIR+ and DIR- are the positive and negative terminals of the direction signal: ENA+ and ENA- are the positive and negative terminals of the enable signal. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals, When A and B phase windings are switched, the Motor direction on will be reversed; |
| Power connector | DC power supply, operation input voltage range: 20V~50VDC, 36VDC operation voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 117x78x34mm, installation pitch of holes: 111mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

The speed range, dynamic and half/full current of the MC542P drive can be set as follows through the 8-bit DIP switch:




### Microstep subdivision setting



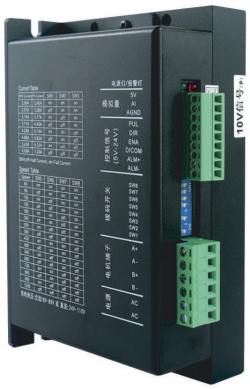

### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.0A | 0.71A | on | on | on |
| 1.46A | 1.04A | off | on | on |
| 1.91A | 1.36A | on | off | on |
| 2.37A | 1.69A | off | off | on |
| 2.84A | 2.03A | on | on | off |
| 3.31A | 2.36A | off | on | off |
| 3.76A | 2.69A | on | off | off |
| 4.2A | 3.0A | off | off | off |

### Microstep subdivision setting

| SPD | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 60 | on | on | on | on |
| 90 | off | on | on | on |
| 120 | on | off | on | on |
| 150 | off | off | on | on |
| 180 | on | on | off | on |
| 240 | off | on | off | on |
| 300 | on | off | off | on |
| 360 | off | off | off | on |
| 420 | on | on | on | off |
| 480 | off | on | on | off |
| 540 | on | off | on | off |
| 600 | off | off | on | off |
| 720 | on | on | off | off |
| 840 | off | on | off | off |
| 960 | on | off | off | off |
| 1200 | off | off | off | off |

## MC860P Analog Stepper Driver



### Technical parameter

- Voltage input range: DC24V～110V/AC18V～8(
- Maximum peak current: 7.2A
- Analog input voltage range: 0~5V (can be customized as 0~10V input)
- Insulation resistance: 500M
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

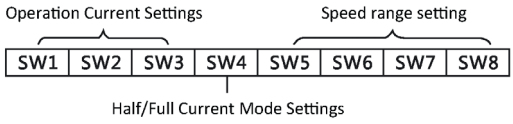
- Storage temperature: -20°C～80°C
- Operating temperature: 0°C～55°C
- Operating humidity: 90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～60Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

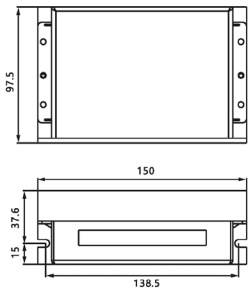
| Drive function | Instructions |
|---|---|
| Speed range setting | The four DIP switches SW5~SW8 are used to set the speed range of the drive. There are 16 speed ranges in total. When the user sets the speed, the drive should be stopped first. For the setting of the specific speed range, please follow the instructions on the drive panel. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | +5V and AGND are the positive and negative terminals of the 5V power output; AI is the analog voltage input terminal; DIR+ and DIR- are the positive and negative terminals of the direction signal: ENA+ and ENA- are the positive and negative terminals of the enable signal. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals, When A and B phase windings are switched, the Motor direction on will be reversed; |
| Power connector | Use AC/DC power supply, the voltage range is 24~110VDC or 18~80VAC, the terminals are not divided into positive and negative poles, the recommended power supply is DC 48V, and the power is greater than 250W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 150x97.5x52.6mm, installation pitch of holes: 138.5mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

The speed range, dynamic and half/full current of the MC860P drive can be set as follows through the 8-bit DIP switch:




### Microstep subdivision setting




### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 2.4A | 2.00A | on | on | on |
| 3.0A | 2.57A | off | on | on |
| 3.7A | 3.14A | on | off | on |
| 4.3A | 3.71A | off | off | on |
| 5.0A | 4.28A | on | on | off |
| 5.6A | 4.86A | off | on | off |
| 6.4A | 5.43A | on | off | off |
| 7.0A | 6.00A | off | off | off |

### Microstep subdivision setting

| SPD | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 60 | on | on | on | on |
| 120 | off | on | on | on |
| 180 | on | off | on | on |
| 240 | off | off | on | on |
| 300 | on | on | off | on |
| 360 | off | on | off | on |
| 420 | on | off | off | on |
| 600 | off | off | off | on |
| 800 | on | on | on | off |
| 900 | off | on | on | off |
| 1000 | on | off | on | off |
| 1100 | off | off | on | off |
| 1200 | on | on | off | off |
| 1300 | off | on | off | off |
| 1400 | on | off | off | off |
| 1500 | off | off | off | off |

## MC425P-2 Switch Step Driver

### Technical parameter

- Voltage input range: DC18V～36V
- Maximum peak current: 2.5A
- Speed range: 60～480rpm
- Switch quantity (IO) control type
- Motor parameter automatic tuning function
- It has protection functions such as overvoltage overcurrent, and tracking error.

### Environmental parameters

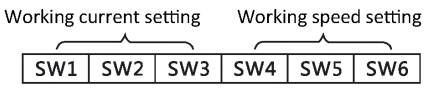
- Voltage input range: DC20V～50V
- Maximum peak current: 4.2A
- Insulation resistance: 500M
- With overcurrent, overvoltage and other protection functions.

### Drive function description

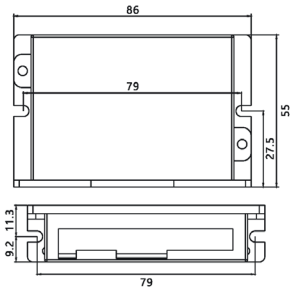
| Drive function | Instructions |
|---|---|
| Working speed setting | The working speed of the drive is set by the three DIP switches SW4-SW6. There are 4 working speeds in total. When the user sets the speed, the drive should be stopped first. For the setting of the specific working speed, please follow the instructions on the drive panel. |
| Output current setting | The output current of the driver is set by three switches SW1~SW3, and its output current has 8 gears. For the specific output current setting, please refer to the driver panel description. |
| Signal interface | PUL is the negative terminal of the start control signal; it is used to control the start and stop of the motor, the low level is valid, when the signal is valid, the motor starts to run at the speed set by the dial code, the input resistance is 220Ω; the low level is 0~0.5V, and the pulse width is >2.5 μs, DIR is the negative terminal of the direction control signal; used to control the rotation direction of the motor, low level active, input resistance 220Ω; requirements: low level 0~0.5V, pulse width>2.5μs, OPTO is PUL/DIR/ENA Connect to 5V power supply, +5V~24V can be driven, higher than 5V need to connect current limiting resistor; +12V connect 1.2KΩ current limiting resistor, +24V connect 3KΩ current limiting resistor, ENA is the enable control signal The negative terminal of ; when it is turned on (low level), it is used to turn off the motor enable, so that the motor shaft is in a free state. |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase windings of the motor; B+ and B- are connected to the positive and negative ends of the B-phase windings of the motor. When the two-phase windings of A and B are exchanged, the direction of the motor can be reversed. |
| Power interface | +VDC is the positive pole of the power supply; GND is the negative pole of the power supply, using DC power supply, the working input voltage range: 18V~36VDC, the recommended working voltage is 24VDC. |
| Indicator light | The drive has two indicator lights, red and green. The green light is the power indicator, which is always on when the drive is powered on; the red light is the fault indicator, which is always on when there is an overvoltage or overcurrent fault. After the fault is cleared, the red light goes out. When the drive fails, only a power cycle and re-enable can clear the fault. |
| Installation Notes | The external dimensions of the driver are: 86 x 55 x 20.5mm, and the mounting hole distance is 79mm It can be installed horizontally or vertically (vertical installation is recommended). When installing, it should be close to the metal cabinet to facilitate heat dissipation. |

### Parameter setting

The MC425P-2 driver uses a six-bit DIP switch to set the working current and working speed. The detailed description is as follows:




### Microstep subdivision setting



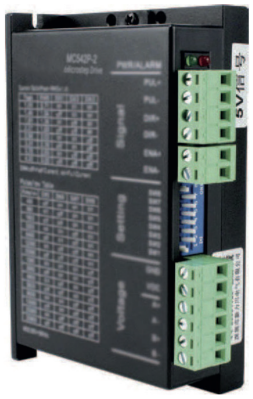

### Working current setting

| Output peak current | SW1 | SW2 | SW3 |
|---|---|---|---|
| 0.5A | on | on | on |
| 0.7A | off | on | on |
| 1.0A | on | off | on |
| 1.3A | off | off | on |
| 1.6A | on | on | off |
| 1.9A | off | on | off |
| 2.2A | on | off | off |
| 2.5A | off | off | off |

### Microstep subdivision setting

| Speed (RPM) | SW4 | SW5 | SW6 |
|---|---|---|---|
| 60 | on | on | on |
| 90 | off | on | on |
| 120 | on | off | on |
| 180 | off | off | on |
| 240 | on | on | off |
| 300 | off | on | off |
| 360 | on | off | off |
| 480 | off | off | off |

## MC542P-2 Switch Step Driver



### Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 4.2A
- Insulation resistance: 500M
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

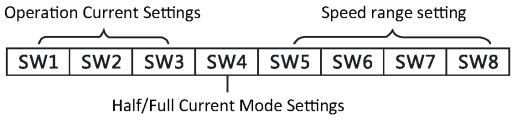
- Storage temperature: -20℃～80℃
- Operating temperature: 0℃～55℃
- Operating humidity: 90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～60Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

| Drive function | Instructions |
|---|---|
| Speed range setting | The four DIP switches SW5~SW8 are used to set the speed range of the drive. There are 16 speed ranges in total. When the user sets the speed, the drive should be stopped first. For the setting of the specific speed range, please follow the instructions on the drive panel. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are the motor start control terminals, which support 5V or 24V switching signals; DIR+ and DIR- are the positive and negative terminals of the direction signal; ENA+ and ENA- are the positive and negative terminals of the enable signal. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals, When A and B phase windings are switched, the Motor direction on will be reversed; |
| Power connector | DC power supply, operation input voltage range: 20V~50VDC, 36VDC operation voltage is suggested, power supply shall be higher than 100W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 117x78x34mm, installation pitch of holes: 111mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

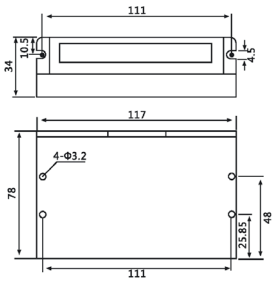
The speed range, dynamic and half/full current of the MC542P-2 drive can be set as follows through the 8-bit DIP switch:




### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.0A | 0.71A | on | on | on |
| 1.46A | 1.04A | off | on | on |
| 1.91A | 1.36A | on | off | on |
| 2.37A | 1.69A | off | off | on |
| 2.84A | 2.03A | on | on | off |
| 3.31A | 2.36A | off | on | off |
| 3.76A | 2.69A | on | off | off |
| 4.2A | 3.0A | off | off | off |

### Microstep subdivision setting




### Microstep subdivision setting

| SPD | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 60 | on | on | on | on |
| 90 | off | on | on | on |
| 120 | on | off | on | on |
| 150 | off | off | on | on |
| 180 | on | on | off | on |
| 240 | off | on | off | on |
| 300 | on | off | off | on |
| 360 | off | off | off | on |
| 420 | on | on | on | off |
| 480 | off | on | on | off |
| 540 | on | off | on | off |
| 600 | off | off | on | off |
| 720 | on | on | off | off |
| 840 | off | on | off | off |
| 960 | on | off | off | off |
| 1200 | off | off | off | off |

## MC860P-2 Switch Step Driver

### Technical parameter

- Voltage input range: DC24V～110V/AC18V～8
- Maximum peak current: 7.2A
- Insulation resistance: 500M
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

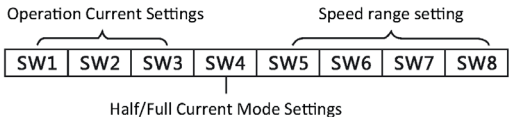
- Voltage input range: DC20V～50V
- Maximum peak current: 8.0A
- Subdivision range: 200～10000ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Drive function description

| Drive function | Instructions |
|---|---|
| Speed range setting | The four DIP switches SW5~SW8 are used to set the speed range of the drive. There are 16 speed ranges in total. When the user sets the speed, the drive should be stopped first. For the setting of the specific speed range, please follow the instructions on the drive panel. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are the motor start control terminals, which support 5V or 24V switching signals; DIR+ and DIR- are the positive and negative terminals of the direction signal; ENA+ and ENA- are the positive and negative terminals of the enable signal. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals, When A and B phase windings are switched, the Motor direction on will be reversed; |
| Power connector | Use AC/DC power supply, the voltage range is 24~110VDC or 18~80VAC, the terminals are not divided into positive and negative poles, the recommended power supply is DC 48V, and the power is greater than 250W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 150x97.5x52.6mm, installation pitch of holes: 138.5mm. Both horizontal and vertical installations can be selected (vertical installation is suggested). The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

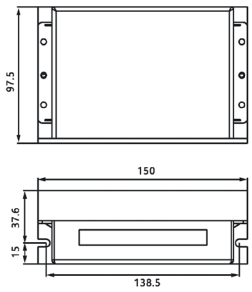
The speed range, dynamic and half/full current of the MC860P-2 drive can be set as follows through the 8-bit DIP switch:




### Working current setting

| Output peak current | Output average current | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 2.4A | 2.0A | on | on | on |
| 3.08A | 2.57A | off | on | on |
| 3.77A | 3.14A | on | off | on |
| 4.45A | 3.71A | off | off | on |
| 5.14A | 4.28A | on | on | off |
| 5.83A | 4.86A | off | on | off |
| 6.52A | 5.43A | on | off | off |
| 7.2A | 6.0A | off | off | off |

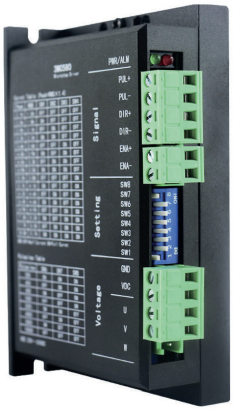
### Microstep subdivision setting




### Microstep subdivision setting

| SPD | SW5 | SW6 | SW7 | SW8 |
|---|---|---|---|---|
| 60 | on | on | on | on |
| 90 | off | on | on | on |
| 120 | on | off | on | on |
| 150 | off | off | on | on |
| 180 | on | on | off | on |
| 240 | off | on | off | on |
| 300 | on | off | off | on |
| 360 | off | off | off | on |
| 420 | on | on | on | off |
| 480 | off | on | on | off |
| 540 | on | off | on | off |
| 600 | off | off | on | off |
| 720 | on | on | off | off |
| 840 | off | on | off | off |
| 960 | on | off | off | off |
| 1200 | off | off | off | off |

## 3MC580 3 Phase Digital Driver



### Technical parameter

- Voltage input range: DC20V～50V
- Maximum peak current: 8.0A
- Subdivision range: 200～10000ppr
- Pulse form: pulse + direction
- Impulse response frequency: 0～200KHz
- Motor parameter auto-tuning function
- With overcurrent, overvoltage and other protection functions.

### Environmental parameters

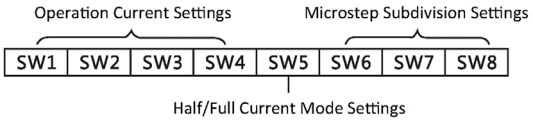
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～50℃
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

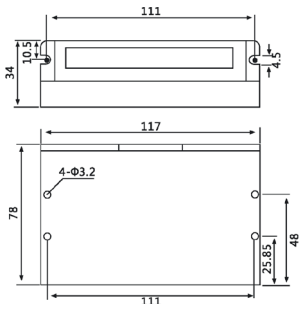
| Drive function | Instructions |
|---|---|
| Microstep subdivision setting | 15 microstep subdivisions can be set for the Driver through 4 dial switches SW5~SW8. The Driver shall be stopped while setting subdivision. See driver panel instruction for microstep subdivision settings. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | Automatic half current function can be set for the Driver through switch SW4. OFF means that quiescent current is set to half of operating current; ON means that quiescent current and dynamic current are the same. SW4 shall be set as OFF for general use to reduce heat generation of the motor and the driver and to improve reliability. About 0.3s after pulse train stops, current will automatically reduce 50% (actual value 55%) and theoretically, heat generation will reduce 65%. |
| Signal interface | PUL+ and PUL- are positive and negative terminals of pulse signal control; DIR+ and DIR- are positive and negative terminals of direction signal; ENA+ and ENA- are positive and negative terminals of enable signals. |
| Motor interface | A+ and A- connect to positive and negative terminals of A phase winding of stepper motor; B+ and B- connect to positive and negative terminals of B phase winding of stepper motor. When A and B phase windings are switched, the Motor direction will be reversed. |
| Power connector | DC/AC power supply, operation input voltage range: 20~110 DC AC or 18V~80V, 48V input voltage is suggested, power supply shall be higher than 300W. |
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| Installation Notes | Dimensions of the Driver: 118x75.5.5x35.5mm, installation pitch of holes: 112.5mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

ubdivision precision, operating and half/full currents can be set for 3MC580 Driver through 8-bit dial switch as follows:




### Microstep subdivision setting



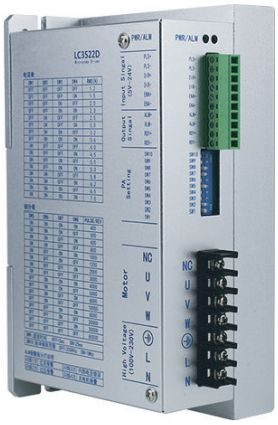

### Working current setting

| Peak | RMS | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|---|
| 2.1A | 1.5A | off | off | off | off |
| 2.5A | 1.8A | on | off | off | off |
| 2.9A | 2.1A | off | on | off | off |
| 3.2A | 2.3A | on | on | off | off |
| 3.6A | 2.6A | off | off | on | off |
| 4.0A | 2.9A | on | off | on | off |
| 4.5A | 3.2A | off | on | on | off |
| 4.9A | 3.5A | on | on | on | off |
| 5.3A | 3.8A | off | off | off | on |
| 5.7A | 4.1A | on | off | off | on |
| 6.2A | 4.4A | off | on | off | on |
| 6.4A | 4.6A | on | on | off | on |
| 6.9A | 4.9A | off | off | on | on |
| 7.3A | 5.2A | on | off | on | on |
| 7.7A | 5.5A | off | on | on | on |
| 8.0A | 5.7A | on | on | on | on |

### Microstep subdivision setting

| Pulse/rev | SW6 | SW7 | SW8 |
|---|---|---|---|
| 200 | on | on | on |
| 400 | off | on | on |
| 500 | on | off | on |
| 1000 | off | off | on |
| 2000 | on | on | off |
| 4000 | off | on | off |
| 5000 | on | off | off |
| 10000 | off | off | off |

## LC3522D 3 Phase Digital Driver



### Technical parameter

- Voltage input range: AC110V～280V
- Maximum peak current: 7.0A
- Subdivision range: 400～60,000ppr
- Pulse form: pulse+direction (dual pulse not supported)
- Impulse response frequency: 0～1MHz
- When the pulse stops for 1.5 seconds, the coil current automatically decreases to half of the set value
- Equipped with overvoltage, overcurrent, and motor short circuit protection functions
- This driver has added a 1Mhz and 200Hz pulse input mode switching dial switch, effectively solving the interference problem in some occasions, making the product more widely used.

### Working current setting

The operating current of the driver is set by the SW1-SW4 terminals, and the operating current is the normal operating output current setting switch (see the table below for details)

| Operating current(A) | 1.2 | 1.5 | 2.0 | 2.3 | 2.5 | 3.0 | 3.2 | 3.6 |
|---|---|---|---|---|---|---|---|---|
| SW1 | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| SW2 | OFF | OFF | OFF | OFF | ON | ON | ON | ON |
| SW3 | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
| SW4 | OFF | ON | OFF | ON | OFF | ON | OFF | ON |
| **Operating current(A)** | **4.0** | **4.5** | **5.0** | **5.3** | **5.8** | **6.2** | **6.5** | **7.0** |
| SW1 | ON | ON | ON | ON | ON | ON | ON | ON |
| SW2 | OFF | OFF | OFF | OFF | ON | ON | ON | ON |
| SW3 | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
| SW4 | OFF | ON | OFF | ON | OFF | ON | OFF | ON |

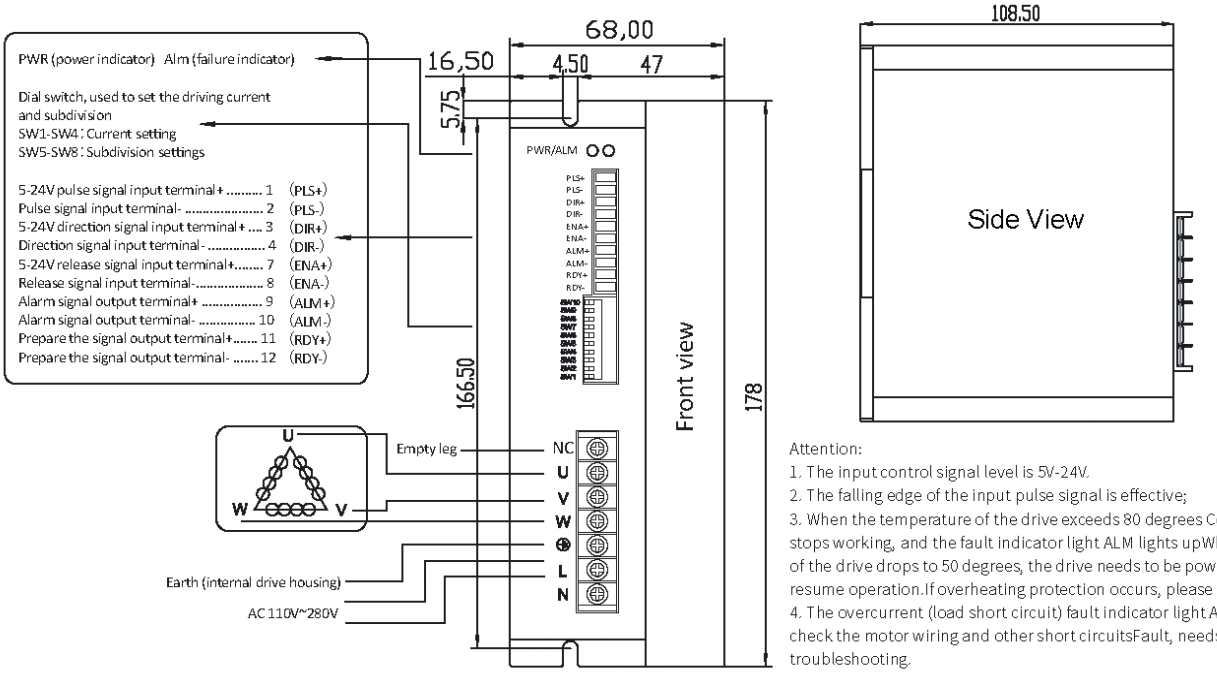
### Microstep subdivision setting

The driver subdivision is set by the SW5-SW8 terminals, a total of 16 gears, SW9 and SW10 are function settings. Attached table such as: subdivision number (pulse/revolution)

| Subdivision | 400 | 500 | 600 | 800 | 1000 | 1200 | 2000 | 3000 |
|---|---|---|---|---|---|---|---|---|
| SW5 | ON | ON | ON | ON | ON | ON | ON | ON |
| SW6 | ON | ON | ON | ON | OFF | OFF | OFF | OFF |
| SW7 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| SW8 | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| **Subdivision** | **4000** | **5000** | **6000** | **10000** | **8000** | **20000** | **30000** | **60000** |
| SW5 | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| SW6 | ON | ON | ON | ON | OFF | OFF | OFF | OFF |
| SW7 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| SW8 | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| SW9 | Filtering time, OFF=3ms, ON=25ms, driving internal acceleration and deceleration time. | | | | | | | |
| SW10 | Pulse frequency limit, OFF=200KHz, ON=1MHz. | | | | | | | |
| | When set to OFF, limit the maximum frequency of input pulses to 200KHz to prevent external interference signals from causing inaccurate motor positioning. | | | | | | | |

## LC3522D 3 Phase Digital Driver

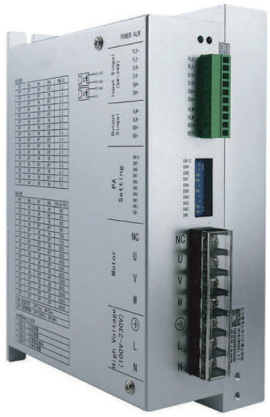
### Driver wiring and size drawing (unit: mm)




Attention:
1. The input control signal level is 5V-24V.
2. The falling edge of the input pulse signal is effective;
3. When the temperature of the drive exceeds 80 degrees Celsius, the drive stops working, and the fault indicator light ALM lights upWhen the temperature of the drive drops to 50 degrees, the drive needs to be powered on again to resume operation.If overheating protection occurs, please install a radiator.
4. The overcurrent (load short circuit) fault indicator light ALM is on. Please check the motor wiring and other short circuitsFault, needs to be restored after troubleshooting.
5. No motor fault indicator light ALM is on. Please check the motor wiring and reconnect it after troubleshooting Electrical recovery.

| port definition | Terminal number | Marker symbol | Function | Notes |
|---|---|---|---|---|
| control signal terminal | 1 | PLS+ | Pulse signal input positive terminal | Universal input terminal of 5V-24V pulse signal, the maximum pulse frequency is 1MHz, which can be passed through SW10 is limited to 200KHz, the low level is required to be 0V-0.5V, and the pulse width is >2.5us |
| | 2 | PLS- | Pulse signal input negative terminal | |
| | 3 | DIR+ | Direction signal input positive terminal | 5V-24V direction signal universal input, control the direction of motor rotation, low requirements Level between 0V-0.5V, pulse width>2.5us |
| | 4 | DIR- | Direction signal input negative terminal | |
| | 5 | ENA+ | Release signal input positive terminal | 5V-24V release signal general input terminal, used to turn off the motor enable, make the motor axis is free |
| | 6 | ENA- | Release signal input negative terminal | |
| | 7 | ALM+ | Positive terminal of fault output signal | Fault output signal, default normally closed switch signal, according to the needs of the host computer, according to different The wiring method selects high-level or low-level output |
| | 8 | ALM- | Fault output signal negative terminal | |
| | 9 | RDY+ | Ready to output signal positive terminal | The driver is normally enabled, and the ready signal is valid. According to the needs of the host computer, press different The wiring method selects high-level or low-level output |
| | 10 | RDY- | Ready to output the negative terminal of the signal | |
| Motor power terminal | 1 | NC | Empty leg | ---- |
| | 2 | U | Motor power line | U, V, W correspond to the motor windings. Swap two of the three winding wires arbitrarily to make the motor direction change |
| | 3 | V | | |
| | 4 | W | | |
| | 5 | PE | Ground wire | Earth, inside the starter shell |
| | 6,7 | L,N | Single-phase AC power | AC 110V~280V |

## LC3722D 3 Phase Digital Driver



### Technical parameter

- Voltage input range: AC110V～280V
- Maximum peak current: 7.0A
- Subdivision range: 400～60000ppr
- Pulse form: pulse + direction (does not support double pulse)
- Impulse response frequency: 0～1MHz
- The pulse stops for 1.5S, and the coil current is automatically reduced to half of the set value
- With over-voltage, over-current, motor lack of equal protection function

### Working current setting

The operating current of the driver is set by the SW1-SW4 terminals, and the operating current is the normal operating output current setting switch (see the table below for details)

| Operating current(A) | 1.2 | 1.5 | 2.0 | 2.3 | 2.5 | 3.0 | 3.2 | 3.6 |
|---|---|---|---|---|---|---|---|---|
| SW1 | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| SW2 | OFF | OFF | OFF | OFF | ON | ON | ON | ON |
| SW3 | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
| SW4 | OFF | ON | OFF | ON | OFF | ON | OFF | ON |
| **Operating current(A)** | **4.0** | **4.5** | **5.0** | **5.3** | **5.8** | **6.2** | **6.5** | **7.0** |
| SW1 | ON | ON | ON | ON | ON | ON | ON | ON |
| SW2 | OFF | OFF | OFF | OFF | ON | ON | ON | ON |
| SW3 | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
| SW4 | OFF | ON | OFF | ON | OFF | ON | OFF | ON |

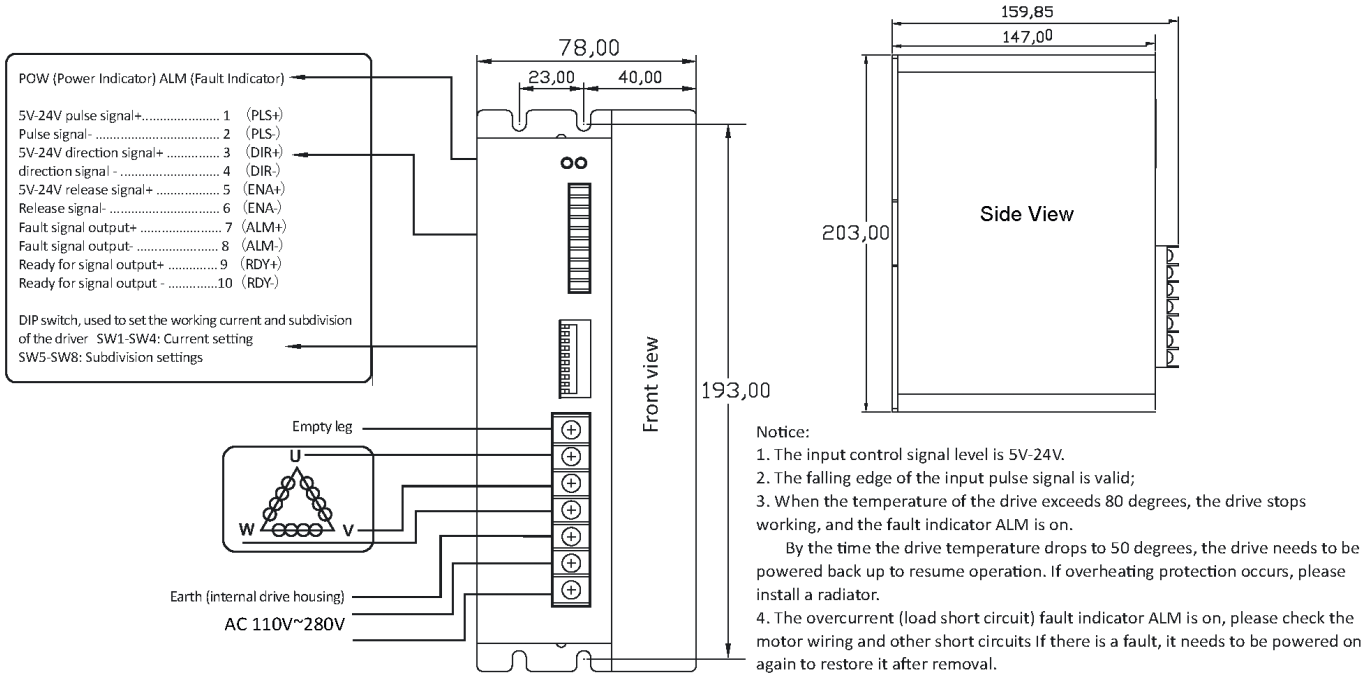
### Microstep subdivision setting

The driver subdivision is set by the SW5-SW8 terminals, a total of 16 gears, SW9 and SW10 are function settings. Attached table such as: subdivision number (pulse/revolution)

| Subdivision | 400 | 500 | 600 | 800 | 1000 | 1200 | 2000 | 3000 |
|---|---|---|---|---|---|---|---|---|
| SW5 | ON | ON | ON | ON | ON | ON | ON | ON |
| SW6 | ON | ON | ON | ON | OFF | OFF | OFF | OFF |
| SW7 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| SW8 | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| **Subdivision** | **4000** | **5000** | **6000** | **10000** | **8000** | **20000** | **30000** | **60000** |
| SW5 | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| SW6 | ON | ON | ON | ON | OFF | OFF | OFF | OFF |
| SW7 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| SW8 | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| SW9 | filter time, OFF=3ms, ON=25ms, the drive's internal acceleration and deceleration time. | | | | | | | |
| SW10 | Pulse frequency limit, OFF=200KHz, ON=1MHz | | | | | | | |
| | When set to OFF, the maximum input pulse frequency is limited to 200KHz to prevent external interference signals from causing inaccurate motor positioning. | | | | | | | |

## LC3722D 3 Phase Digital Driver

### Driver wiring and size drawing (unit: mm)




Notice:

1. The input control signal level is 5V-24V.
2. The falling edge of the input pulse signal is valid;
3. When the temperature of the drive exceeds 80 degrees, the drive stops working, and the fault indicator ALM is on.

By the time the drive temperature drops to 50 degrees, the drive needs to be powered back up to resume operation. If overheating protection occurs, please install a radiator.

4. The overcurrent (load short circuit) fault indicator ALM is on, please check the motor wiring and other short circuits If there is a fault, it needs to be powered on again to restore it after removal.
5. If there is no motor fault indicator light ALM is on, please check the motor wiring, and it needs to be re-connected after troubleshooting.Power recovery.

| port definition | Terminal number | Marker symbol | Function | Notes |
|---|---|---|---|---|
| control signal terminal | 1 | PLS+ | Pulse signal input positive terminal | Universal input terminal of 5V-24V pulse signal, the maximum pulse frequency is 1MHz, which can be passed through SW10 is limited to 200KHz, the low level is required to be 0V-0.5V, and the pulse width is >2.5us |
| | 2 | PLS- | Pulse signal input negative terminal | |
| | 3 | DIR+ | Direction signal input positive terminal | 5V-24V direction signal universal input, control the direction of motor rotation, low requirements Level between 0V-0.5V, pulse width>2.5us |
| | 4 | DIR- | Direction signal input negative terminal | |
| | 5 | ENA+ | Release signal input positive terminal | 5V-24V release signal general input terminal, used to turn off the motor enable, make the motor axis is free |
| | 6 | ENA- | Release signal input negative terminal | |
| | 7 | ALM+ | Positive terminal of fault output signal | Fault output signal, default normally closed switch signal, according to the needs of the host computer, according to different The wiring method selects high-level or low-level output |
| | 8 | ALM- | Fault output signal negative terminal | |
| | 9 | RDY+ | Ready to output signal positive terminal | The driver is normally enabled, and the ready signal is valid. According to the needs of the host computer, press different The wiring method selects high-level or low-level output |
| | 10 | RDY- | Ready to output the negative terminal of the signal | |
| Motor power terminal | 1 | NC | Empty leg | ---- |
| | 2 | U | Motor power line | U, V, W correspond to the motor windings. Swap two of the three winding wires arbitrarily to make the motor direction change |
| | 3 | V | | |
| | 4 | W | | |
| | 5 | PE | Ground wire | Earth, inside the starter shell |
| | 6,7 | L,N | Single-phase AC power | AC 110V~280V |

## MC556-2A 3 Axis Stepper Driver

### Technical parameter

- Voltage input range: DC24V～50V
- Maximum peak current: 5.6A
- Subdivision/Speed Range: 1000 ~ 12800ppr/60 ~ 540R/min
- Signal input: differential/single-ended, pulse/direction or double pulse
- Impulse response frequency: 200KHz
- Parameters can be configured through the serial port
- Support external pulse input and IO spontaneous pulse two control modes

### Environmental parameters

- Storage temperature: -20°C～65°C
- Operating temperature: 0°C～50°C
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

### Drive function description

| Drive function | Instructions |
|---|---|
| Micro step subdivision or RPM setting | SW4 ~ SW6 three dial switches to set the drive micro-step subdivision or speed settings, a total of 8, users set subdivision or speed, should first stop the drive operation, specific micro-step subdivision or speed settings, please follow the instructions on the drive panel. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | The user can set the automatic semi-flow function of the driver through the software. By setting the half-current proportion and half-current time, the driver can enter the half-current state at a certain time after the pulse train stops, thus reducing the heat of the motor itself and improving the reliability. |
| Signal interface | Pulse mode: PUL + and PUL-for the control pulse signal positive and negative; DIR + and DIR-for direction signal positive and negative: ENA + and ENA-for enable signal positive and negative. Spontaneous Pulse IO mode: PUL + and PUL-for the start signal positive and negative; DIR + and DIR-for the direction of the signal positive and negative: ENA + and ENA-for the enable signal positive and negative. |
| Motor interface | Motor 1/Motor 2: A and A- the positive and negative ends of the A-phase winding of the stepper motor; B and B- are connected to the positive and negative ends of the B-phase windings of the stepper motor. When the winding of A and B is changed, the direction of the motor can be reversed. |
| Power connector | DC power supply, working input voltage range: 24V ~ 50VDC, recommended working voltage 36VDC, power supply more than 150W. |
| Indicator light | The drive has two red and green lights. Among them, the green light is the power supply indicator, when the driver is powered on, the green light is always on; the red light is the fault indicator, when overvoltage, overcurrent, lack of phase and other faults occur, the power supply and the fault lamp will flicker regularly, after the fault is cleared, the red light went off. When the drive fails, the failure can only be cleared by re-energizing and re-enabling. |
| Installation Notes | Dimensions of the Driver: 134 x 83 x 33mm, installation pitch of holes: 111mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

### Parameter setting

The MC556-2A driver uses a 12-bit dial switch to set subdivision accuracy, dynamic current, and speed, described in detail as follows:

Dial 1

Working Current Settings | Microstep Subdivision Settings

| SW1 | SW2 | SW3 | SW4 | SW5 | SW6 |
|---|---|---|---|---|---|

### Working current setting

| PEAK (peak current) | RMS (mean current) | SW1 | SW2 | SW3 |
|---|---|---|---|---|
| 1.4A | 1.0A | off | off | off |
| 2.1A | 1.5A | on | off | off |
| 2.7A | 1.9A | off | on | off |
| 3.2A | 2.3A | on | on | off |
| 3.8A | 2.7A | off | off | on |
| 4.3A | 3.1A | on | off | on |
| 4.9A | 3.5A | off | on | on |
| 5.6A | 4.0A | on | on | on |

### Microstep subdivision setting

| Subdivision | SW4 | SW5 | SW6 |
|---|---|---|---|
| 1600 | on | on | on |
| 3200 | off | on | on |
| 6400 | on | off | on |
| 12800 | off | off | on |
| 1000 | on | on | off |
| 3600 | off | on | off |
| 4000 | on | off | off |
| 8000 | off | off | off |

### Working speed setting

| Subdivision | SW4 | SW5 | SW6 |
|---|---|---|---|
| 60rpm | on | on | on |
| 90rpm | off | on | on |
| 120rpm | on | off | on |
| 180rpm | off | off | on |
| 240rpm | on | on | off |
| 300rpm | off | on | off |
| 420rpm | on | off | off |
| 540rpm | off | off | off |

## MC556-2A 2 Axis Stepper Driver

### Driver wiring and size drawing (unit: mm)

| Terminal Name | Description |
|---|---|
| PUL1+ | Shaft 1-external pulse mode: for pulse signal input, the signal voltage supports 5v-24v; pulse input mode: pulse + direction (for pulse port) , double pulse (for CW port) ; pulse effective edge is adjustable, the rising edge of the default pulse is valid, and the pulse width should be greater than 2.5 μs for reliable response of the pulse signal. Shaft 1-IO spontaneous pulse mode: motor start control end, speed through SW4-SW6 regulation. |
| PUL1- | |
| DIR1+ | Shaft 1-external pulse mode: direction port input, signal voltage support 5v-24v; pulse input mode: pulse + direction (direction port) , double pulse (CCW port) ; high/low level signal, in order to ensure the reliable commutation of the motor, the direction signal should be established at least 5μs before the pulse signal. Shaft 1-IO spontaneous pulse mode: Direction Signal Control Terminal for motor direction switching. |
| DIR1- | |
| NC | Empty Foot |
| NC | |
| PUL2+ | Shaft 2-external pulse mode: for pulse signal input, the signal voltage supports 5v-24v; pulse input mode: pulse + direction (as pulse port) , double pulse (as CW port) ; pulse effective length adjustable, the rising edge of the default pulse is valid, and the pulse width should be greater than 2.5 μs for reliable response of the pulse signal. Shaft 2-IO spontaneous pulse mode: motor start control end, speed through SW4-SW6 regulation. |
| PUL2- | |
| DIR2+ | Axis 2-external pulse mode: direction port input, signal voltage support 5v-24v; pulse input mode: pulse + direction (direction port) , double pulse (CCW port) ; high/low level signal, in order to ensure the reliable commutation of the motor, the direction signal should be established at least 5μs before the pulse signal. Shaft 2-IO spontaneous pulse mode: Direction Signal Control Terminal for motor direction switching. |
| DIR2- | |
| ENA+ | Enable control signal, this input signal is used to enable or disable drive shaft 1 and shaft 2 outputs. Ena low level (or internal optocoupler) , the driver will cut off the current in each phase of the motor to make the motor in a free state, does not respond to the stepping pulse. When this function is not needed, the enable signal can be suspended. (signal voltage supports 5-24V) |
| ENA- | |
| ALM+ | Alarm output signal, need external access to 24 power supply; when shaft 1 or shaft 2 motor alarm through the alarm output signal port. (the default always open interface, that is, alarm signal output; can be modified by software communication parameter PA-25 set to 1 to always closed output, that is, alarm signal disconnect.) |
| ALM- | |

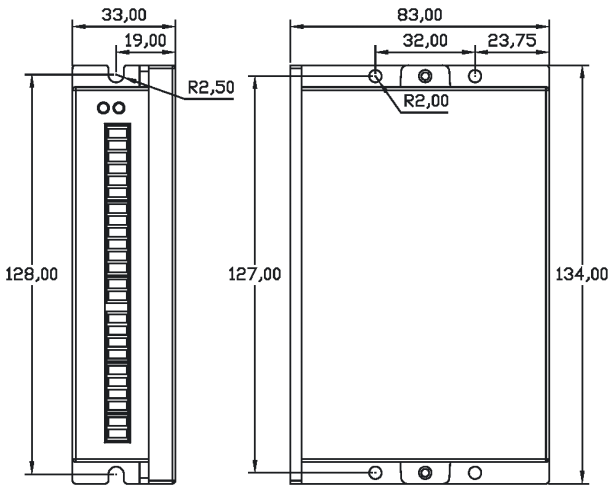
### Motor winding terminal

| Terminal Name | Description |
|---|---|
| 1A+ | 1 axis motor a-phase and b-phase motor winding interface motor rotation movement direction mode: a-phase winding with b-direction winding exchange, a + with a-exchange, B + with b-exchange; three ways can make the motor direction commutation. |
| 1A- | |
| 1B+ | |
| 1B- | |
| 2A+ | 2-axis motor a-phase and b-phase motor winding interface motor rotation direction: a-phase winding with b-direction winding exchange, a+with a-exchange, B + with b-exchange; three ways can make the motor direction commutation. |
| 2A- | |
| 2B+ | |
| 2B- | |

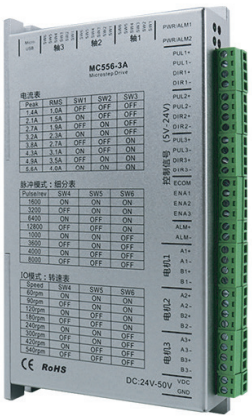
### Power Terminal

| Terminal Name | Description |
|---|---|
| +VDC | Voltage Input Terminal: support DC24-50V recommended power supply 36V, 10A or 48V, 6A and above |
| GND | |

### Installation size (unit: mm)



# MC556-3A 3 Axis Stepper Driver



## Technical parameter

- Voltage input range: DC24V～50V
- Maximum peak current: 5.6A
- Subdivision range: 200-60000ppr
- Pulse form: pulse+direction, CW+CCW
  Pulse response frequency: 0-200KHz
- IO mode: operation+direction mode, forward rotation+reverse mode
- Automatic half current: When the pulse stops for 1.5 seconds, the coil current automatically decreases to half of the set value

## Environmental parameters

- Storage temperature: -20°C～65°C
- Operating temperature: 0°C～50°C
- Operating humidity: 40～90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～55Hz (discontinuous operation)
- Avoid dust, oil stains, corrosive gases, places with too much humidity and too strong vibration, and prohibit flammable gas and conductive dust

## Drive function description

| Drive function | Instructions |
|---|---|
| Micro step subdivision or RPM setting | SW4 ~ SW6 three dial switches to set the drive micro-step subdivision or speed settings, a total of 8, users set subdivision or speed, should first stop the drive operation, specific micro-step subdivision or speed settings, please follow the instructions on the drive panel. |
| Output current setting | 8 output currents can be set for the Driver through 3 dial switches SW1~SW3. See driver panel instruction for output current settings. |
| Automatic half -flow function | The user can set the automatic semi-flow function of the driver through the software. By setting the half-current proportion and half-current time, the driver can enter the half-current state at a certain time after the pulse train stops, thus reducing the heat of the motor itself and improving the reliability. |
| Signal interface | Pulse mode: PUL + and PUL-for the control pulse signal positive and negative; DIR + and DIR-for direction signal positive and negative: ENA + and ENA-for enable signal positive and negative. Spontaneous Pulse IO mode: PUL + and PUL-for the start signal positive and negative; DIR + and DIR-for the direction of the signal positive and negative: ENA + and ENA-for the enable signal positive and negative. |
| Motor interface | Motor 1/Motor 2/Motor 3: A and A- the positive and negative ends of the A-phase winding of the stepper motor; B and B- are connected to the positive and negative ends of the B-phase windings of the stepper motor. When the winding of A and B is changed, the direction of the motor can be reversed. |
| Power connector | DC power supply, working input voltage range: 24V ~ 50VDC, recommended working voltage 36VDC, power supply more than 200W. |
| Indicator light | The drive has two red and green lights. Among them, the green light is the power supply indicator, when the driver is powered on, the green light is always on; the red light is the fault indicator, when overvoltage, overcurrent, lack of phase and other faults occur, the power supply and the fault lamp will flicker regularly, after the fault is cleared, the red light went off. When the drive fails, the failure can only be cleared by re-energizing and re-enabling. |
| Installation Notes | Dimensions of the Driver: 164 x 90.5 x 28mm, installation pitch of holes: 157mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

The MC556-3A driver uses an eighteen bit dial switch to set subdivision accuracy and dynamic current And speed, detailed description as follows:

Dial 1

Working Current Settings | Microstep subdivision/speed setting

| SW1 | SW2 | SW3 | SW4 | SW5 | SW6 |
|---|---|---|---|---|---|

Dial 2

Working Current Settings | Microstep subdivision/speed setting

| SW1 | SW2 | SW3 | SW4 | SW5 | SW6 |
|---|---|---|---|---|---|

Dial 3

Working Current Settings | Microstep subdivision/speed setting

| SW1 | SW2 | SW3 | SW4 | SW5 | SW6 |
|---|---|---|---|---|---|

## Working current setting

| PEAK (peak current) | 1.4A | 2.1A | 2.7A | 3.2A | 3.8A | 4.3A | 4.9A | 5.6A |
|---|---|---|---|---|---|---|---|---|
| RMS (mean current) | 1.0A | 1.5A | 1.9A | 2.3A | 2.7A | 3.1A | 3.5A | 4.0A |
| SW1 | off | on | off | on | off | on | off | on |
| SW2 | off | off | on | on | off | off | on | on |
| SW3 | off | off | off | off | on | on | on | on |

## Microstep subdivision setting

| Subdivision | SW4 | SW5 | SW6 |
|---|---|---|---|
| 1600 | on | on | on |
| 3200 | off | on | on |
| 6400 | on | off | on |
| 12800 | off | off | on |
| 1000 | on | on | off |
| 3600 | off | on | off |
| 4000 | on | off | off |
| 8000 | off | off | off |

## Working speed setting

| Subdivision | SW4 | SW5 | SW6 |
|---|---|---|---|
| 60rpm | on | on | on |
| 90rpm | off | on | on |
| 120rpm | on | off | on |
| 180rpm | off | off | on |
| 240rpm | on | on | off |
| 300rpm | off | on | off |
| 420rpm | on | off | off |
| 540rpm | off | off | off |

## MC556-3A 3 Axis Stepper Driver

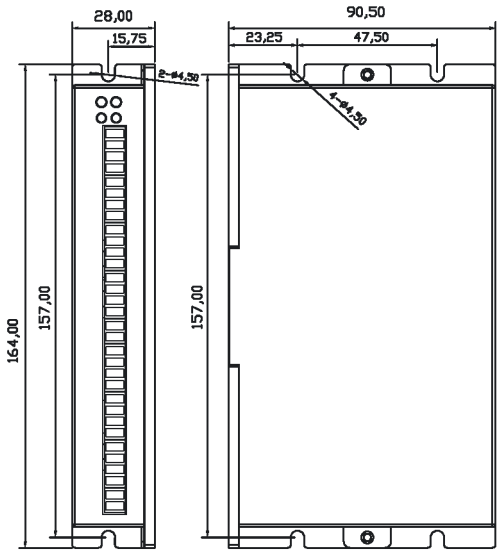
### Control signal wiring terminal

| Serial number | Symbol | illustrate | | |
|---|---|---|---|---|
| | | PULSE mode | IO mode | |
| | | | Operation+direction mode | Forward+reverse mode |
| 1 | PUL1+ | 1 axis pulse signal input terminal (5V-24V) | 1 axis running signal, connected to the rear motorStart rotation | 1 axis positive operating signal, after the motor is turned on positive |
| 2 | PUL1- | | | |
| 3 | DIR1+ | 1 axis direction signal input terminal (5V-24V) | 1 axis direction signal, switched on and offRunning direction | 1 axis reverse operation signal, after switching on the motor reverse |
| 4 | DIR1- | | | |
| 5 | PUL2+ | 2 axis pulse signal input terminal (5V-24V) | 2 axis running signal, connected to rear motorStart rotation | 2 axis positive operating signal, after the motor is turned on |
| 6 | PUL2- | | | |
| 7 | DIR2+ | 2 axis direction signal input terminal (5V-24V) | 2 axis directional signal, switched on and off Running direction | 2 axis reverse operation signal, turn the motor on |
| 8 | DIR2- | | | |
| 9 | PUL3+ | 3 axis pulse signal input terminal (5V-24V) | 3 axis operation signal, switch on the motor, start to rotate | 3 axis positive operating signal, the motor is turned on |
| 10 | PUL3- | | | |
| 11 | DIR3+ | 3 axis direction signal input terminal (5V-24V) | 3 axis direction signal, switch operation direction after switch on | 3 axis reverse operation signal, turn the motor on |
| 12 | DIR3- | | | |
| 13 | ECOM | Release Signal Common Terminal (5V-24V) | | |
| 14 | ENA1-2 | 1 axis 2 axis release signal (common) | | |
| 15 | NC | Empty | | |
| 16 | ENA3 | 3 axis release signal | | |
| 17 | ALM+ | Alarm signal output (normally closed) | | |
| 18 | ALM- | | | |

### Motor and power terminals

| Serial number | Symbol | illustrate |
|---|---|---|
| 1 | A1+ | 1 axis motor a-phase and B-phase windings, a + and a-switch direction. |
| 2 | A1- | |
| 3 | B1+ | |
| 4 | B1- | |
| 5 | A2+ | 2 axis motor A phase and B phase windings,Swapping A+and A - direction switchable |
| 6 | A2- | |
| 7 | B2+ | |
| 8 | B2- | |
| 9 | A3+ | 3 axis motor A phase and B phase windings,Swapping A+and A - direction switchable |
| 10 | A3- | |
| 11 | B3+ | |
| 12 | B3- | |
| 13 | VDC | DC power input positive pole (24V-50V) |
| 14 | GND | DC power input negative pole |

### Installation size (unit: mm)



## LCDA257-2A 2 Axis Closed-Loop Stepper Driver

### Technical parameter

LCDA257-2A driver is a digital step-by-step driver with one-drive and two-axis control developed by the latest 32-bit DSP chip. The driver can cover step-by-step motors of 57,60 and 86 bases The driver supports two-axis independent and synchronous pulse control modes, and can independently or synchronously control two-axis stepping motors for precise positioning control. The driver integrates two axes step-by-step, not only can save the cost of installation space for customers, but also can be used for one-drive two machine gantry mechanism to improve the synchronous control accuracy of customers, convenient wiring and debugging, at the same time, it improves the flexibility and convenience of field application.

### Functional Characteristics

- Voltage input range: DC20V~50V
- Max peak current: 5.6A
- Subdivision/Speed Range: 800 ~ 51200ppr
- Signal input: differential/single-ended, pulse/direction or double pulse
- Two axes independent external pulse input control and synchronous pulse input control are supported
- Pulse response frequency: 200 khz
- Parameters can be configured through the serial port
- With over-current, over-voltage, under-voltage, lack of phase and excessive position deviation protection function

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Motor coding interface definition

| Serial number | illustrate |
|---|---|
| 1A+ | 1 axis motor a-phase and b-phase motor, winding interface motor rotation movement direction, direction can be SW5 switch |
| 1A- | |
| 1B+ | |
| 1B- | |
| 2A+ | 2 axis motor a-phase and b-phase motor winding interface motor rotation direction mode can be SW5 switch |
| 2A- | |
| 2B+ | |
| 2B- | |

2. Encoder wiring pin definition

| Serial number | illustrate |
|---|---|
| EB1+ | 1 axis motor encoder b-phase positive feedback pulse pin |
| EB1- | 1 axis motor encoder b-phase negative feedback pulse pin |
| EA1+ | 1 axis motor encoder a phase positive feedback pulse pin |
| EA1- | 1 axis motor encoder a phase negative feedback pulse pin |
| EVCC | 1 axis motor encoder power supply positive terminal (voltage+5V) |
| EGND | 1 axis motor encoder power supply negative end |
| EB2+ | 2 axis motor encoder b-phase positive feedback pulse pin |
| EB2- | 2 axis motor encoder b-phase negative feedback pulse pin |
| EA2+ | 2 axis motor encoder a phase positive feedback pulse pin |
| EA2- | 2 axis motor encoder a phase negative feedback pulse pin |
| EVCC | 2 axis motor encoder power supply positive terminal (voltage+5V) |
| EGND | 2-axis motor encoder power supply negative end |

3. Power terminals

| Serial number | illustrate |
|---|---|
| +VDC | Voltage Input Terminal: support DC24-50V recommended power supply 36V, 10A or 48V, 6A and above |
| GND | |

## 4. Control terminals

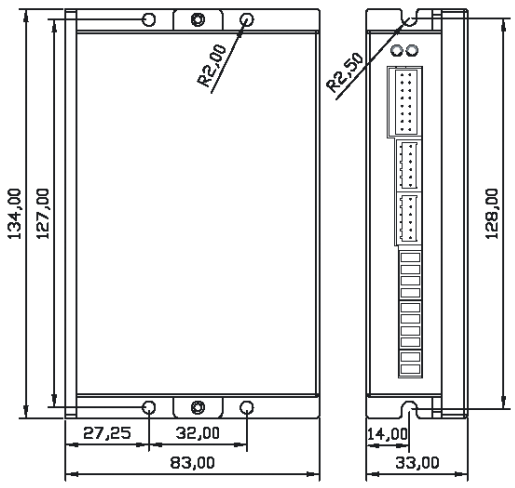
| Serial number | illustrate |
|---|---|
| PUL1+ | **Axis 1** external pulse mode: for pulse signal input, the signal voltage supports 5v-24v; pulse input mode: pulse + direction (as pulse port) , double pulse (as CW port) ; pulse effective edge adjustable, the rising edge of the default pulse is valid, and the pulse width should be greater than 2.5 μs for reliable response of the pulse signal. |
| PUL1- | |
| DIR1+ | **Axis 1** external pulse mode: direction port input, signal voltage support 5v-24v; pulse input mode: pulse + direction (direction port) , double pulse (CCW port) ; high/low level signal, in order to ensure the reliable commutation of the motor, the direction signal should be established at least 5μs before the pulse signal. |
| DIR1- | |
| ENA1+ | **Axis 1** enable control signal, this input signal is used to enable or disable drive shaft 1 and shaft 2 outputs. Ena low level (or internal optocoupler) , the driver will cut off the current in each phase of the motor to make the motor in a free state, does not respond to the stepping pulse. When this function is not needed, the enable signal can be suspended. (signal voltage supports 5-24V) |
| ENA2- | |
| PUL2+ | **Axis 2** external pulse mode: for pulse signal input, the signal voltage supports 5v-24v; pulse input mode: pulse + direction (as pulse port) , double pulse (as CW port) ; pulse effective length adjustable, the rising edge of the default pulse is valid, and the pulse width should be greater than 2.5 μs for reliable response of the pulse signal. |
| PUL2- | |
| DIR2+ | **Axis 2** external pulse mode: direction port input, signal voltage support 5v-24v; pulse input mode: pulse + direction (direction port) , double pulse (CCW port) ; high/low level signal, in order to ensure the reliable commutation of the motor, the direction signal should be established at least 5μs before the pulse signal. |
| DIR2- | |
| ENA2+ | **Axis 2** enable control signal, this input signal is used to enable or disable drive shaft 1 and shaft 2 outputs. Ena low level (or internal optocoupler) , the driver will cut off the current in each phase of the motor to make the motor in a free state, does not respond to the stepping pulse. When this function is not needed, the enable signal can be suspended. (signal voltage supports 5-24V) |
| ENA2- | |
| ALM1+ | **Axis 1** alarm output signal, external access to 24 power supply; when shaft 1 motor alarm output signal through the alarm port. (the default always-open interface, that is, alarm signal output; can be modified by software communication parameter Pa-21 set to 1 to always-closed output, that is, alarm signal disconnect.) |
| ALM1- | |
| ALM2+ | **Axis 2** alarm output signal, external access to 24 power supply; when shaft 1 motor alarm output signal through the alarm port. (the default always open interface, that is, the alarm signal output; can be modified by software communication parameter PA-47 set to 1 to change the normal closed output, that is, the alarm signal disconnect.) |
| ALM2- | |

### Motor and power terminals

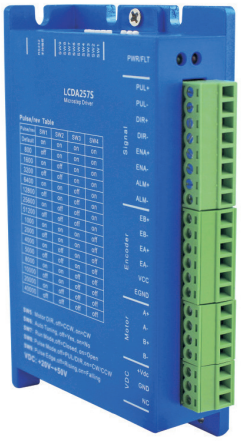
| Pulse/rev | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

Top Dial Switch Instructions:
SW1-SW4: microstep subdivision settings
SW5: the initial direction of the motor is defined as OFF: CW On: CCW
SW6: Open/closed-loop option OFF: open-loop ON: Closed-loop

### Installation size (unit: mm)



## LCDA257S 2 Phase Closed Loop Stepper Drive



### Technical parameter

LCDA257S adopts the latest special motor control DSP chip and servo control technologies, completely solves step missing issues for open loop stepper motor, obviously improves motor performance at high speed, reduces heat generation and vibration of motor, increases processing speed and precision of machine, decreases power consumption. applies to 2 phase Nema23 closed loop stepper motors, is convenient for upgrading traditional stepper driver solutions and largely reduces cost.

### Functional Characteristics

- Full subdivision range: 400-51200 (Default gear can be set to any subdivision through debugging software).
- Pulse form: pulse + direction, CW/CCW
- Pulse response frequency: 0~20kHz
- Logical input current: 10~20mA
- Servo control mode, low noise during motor operation.
- Over-voltage, over-current, tracking error and out of error protection functions.
- Closed loop vector control, assure high-speed and big-torque output and no step missing of motor.

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electric indexes

| Parameter | LCDA257S | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Max peak current | - | - | 6 | A |
| Input supply voltage | 24 | 36 | 50 | VDC |
| Logic input current | 7 | 10 | 20 | mA |
| Pulse frequency | - | - | 200 | KHZ |

2. Interface Definition

(1) Motor and Power Supply Input Interface

| Symbol | Name | Description |
|---|---|---|
| A+ | Positive Terminal of A Phase Motor Winding | - |
| A- | Negative Terminal of A Phase Motor Winding | - |
| B+ | Positive Terminal of B Phase Motor Winding | - |
| B- | Negative Terminal of B Phase Motor Winding | - |
| +VDC | Positive Terminal of Power Supply | +20V~+50V |
| GND | Negative Terminal of Power Supply | 0V |

(2) Signal input port of encoder (6Pin green terminal is adopted for LCDA257S encoder, pin definition is as follows)

| Symbol | Name |
|---|---|
| EB+ | B Phase Positive Input of Motor Encoder |
| EB- | B Phase Negative Input of Motor Encoder |
| EA+ | A Phase Positive Input of Motor Encoder |
| EA- | A Phase Negative Input of Motor Encoder |
| VCC | Encoder Power Supply |
| EGND | Encoder power ground |

(3) Control Signal Port

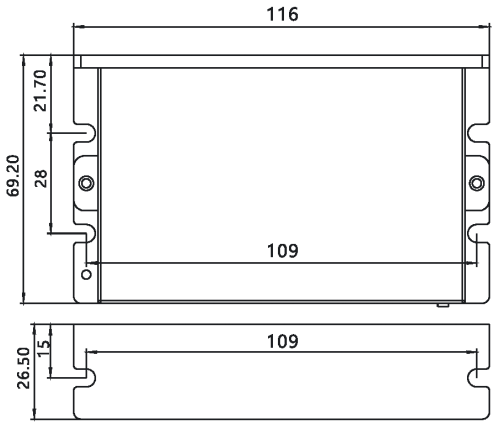
| Name | Description |
|---|---|
| PUL+ | Pulse input signal: Pulse rising edge is effective; for reliable response to pulse signal, pulse width shall be > 2.5μs. 1.5K resistance shall be connected in series when +12V or +24V is adopted |
| PUL- | |
| DIR+ | Direction input signal: Switch motor direction through high/low level signal, direction signal shall be established at least 5μs before pulse signal. 1.5K resistance shall be connected in series when +12V or +24V is adopted. |
| DIR- | |
| ENA+ | Enable control signal, such input signal is used for enabling or disabling the Driver output. When this function is not needed, enable signal terminal can be hung. 1.5K resistance shall be connected in series when +12V or +24V is used. |
| ENA- | |
| ALM+ | Positive Terminal of Alarm Output |
| ALM- | Negative Terminal of Alarm Output |

## Motor and power terminals

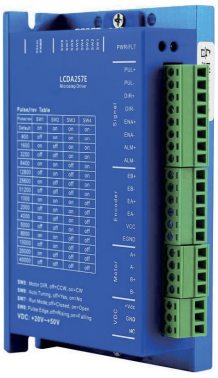
| Pulse/rev | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

Instructions for Top Dial Switch:
SW1~SW4: microstep subdivision settings
SW5: select forward/backward rotation direction of motor
SW6: select current auto-tuning mode
SW7: switch closed and open loop modes
SW8: select single/double pulse SW9: select pulse edge

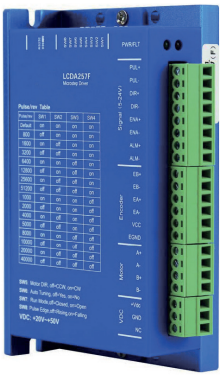
## Installation size (unit: mm)



# LCDA257E/LCDA257F 2 Phase Closed Loop Stepper Drive



LCDA257E



LCDA257F

## Technical parameter

LCDA257E/LCDA257F adopts the latest special motor control DSP chip and servo control technologies, completely solves step missing issues for open loop stepper motor, obviously improves motor performance at high speed, reduces heat generation and vibration of motor, increases processing speed and precision of machine, decreases power consumption. applies to 2 phase Nema23 closed loop stepper motors, is convenient for upgrading traditional stepper driver solutions and largely reduces cost.

## Functional Characteristics

- Full subdivision range: Default 400/rev, any subdivision (200~51200) can be set through debugging panel.
- With overcurrent, overvoltage and other protection functions.
- Pulse response frequency: 0~20kHz
- Logical input current: 10~20mA
- Servo control mode, low noise during motor operation.
- Over-voltage, over-current, tracking error and out of error protection functions.
- Closed loop vector control, assure high-speed and big-torque output and no step missing of motor.

## Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

## Main Parameters

### 1. Electric indexes

| Parameter | LCDA257E/LCDA257F | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Max peak current | - | - | 6 | A |
| Input supply voltage | 20 | 36 | 50 | VDC |
| Logic input current | 7 | 10 | 20 | mA |
| Pulse frequency | - | - | 200 | KHZ |

### 2. Interface Definition

(1) Motor and Power Supply Input Interface

| Symbol | Name | Description |
|---|---|---|
| A+ | Positive Terminal of A Phase Motor Winding | - |
| A- | Negative Terminal of A Phase Motor Winding | - |
| B+ | Positive Terminal of B Phase Motor Winding | - |
| B- | Negative Terminal of B Phase Motor Winding | - |
| +VDC | Positive Terminal of Power Supply | +20V~+50V |
| GND | Negative Terminal of Power Supply | 0V |

(2) Signal input port of encoder (6Pin green terminal is adopted for LCDA257S encoder, pin definition is as follows)

| Symbol | Name |
|---|---|
| EB+ | B Phase Positive Input of Motor Encoder |
| EB- | B Phase Negative Input of Motor Encoder |
| EA+ | A Phase Positive Input of Motor Encoder |
| EA- | A Phase Negative Input of Motor Encoder |
| VCC | Encoder Power Supply |
| EGND | Encoder power ground |

(3) Control Signal Port

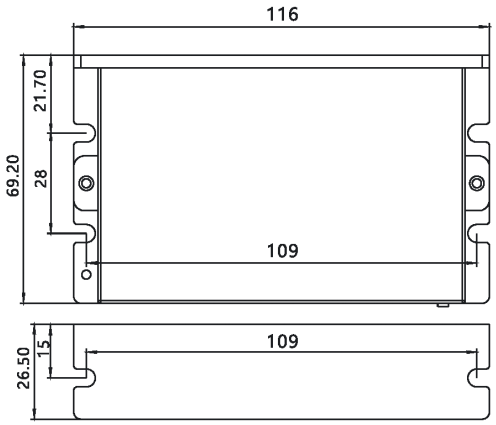
| Name | Description |
|---|---|
| PUL+ | Pulse input signal: Pulse rising edge is effective; for reliable response to pulse signal, pulse width shall be > 2.5μs. 1.5K resistance shall be connected in series when +12V or +24V is adopted |
| PUL- | |
| DIR+ | Direction input signal: Switch motor direction through high/low level signal, direction signal shall be established at least 5μs before pulse signal. 1.5K resistance shall be connected in series when +12V or +24V is adopted. |
| DIR- | |
| ENA+ | Enable control signal, such input signal is used for enabling or disabling the Driver output. When this function is not needed, enable signal terminal can be hung. 1.5K resistance shall be connected in series when +12V or +24V is used. |
| ENA- | |
| ALM+ | Positive Terminal of Alarm Output |
| ALM- | Negative Terminal of Alarm Output |

## Motor and power terminals

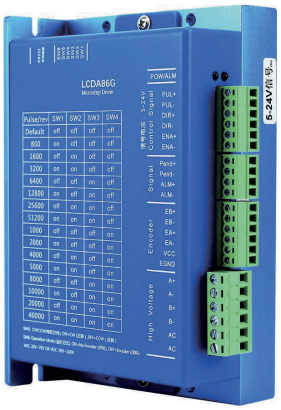
| Pulse/rev | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

Instructions for Top Dial Switch:
SW1~SW4: microstep subdivision settings
SW5: select forward/backward rotation direction of motor
SW6: select current auto-tuning mode
SW7: switch closed and open loop modes
SW8: select single/double pulse SW9: select pulse edge

## Installation size (unit: mm)



## LCDA86G 2 Phase Closed Loop Stepper Drive



### Technical parameter

LCDA86G adopts the latest special motor control DSP chip and vector closed loop control technology, completely solves step missing issues for open loop stepper motor, completely solves step missing issues for open loop stepper motor, obviously improves motor performance at high speed, reduces heat generation and vibration of motor, increases processing speed and precision of machine, decreases power consumption, applies to 2 phase Nema34 closed loop motors, has both stepper and servo advantages, is 50% cheaper than servo systems in market and an optimal upgrading stepper program for clients.

### Functional Characteristics

- Subdivision range: Default 4000/rev, any subdivision (200~51200) can be set through debugging panel.
- Pulse limit frequency: 200KHZ
- Signal input: Pulse, direction and enable signals
- Output signal: In-place signal and failure output signal, full motor encoder feedback: AB differential input.
- Over-voltage, over-current, tracking error and out of error protection functions.
- Closed loop vector control, assure high-speed and big-torque output and no step missing of motor.

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electric indexes

| Parameter | LCDA86G | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Max peak current | - | - | 6 | A |
| Input supply voltage | 24 | 60 | 70 | VDC/VAC |
| Logic input current | 7 | 10 | 16 | mA |
| Pulse frequency | - | 200 | 500 | KHZ |

2. Interface Definition

(1) Motor and Power Supply Input Interface

| Symbol | Name | Description |
|---|---|---|
| A+ | Positive Terminal of A Phase Motor Winding | - |
| A- | Negative Terminal of A Phase Motor Winding | - |
| B+ | Positive Terminal of B Phase Motor Winding | - |
| B- | Negative Terminal of B Phase Motor Winding | - |
| AC | Power Supply Connection Terminal | VDC: 30V-100V<br>VAC: 20V-70V |
| AC | Power Supply Connection Terminal | |

| Symbol | Name |
|---|---|
| EB+ | B Phase Positive Input of Motor Encoder |
| EB- | B Phase Negative Input of Motor Encoder |
| EA+ | A Phase Positive Input of Motor Encoder |
| EA- | A Phase Negative Input of Motor Encoder |
| VCC | Encoder Power Supply |
| EGND | Encoder power ground |

(3) Control Signal Port

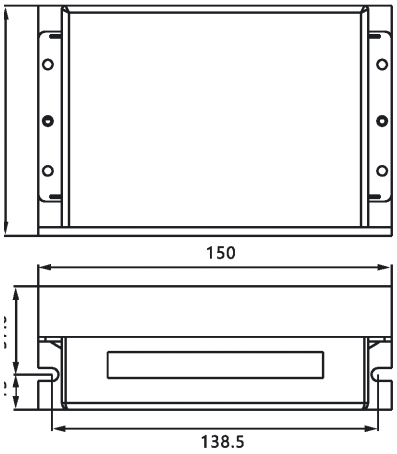
| Name | Description |
|---|---|
| PUL+ | Pulse input signal: the rising edge of the pulse is valid; in order to respond to the pulse signal reliably, the pulse width should be greater than 2.5μs. Compatible with 5V-24V signals, no series resistance is required. |
| PUL- | |
| DIR+ | Direction input signal: switch the motor direction by high/low level signal, the direction signal should be established at least 5μs before the pulse signal. Compatible with 5V-24V signals, no series resistance is required. |
| DIR- | |
| ENA+ | Enable control signal, this input signal is used to enable or disable the driver output. When this function is not needed, the enable signal terminal can be left floating. Compatible with 5V-24V signals, no series resistance is required. |
| ENA- | |
| Pend+ | Positive Terminal of Positioning Finish Signal |
| Pend- | Negative Terminal of Positioning Finish Signal |
| ALM+ | Positive Terminal of Alarm Output |
| ALM- | Positive Terminal of Alarm Output |

## Motor and power terminals

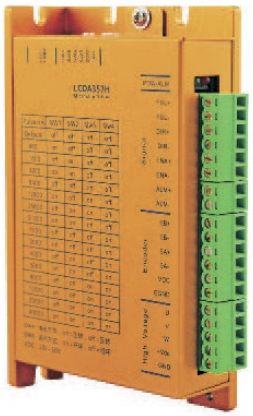
| Pulse/rev | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| Default | off | off | off | off |
| 800 | on | off | off | off |
| 1600 | off | on | off | off |
| 3200 | on | on | off | off |
| 6400 | off | off | on | off |
| 12800 | on | off | on | off |
| 25600 | off | on | on | off |
| 51200 | on | on | on | off |
| 1000 | off | off | off | on |
| 2000 | on | off | off | on |
| 4000 | off | on | off | on |
| 5000 | on | on | off | on |
| 8000 | off | off | on | on |
| 10000 | on | off | on | on |
| 20000 | off | on | on | on |
| 40000 | on | on | on | on |

Instructions for Top Dial Switch:
SW1~SW4: microstep subdivision settings
SW5: select forward/backward rotation direction of motor
SW6: switch closed and open modes

### Installation size (unit: mm)



## LCDA357H 3 Phase Closed Loop Stepper Drive



### Technical parameter

LCDA357H adopts the latest special motor control DSP chip and vector closed loop control technology, completely solves step missing issues for open loop stepper motor, obviously improves motor performance at high speed, reduces heat generation and vibration of motor, increases processing speed and precision of machine, decreases power consumption, applies to 3 phase Nema23 closed loop stepper motors, is convenient for upgrading traditional stepper driver solutions and largely reduces cost.

### Functional Characteristics

- Voltage input range: DC20V~50V (36V and above recommended)
- Max peak current: 7A
- Subdivision range: 200 ~ 51200pp
- Signal input: Differential/single terminal, pulse/direction
- Pulse response frequency: 200KHZ
- Power-on Parameter Automatic Tuning Function
- Over-voltage, over-current, tracking error and out of error protection functions.
- Closed loop vector control, assure high-speed large-torque output and no step missing of motor.

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electric indexes

| Parameter | LCDA357H | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Max peak current | - | - | 7 | A |
| Input supply voltage | 20 | 36 | 50 | VDC |
| Logic input current | 7 | 10 | 16 | mA |
| Pulse frequency | - | - | 200 | KHZ |

2. Interface Definition

(1) Motor and Power Supply Input Interface

| Symbol | Name | Description |
|---|---|---|
| U | U Phase Winding of Motor | - |
| V | V Phase Winding of Motor | - |
| W | W Phase Winding of Motor | - |
| VDC | Positive Terminal of Power Supply Input | +20V~+50V |
| GND | Negative Terminal of Power Supply Input | 0V |

## LCDA357H 3 Phase Closed Loop Stepper Drive

(2) Signal input port of encoder (6Pin green terminal is adopted for LCDA357H encoder, pin definition is as follows)

| Symbol | Name |
|---|---|
| EB+ | B Phase Positive Input of Motor Encoder |
| EB- | B Phase Negative Input of Motor Encoder |
| EA+ | A Phase Positive Input of Motor Encoder |
| EA- | A Phase Negative Input of Motor Encoder |
| VCC | Encoder Power Supply |
| EGND | Encoder power ground |

(3) Control Signal Port

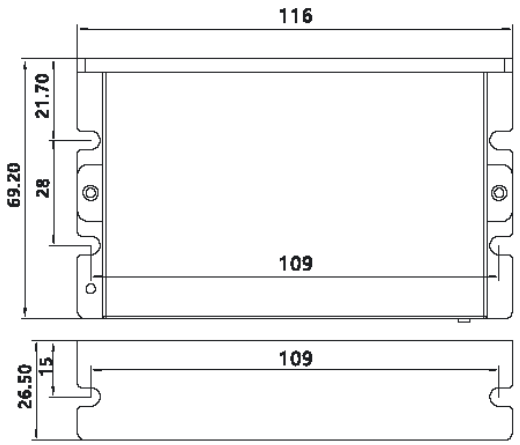
| Name | Description |
|---|---|
| PUL+ | Pulse input signal: Pulse rising edge is effective; for reliable response to pulse signal, pulse width shall be > 2.5μs. 1.5K resistance shall be connected in series when +12V or +24V is adopted. |
| PUL- | |
| DIR+ | Direction input signal: Switch motor direction through high/low level signal, direction signal shall be established at least 5ps before pulse signal. 1.5K resistance shall be connected in series when +12V or +24V is adopted. |
| DIR- | |
| ENA+ | Enable control signal, such input signal is used for enabling or disabling the Driver output. When this function is not needed, enable signal terminal can be hung. 1.5K resistance shall be connected in series when +12V or +24V is adopted. |
| ENA- | |
| ALM+ | Positive Terminal of Alarm Output |
| ALM- | Negative Terminal of Alarm Output |

### Motor and power terminals

| Pulse/rev | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| Default | off | off | off | off |
| 800 | on | off | off | off |
| 1600 | off | on | off | off |
| 3200 | on | on | off | off |
| 6400 | off | off | on | off |
| 12800 | on | off | on | off |
| 25600 | off | on | on | off |
| 51200 | on | on | on | off |
| 1000 | off | off | off | on |
| 2000 | on | off | off | on |
| 4000 | off | on | off | on |
| 5000 | on | on | off | on |
| 8000 | off | off | on | on |
| 10000 | on | off | on | on |
| 20000 | off | on | on | on |
| 40000 | on | on | on | on |

Instructions for Top Dial Switch:
SW1~SW4: microstep subdivision settings
SW5: select forward/backward rotation direction of motor
SW6: switch closed and open modes

### Installation size (unit: mm)



## LCDA808F 2 Phase Digital Hybrid Servo Drive

### Technical parameter

LCDA808F adopts the latest special motor control DSP chip and vector closed loop control technology, completely solves step missing issues for open loop stepper motor, obviously improves motor performance at high speed, reduces heat generation and vibration of motor, increases processing speed and precision of machine, decreases power consumption, applies to 2 phase Nema34 closed loop motors, has both stepper and servo advantages, low noise, strong anti-interference capacity, is suitable for high speed, external digital debugging panel and easy parameter settings and monitoring.

### Functional Characteristics

- Voltage input range: AC50V~80V
- Max peak current: 8A
- Subdivision range: 200~51200ppr
- Pulse response frequency: 200KHZ
- Signal input: Differential/single terminal, pulse/direction
- External digital debugging panel, easy parameter settings and monitoring.
- Over-voltage, over-current, tracking error and out of error protection functions.
- Closed loop vector control, assure high-speed large-torque output and no step missing of motor.
- Serial port communication function, current, subdivision, signal edge and alarm output logic functions can be adjusted.

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electric indexes

| Parameter | LCDA808F | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Max peak current | - | - | 8 | A |
| Input supply voltage | 50 | 70 | 80 | VAC |
| Logic input current | 7 | 10 | 16 | mA |
| Pulse frequency | - | - | 200 | KHZ |

2. Interface Definition

(1) Motor and Power Supply Input Interface

| Symbol | Name | Description |
|---|---|---|
| A+ | Positive Terminal of A Phase Motor Winding | - |
| A- | Negative Terminal of A Phase Motor Winding | - |
| B+ | Positive Terminal of B Phase Motor Winding | - |
| B- | Negative Terminal of B Phase Motor Winding | - |
| AC | Power Supply Connection Terminal | 50V~80VAC |
| AC | Power Supply Connection Terminal | |

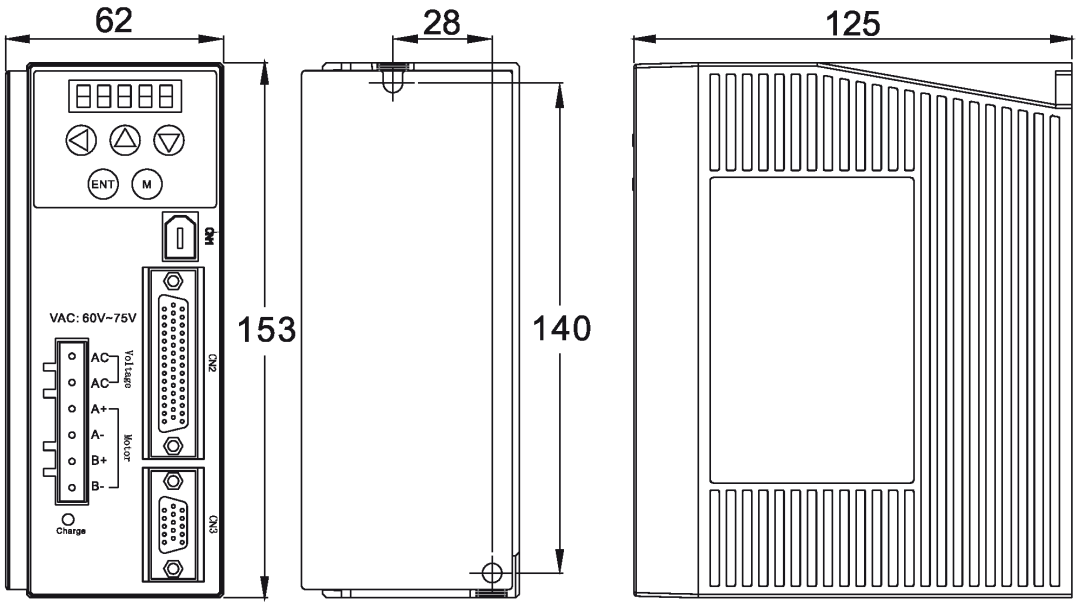
(2) Signal input port of encoder (15Pin green terminal is adopted for LCD808F encoder, pin definition is as follows)

| Pin | Symbol | Name |
|---|---|---|
| 1 | EB+ | B Phase Positive Input of Motor Encoder |
| 11 | EB- | B Phase Negative Input of Motor Encoder |
| 2 | EA+ | A Phase Positive Input of Motor Encoder |
| 12 | EA- | A Phase Negative Input of Motor Encoder |
| 13 | VCC | Encoder Power Supply |
| 3 | EGND | Encoder power ground |

(3) Control Signal Port

| Pin | Name | Description |
|---|---|---|
| 3 | PUL+ | Pulse input signal: the rising edge of the pulse is valid; in order to respond to the pulse signal reliably, the pulse width should be greater than 2.5μs. Compatible with 5V-24V signals, no series resistance is required. |
| 4 | PUL- | |
| 5 | DIR+ | Direction input signal: switch the motor direction by high/low level signal, the direction signal should be established at least 5μs before the pulse signal. Compatible with 5V-24V signals, no series resistance is required. |
| 6 | DIR- | |
| 7 | ENA+ | Enable control signal, this input signal is used to enable or disable the driver output. When this function is not needed, the enable signal terminal can be left floating. Compatible with 5V-24V signals, no series resistance is required. |
| 8 | ENA- | |
| 9 | Pend+ | Positive Terminal of Positioning Finish Signal |
| 10 | Pend- | Negative Terminal of Positioning Finish Signal |
| 11 | ALM+ | Positive Terminal of Alarm Output |
| 12 | ALM- | Positive Terminal of Alarm Output |

## Motor and power terminals



## LCDA2262C 2 Phase Digital Hybrid Servo Drive

### Technical parameter

LCDA2262C is a new generation of digital two-phase closed-loop step driver based on 32-bit DSP technology. The driver adopts a brand-new structure and control scheme, and a brand-new interface scheme, so that users can use it more conveniently and quickly, the driver combines more advanced algorithms to substantially reduce the noise of the motor while running, making the motor run more smoothly and reliably.

### Functional Characteristics

- Voltage input range: AC150V~250V
- Max peak current: 6A
- Subdivision range: 400~60000ppr
- Pulse form: pulse+direction (dual pulse not supported)
- Pulse response frequency: 0-200kHz
- Equipped with overvoltage, overcurrent, and motor short circuit protection functions

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electrical indicators

| Serial number | Symbols | illustrate |
|---|---|---|
| 1 | A+ | Two-phase stepping motor winding |
| 2 | A- | |
| 3 | B+ | |
| 4 | B- | |
| 5 | PE | Ground terminal |
| 6 | AC | AC power supply input AC150V-250V |
| 7 | AC | |

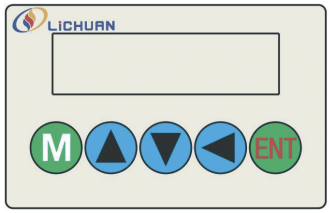
2. Control signal terminal

| Serial number | Symbols | illustrate |
|---|---|---|
| 1 | PUL+ | Pulse signal input (5V-24V) |
| 2 | PUL- | |
| 3 | DIR+ | Directional signal input (5V-24V) |
| 4 | DIR- | |
| 5 | ENA+ | Release signal input (5V-24V) |
| 6 | ENA- | |
| 7 | ALM+ | Alarm signal output (normally closed output) |
| 8 | ALM- | |
| 9 | RDY+ | Prepare the signal output (normally closed output) |
| 10 | RDY- | |

3. Encoder signal terminal

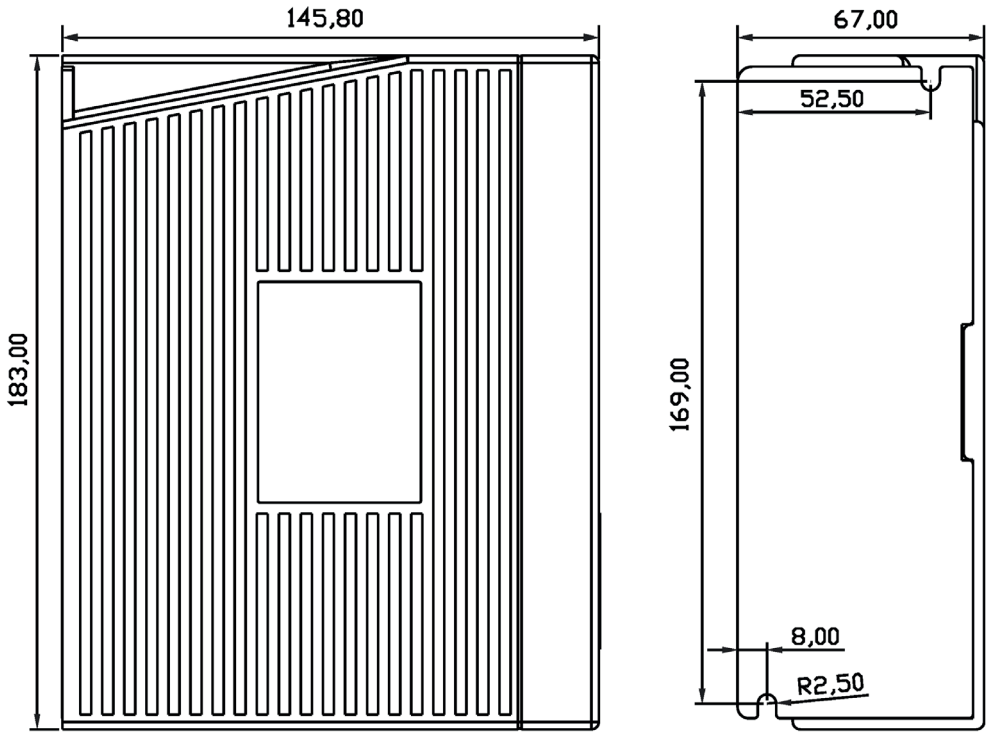
| Pin | Name | illustrate |
|---|---|---|
| 1 | EA+ | Encoder a phase feedback signal |
| 2 | EA- | |
| 3 | EB+ | Encoder B phase feedback signal |
| 4 | EB- | |
| 5 | EZ+ | Encoder z-phase feedback signal (not connected by default) |
| 6 | EZ- | |
| 7 | +5V | Encoder power supply is positive |
| 8 | GND | Encoder power supply negative |

4. Key function description (introduction to debug panel)




| Key symbol | Key instructions |
|---|---|
| ◀ | The input bit (blinking) moves left |
| ▲ | Switch Submenus and increase values |
| ▼ | Switch Submenus and reduce values |
| ENT | Enter the submenu and determine the input |
| M | Can switch between modes |

## Motor and power terminals



## LCDA2260E 3 Phase Digital Hybrid Servo Drive

### Technical parameter

LCDA2260E adopts the latest special motor control DSP chip and vector closed loop control technology, completely solves step missing issues for open loop stepper motor, obviously improves motor performance at high speed, reduces heat generation and vibration of motor, increases processing speed and precision of machine, decreases power consumption. When continuous overload of motor occurs, the Driver will timely output alarm signal, it is as reliable as AC servo system. Applies to motor installation dimensions which are fully compatible with Nema34/42 series stepper motors, is convenient for upgrading traditional stepper driver solutions and largely reduces cost.

### Functional Characteristics

- Voltage input range: AC150V~230V (generally connected to 220V)
- Statistic and dynamic currents can be set within 0~6A.
- External digital debugging panel, current and subdivision can be adjusted.
- Subdivision adjustment range: 200~51200, max pulse response frequency: 200KHZ
- Dynamic current control largely decreases heat generation and vibration noise of motor.
- Closed loop vector control, assure high-speed large-torque output and no step missing of motor.
- Serial port communication function, current, subdivision, signal edge and alarm output logic functions can be adjusted, over-voltage, over-current, tracking error and out of error protection functions.
- Built-in micro subdivision, stable operation at low speed and low subdivision, automatic parameter tuning function.

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electric indexes

| Parameter | LCDA2260E | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Max peak current | - | - | 8 | A |
| Input supply voltage | 150 | 220 | 230 | VAC |
| Logic input current | 7 | 10 | 16 | mA |
| Pulse frequency | - | - | 200 | KHZ |

2. Interface Definition

(1) Power Terminal Port

| Symbol | Name | Description |
|---|---|---|
| R | Power Supply Input Terminal | 150-230VAC |
| S | | |
| NC | | Empty terminal |
| BR1 | Outer Braking Resistance | External braking resistorConnected between BR1 and P+ |
| P+ | Linear Bus Voltage | |

(2) Power Terminal Port 2

| Symbol | Name | Description |
|---|---|---|
| U | U Phase Winding + of Motor | - |
| V | V Phase Winding + of Motor | - |
| W | W Phase Winding + of Motor | - |
| PE | Grounding terminals | - |
| r | Control Power Input | 150V-230VAC |
| s | | |

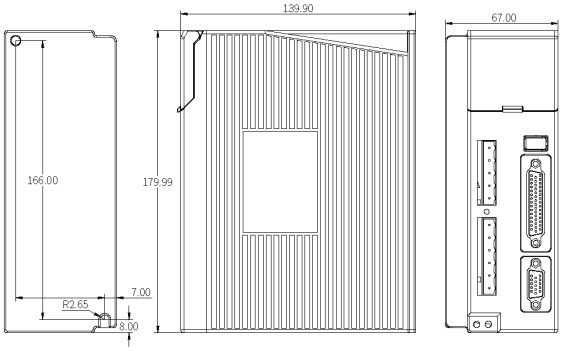
(3) Signal input CN3 port of encoder (15Pin DB head is adopted for LCDA2260H encoder, pin definition is as follows)

| Pin | Symbol | Name | Description |
|---|---|---|---|
| 2 | EB+ | B Phase Positive Input of Motor Encoder | - |
| 12 | EB- | B Phase Negative Input of Motor Encoder | - |
| 1 | EA+ | A Phase Positive Input of Motor Encoder | - |
| 11 | EA- | A Phase Negative Input of Motor Encoder | - |
| 13 | VCC | Encoder Power Supply | + 5V |
| 3 | EGND | Encoder power ground | 0 V |

(4) Control Signal CN2 Port (44 Pin DB Head)

| Pin | Name | Description |
|---|---|---|
| 3 | PUL+ | Pulse input signal: the rising edge of the pulse is valid; in order to respond to the pulse signal reliably, the pulse width should be greater than 2.5μs. Compatible with 5V-24V signals, no series resistance is required. |
| 4 | PUL- | |
| 5 | DIR+ | Direction input signal: switch the motor direction by high/low level signal, the direction signal should be established at l east 5μs before the pulse signal. Compatible with 5V-24V signals, no series resistance is required. |
| 6 | DIR- | |
| 7 | ENA+ | Enable control signal, this input signal is used to enable or disable the driver output. When this function is not needed, the enable signal terminal can be left floating. Compatible with 5V-24V signals, no series resistance is required. |
| 8 | ENA- | |
| 9 | Pend+ | Positive Terminal of Positioning Finish Signal |
| 10 | Pend- | Negative Terminal of Positioning Finish Signal |
| 11 | ALM+ | Positive Terminal of Alarm Output |
| 12 | ALM- | Positive Terminal of Alarm Output |

## Motor and power terminals



## LCDA2263C 3 Phase Digital Hybrid Servo Drive

### Technical parameter

LCDA2263C is a new generation of digital three-phase closed-loop step driver based on 32-bit DSP technology. The driver adopts a new structure and control scheme, a new interface scheme, which makes the user use more convenient and quick, the driver combines more advanced algorithms to substantially reduce the noise of the motor while running, making the motor run more smoothly and reliably.

### Functional Characteristics

- Voltage input range: AC150V~250V
- Maximum Peak Current: 6A
- Subdivision: 400-60000ppr
- Pulse form: pulse+direction (dual pulse not supported)
- Pulse response frequency: 0 ~ 200kHz
- With over-voltage, over-current, motor lack of phase protection functions

### Application Industriy

Apply to various small and medium-sized automation equipment and devices, such as: engraving machine, wire decoating machine, marking machine, cutting machine, laser machine, plotting instrument, medical equipment, CNC, automatic assembly equipment, electronic processing equipment and etc. Excellent application effects for low-noise and high-speed equipment.

### Main Parameters

1. Electrical indicators

| Serial number | Symbols | illustrate |
|---|---|---|
| 1 | NC | Empty feet |
| 2 | U | Three-phase stepping motor winding |
| 3 | V | |
| 4 | W | |
| 5 | PE | Earth |
| 6 | AC | AC power supply input AC150V-250V |
| 7 | AC | |

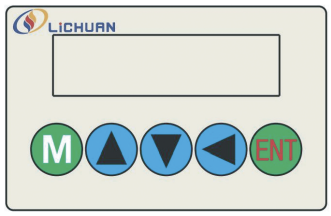
2. Control signal terminal

| Serial number | Symbols | illustrate |
|---|---|---|
| 1 | PUL+ | Pulse signal input (5V-24V) |
| 2 | PUL- | |
| 3 | DIR+ | Directional signal input (5V-24V) |
| 4 | DIR- | |
| 5 | ENA+ | Release signal input (5V-24V) |
| 6 | ENA- | |
| 7 | ALM+ | Alarm signal output (normally closed output) |
| 8 | ALM- | |
| 9 | RDY+ | Prepare the signal output (normally closed output) |
| 10 | RDY- | |

3. Encoder signal terminal

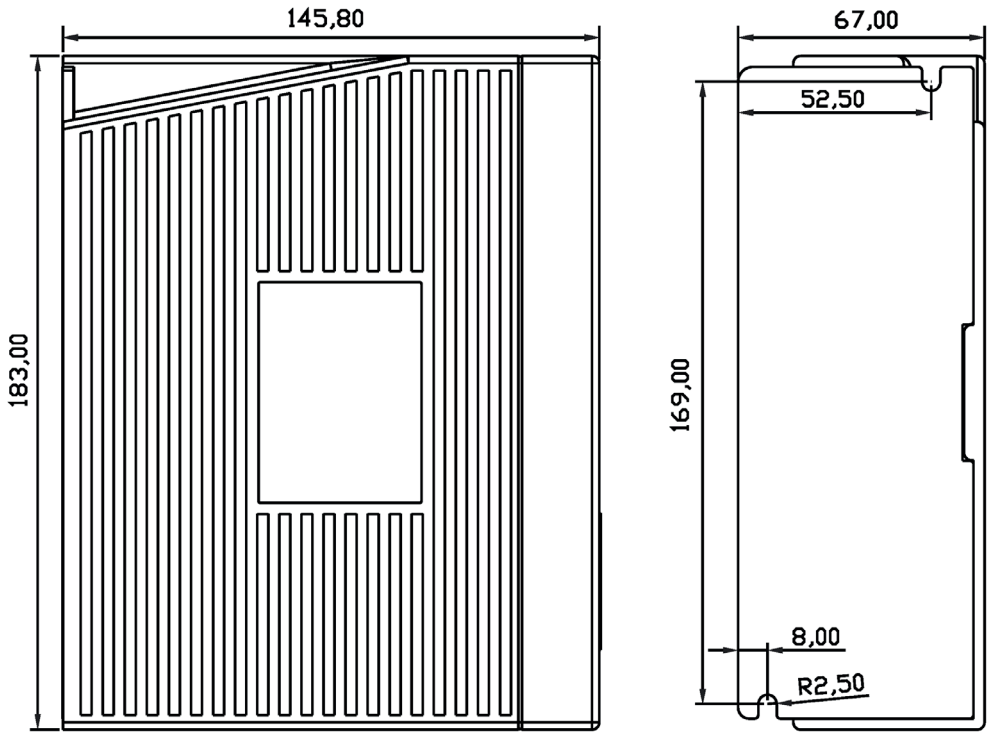
| Pin | Name | illustrate |
|---|---|---|
| 1 | EA+ | Encoder a phase feedback signal |
| 2 | EA- | |
| 3 | EB+ | Encoder B phase feedback signal |
| 4 | EB- | |
| 5 | EZ+ | Encoder z-phase feedback signal (not connected by default) |
| 6 | EZ- | |
| 7 | +5V | Encoder power supply is positive |
| 8 | GND | Encoder power supply negative |

4. Key function description (introduction to debug panel)

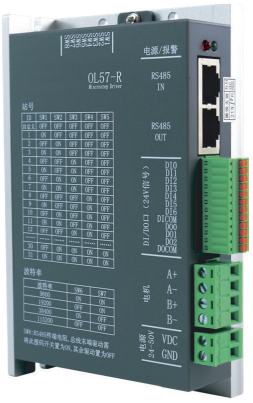



| Key symbol | Key instructions |
|---|---|
| ◀ | The input bit (blinking) moves left |
| ▲ | Switch Submenus and increase values |
| ▼ | Switch Submenus and reduce values |
| ENT | Enter the submenu and determine the input |
| M | Can switch between modes |

## Motor and power terminals



# OL57-R 2 Phase Stepper Driver



## Technical parameter

- Voltage input range: DC24V～50V
- Maximum peak current: 5A
- Communication interface: RS485
- Communication protocol: Modbus RTU
- Motor parameter auto-tuning function
- With overvoltage, overcurrent and other protection functions.

## Environmental parameters

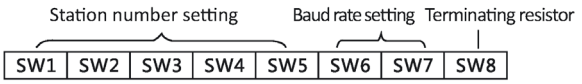
- Storage temperature: -20℃～65℃
- Operating temperature: 0℃～45℃
- Operating humidity: 90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～60Hz (discontinuous operation)
- Installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.

## Drive function description

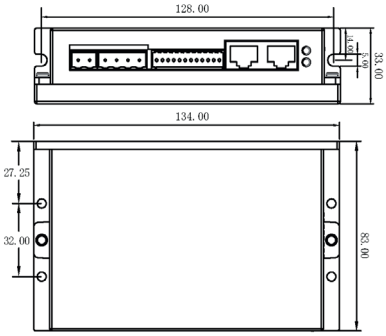
| Drive function | Instructions |
|---|---|
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| RS485IN/OUT | RS485 communication interface, support standard Modbus-RTU bus communication protocol. |
| Station number setting | The communication station number of the drive is set by the five DIP switches SW1~SW5. It supports up to 31 slave stations. In actual use, the drive should be stopped first. For details, please set the slave station address according to the instructions on the drive panel table. |
| Baud rate setting | The driver's communication baud rate is set by the three DIP switches SW6~SW8. The setting range is 9600~115200, a total of 6 levels. In actual use, the driver should be stopped first. For details, please set the communication wave according to the instructions on the driver panel. Special rate. |
| DI/DO signal port | There are 6 groups of DI input ports and 3 groups of DO output ports. The corresponding command value can be configured according to actual needs, and the function corresponding to this command value can be used; for details, please set according to the driver manual. |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. |
| Power connector | Adopt DC power supply, working input voltage range: 24V~50VDC, recommended working voltage 36VDC, it is recommended that the power of a single drive is greater than 100W. |
| Installation Notes | Dimensions of the Driver: 134 x 83 x 33mm, installation pitch of holes: 128mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

OL57-R driver supports RS485 bus, with a total of 8 dial switches,which can be used to set RS485 station number, communication baud rate, and terminal resistance, as shown in the following table:




## Installation size (unit: mm)




## Baud rate setting

| Baud rate | 9600 | 19200 | 38400 | 115200 |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

## Station number setting

| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

# CL57-R 2 Phase Closed Loop Stepper Driver

## Technical parameter

The CL57-R stepping driver samples a new generation of 32-bit DSP technology, combines RS485 bus control functions, supports MODBUS-RTU communication protocol, can mount up to 31 axes, and can realize multi-axis bus synchronization control. The driver has 15 internal positions and 15 The internal speed of the segment supports functions such as automatic zero return, absolute/relative positioning, and JOG, which can be directly controlled by the touch screen or the controller with RS485 interface.

## Functional Characteristics

- Voltage input range: DC24V~50V
- Maximum peak current: 5A
- Communication interface: RS485
- Communication protocol: Modbus RTU
- Baud rate: 9600, 19200, 38400, 115200 (set by dialing SW6～SW7)
- Station number: 1～31 (set by dialing SW1～SW5)
- Terminal resistance: 120 ohms (set by dialing SW8)
- Parity: no parity (default), odd parity, even parity

## Application Industriy

It is suitable for assembly line, lighting control, smart home, automated agricultural machinery, multi-axis positioning platform and other fields.

## Main Parameters

### 1. Product Specifications

| | | | |
|---|---|---|---|
| Drive model | CL57-R | Matching motor | 2 Phase 42/57/60 stepping closed-loop motor |
| DI port input current | 10～50mA | DI port input voltage | 24V DC |
| Encoder | 1000 line incremental | Insulation resistance | 100MΩ |
| Drive size | 134*83*33mm | Drive weight | 0.3kg |
| Storage environment | -20～65℃ (no frost), below 90%RH (no condensation) | | |
| Use environment | Temperature: 0℃～45℃; Humidity: ≤90% RH or less, no condensation; altitude: ≤1000m; installation environment: no corrosive gas, flammable Gas, oil mist or dust, etc.; vibration: less than 0.5G (4.9m/s2), 10～60 Hz (non-continuous operation) | | |

### 2. Motor and power input interface

| Symbol | Name | illustrate |
|---|---|---|
| A+ | A phase motor winding positive end | - |
| A- | A phase motor winding negative terminal | - |
| B+ | B phase motor winding positive end | - |
| B- | B phase motor winding negative terminal | - |
| VDC | DC power input positive terminal | +24V~+50V |
| GND | DC power input negative terminal | |

3. Encoder signal input terminal (CL57-R encoder signal interface uses 6Pin green terminals, and the pin definitions are as follows)

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| EA+ | Motor encoder phase A positive input | EZ- | Motor encoder Z phase negative input |
| EA- | Motor encoder phase A negative input | EVCC | Positive terminal of encoder power supply (5V) |
| EB+ | Motor encoder B phase positive input | EGND | Encoder power negative terminal |
| EB- | Motor encoder B phase negative input | NC | Empty feet |
| EZ+ | Motor encoder Z phase positive input | NC | Empty feet |

4. DI/DO signal interface

| | Name | Symbol | Name |
|---|---|---|---|
| DI0 | Single-ended input; effective working voltage 24V | DI6 | Single-ended input; effective working voltage 24V |
| DI1 | Single-ended input; effective working voltage 24V | DICOM | Common terminal of input port; compatible with common anode/common cathode connection |
| DI2 | Single-ended input; effective working voltage 24V | DO0 | Single-ended output |
| DI3 | Single-ended input; effective working voltage 24V | DO1 | Single-ended output |
| DI4 | Single-ended input; effective working voltage 24V | DO2 | Single-ended output |
| DI5 | Single-ended input; effective working voltage 24V | DOCOM | The common end of the output port; can only be connected to the negative end of the power supply |

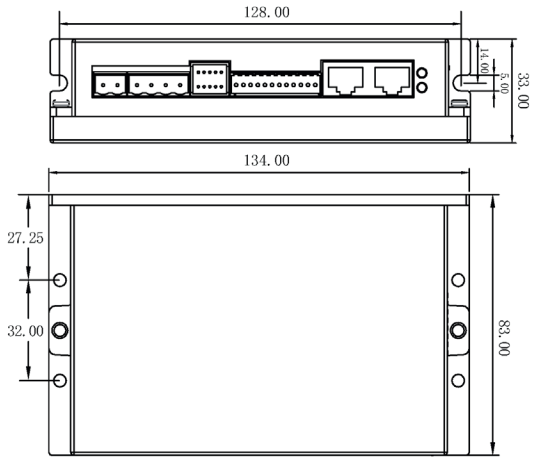
## Station number setting

| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

## Baud rate setting

SW8: Set the terminal resistance
When SW8 is set to ON, a 120Ω terminal resistance will be connected between the signal lines to preventThe signal sent by the node on the network is reflected when it reaches the end of the cable.

## Installation size (unit: mm)



# OL86-R 2 Phase Stepper Driver

## Technical parameter

- Voltage input range: DC30V~110V/AC20V~80V
- Maximum peak current: 8A
- Communication interface: RS485
- Communication protocol: Modbus RTU
- Motor parameter auto-tuning function
- With overvoltage, overcurrent and other protection functions.

## Environmental parameters

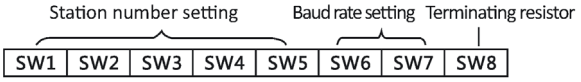
- Storage temperature: -20℃～65℃ (no frost)
- Operating temperature: 0℃～45℃
- Operating humidity: 90%RH (non-condensing)
- Vibration frequency: less than 0.5G (4.9m/s2) 10Hz～60Hz (discontinuous operation)
- Installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.

## Drive function description

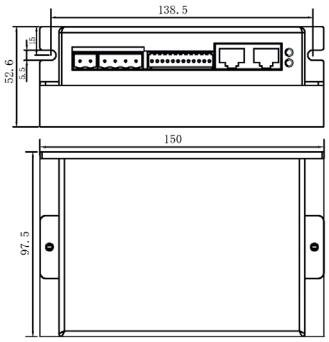
| Drive function | Instructions |
|---|---|
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| RS485IN/OUT | RS485 communication interface, support standard Modbus-RTU bus communication protocol. |
| Station number setting | The communication station number of the drive is set by the five DIP switches SW1~SW5. It supports up to 31 slave stations. In actual use, the drive should be stopped first. For details, please set the slave station address according to the instructions on the drive panel table. |
| Baud rate setting | The driver's communication baud rate is set by the three DIP switches SW6~SW8. The setting range is 9600~115200, a total of 6 levels. In actual use, the driver should be stopped first. For details, please set the communication wave according to the instructions on the driver panel. Special rate. |
| DI/DO signal port | There are 6 groups of DI input ports and 3 groups of DO output ports. The corresponding command value can be configured according to actual needs, and the function corresponding to this command value can be used; for details, please set according to the driver manual. |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. |
| Power connector | Adopt DC power supply, working input voltage range: 30V ~ 110VDC or 20V ~ 80VAC, recommended input voltage is greater than 48V, power supply is greater than 300W. |
| Installation Notes | Dimensions of the Driver: 150 x 97.5 x 52.6mm, installation pitch of holes: 138.5mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

OL86-R driver supports RS485 bus, with a total of 8 dial switches,which can be used to set RS485 station number, communication baud rate, and terminal resistance, as shown in the following table:




## Installation size (unit: mm)



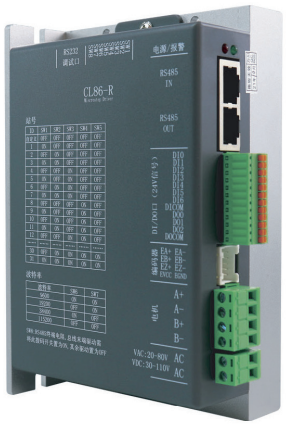

## Baud rate setting

| Baud rate | 9600 | 19200 | 38400 | 115200 |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

## Station number setting

| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

## CL86-R 2 Phase Closed Loop Stepper Driver



### Technical parameter

The CL86-R stepping driver samples a new generation of 32-bit DSP technology, combines RS485 bus control functions, supports MODBUS-RTU communication protocol, can mount up to 31 axes, and can realize multi-axis bus synchronization control. The driver has 15 internal positions and 15 The internal speed of the segment supports functions such as automatic zero return, absolute/relative positioning, and JOG, which can be directly controlled by the touch screen or the controller with RS485 interface.

### Functional Characteristics

- Voltage input range: DC30V~110V / AC20V~80V
- Maximum peak current: 8A
- Communication interface: RS485
- Communication protocol: Modbus RTU
- Baud rate: 9600, 19200, 38400, 115200 (set by dialing SW6～SW7)
- Station number: 1～31 (set by dialing SW1～SW5)
- Terminal resistance: 120 ohms (set by dialing SW8)
- Parity: no parity (default), odd parity, even parity

### Application Industriy

It is suitable for assembly line, lighting control, smart home, automated agricultural machinery, multi-axis positioning platform and other fields.

### Main Parameters

#### 1. Product Specifications

| | | | |
|---|---|---|---|
| Drive model | CL86-R | Matching motor | 2 Phase 60/86 stepping closed-loop motor |
| DI port input current | 10～50mA | DI input voltage | 24V DC |
| Encoder | 1000 line incremental | Insulation resistance | 100MΩ |
| Drive size | 150*97.5*52.6mm | Drive weight | 0.5kg |
| Storage environment | -20～65°C (no frost), below 90%RH (no condensation) | | |
| Use environment | Temperature: 0°C～45°C; Humidity: ≤90% RH or less, no condensation; altitude: ≤1000m; installation environment: no corrosive gas, flammable Gas, oil mist or dust, etc.; vibration: less than 0.5G (4.9m/s2), 10～60 Hz (non-continuous operation) | | |

#### 2. Motor and power input interface

| Symbol | Name | illustrate |
|---|---|---|
| A+ | A phase motor winding positive end | - |
| A- | A phase motor winding negative terminal | - |
| B+ | B phase motor winding positive end | - |
| B- | B phase motor winding negative terminal | - |
| AC | Power input | VDC: 30V ~110V<br>VAC: 20V ~ 80V |
| AC | Power input | |

3. Encoder signal input terminal (CL86-R encoder signal interface uses 6Pin green terminals, and the pin definitions are as follows)

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| EA+ | Motor encoder phase A positive input | EZ- | Motor encoder Z phase negative input |
| EA- | Motor encoder phase A negative input | EVCC | Positive terminal of encoder power supply (5V) |
| EB+ | Motor encoder B phase positive input | EGND | Encoder power negative terminal |
| EB- | Motor encoder B phase negative input | NC | Empty feet |
| EZ+ | Motor encoder Z phase positive input | NC | Empty feet |

4. DI/DO signal interface

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| DI0 | Single-ended input; effective working voltage 24V | DI6 | Single-ended input; effective working voltage 24V |
| DI1 | Single-ended input; effective working voltage 24V | DICOM | Common terminal of input port; compatible with common anode/common cathode connection |
| DI2 | Single-ended input; effective working voltage 24V | DO0 | Single-ended output |
| DI3 | Single-ended input; effective working voltage 24V | DO1 | Single-ended output |
| DI4 | Single-ended input; effective working voltage 24V | DO2 | Single-ended output |
| DI5 | Single-ended input; effective working voltage 24V | DOCOM | The common end of the output port; can only be connected to the negative end of the power supply |

## Station number setting

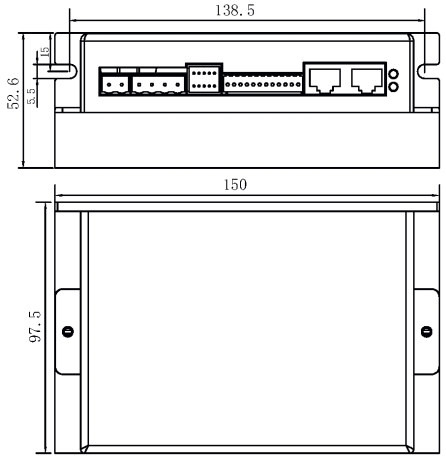
| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

## Baud rate setting

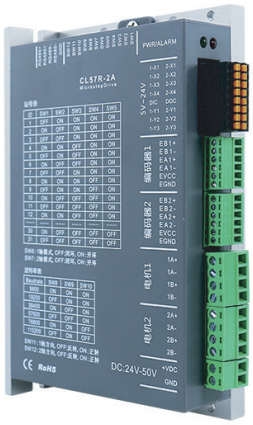
| Baud rate | 9600 | 19200 | 38400 | 115200 |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

SW8: Set the terminal resistance
When SW8 is set to ON, a 120Ω terminal resistance will be connected between the signal lines to preventThe signal sent by the node on the network is reflected when it reaches the end of the cable.

## Installation size (unit: mm)



## CL57R-2A Bus Type 2 Axis Closed-Loop Driver



### Technical parameter

CL57R-2A is an all-digital drive-control type closed-loop one-drag two step driver, the driver uses RS485 interface, support the standard Modbus-RTU protocol, the multi-axis motion control function can be realized by touch screen or controller with RS485 communication interface. The user can control up to 31 drives at the same time, support internal position auto-switch, return to zero, position trigger, JOG and other functions.

### Functional Characteristics

- Voltage input range: DC20V~50V
- Maximum peak current: 6A
- 1000 line encoder
- Communication Interface: RS485
- Communication Protocol: Modbus RTU
- Motor parameter auto-setting function
- With over-voltage, over-current, position error alarm and other protection functions

### Application Industriy

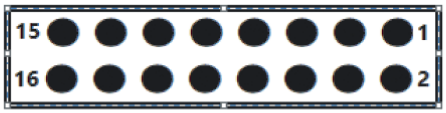
It is suitable for assembly line, lighting control, smart home, automated agricultural machinery, multi-axis positioning platform and other fields.

### Main Parameters

1. Communication terminal description (5p terminal)

| Pin | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Signal Definition | GND | 485- | 485+ | 485- | 485+ |

2. Di/DO terminal description




Driver control terminal pin definition
(driver socket diagram)

| Terminal serial number | Function | illustrate | Terminal serial number | Function | illustrate |
|---|---|---|---|---|---|
| 1 | 1-DI1 | Axis 1 digital input 1(NPN only) | 9 | DICOM | Public side of digital input |
| 2 | 2-DI1 | Axis 2 digital input 1(NPN only) | 10 | DOCOM | Public end of digital output |
| 3 | 1-DI2 | Axis 1 digital input 2(NPN only) | 11 | 1-DO1 | Axis 1 digital output 1 |
| 4 | 2-DI2 | Axis 2 digital input 2(NPN only) | 12 | 2-DO1 | Axis 2 digital output 1 |
| 5 | 1-DI3 | Axis 1 digital input 3 | 13 | 1-DO2 | Axis 1 digital output 2 |
| 6 | 2-DI3 | Axis 2 digital input 3 | 14 | 2-DO2 | Axis 2 digital output 2 |
| 7 | 1-DI4 | Axis 1 digital input 4 | 15 | 1-DO3 | Axis 1 digital output 3 |
| 8 | 2-DI4 | Axis 2 digital input 4 | 16 | 2-DO3 | Axis 2 digital output 3 |

## 3. Power terminal description

| Terminal name | Functional description | Terminal name | Functional description |
|---|---|---|---|
| GND | DC power supply input negative terminal | 1B- | Axis 1 motor B phase winding negative end |
| VDC | DC power input positive terminal | 2A+ | Axis 2 motor phase a winding front end |
| 1A+ | Axis 1 motor phase a winding front end | 2A- | Axis 2 motor a phase winding negative end |
| 1A- | Axis 1 motor a phase winding negative end | 2B+ | Axis 2 motor B phase winding front end |
| 1B+ | Axis 1 motor b-phase winding front end | 2B- | Axis 2 motor B phase winding negative end |

## 4. Encoder terminal description

| Terminal name | Functional description | Terminal name | Functional description |
|---|---|---|---|
| 1EA+ | Axis 1 encoder feedback a signal | 1EVCC | Axis 1 encoder power supply is positive |
| 1EA- | | 1EGND | Axis 1 encoder power supply negative |
| 1EB+ | Axis 1 encoder feedback a signal | | |
| 1EB- | | | |
| 2EA+ | Axis 2 encoder feedback a signal | 2EVCC | Axis 2 encoder power supply is positive |
| 2EA- | | 2EGND | Axis 2 encoder power supply negative |
| 2EB+ | Axis 2 encoder feedback a signal | | |
| 2EB- | | | |

### Station number setting

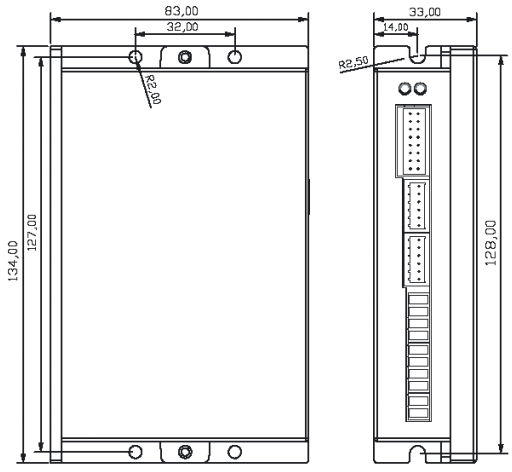
| ID | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| 1 | off | on | on | on | on |
| 2 | on | off | on | on | on |
| 3 | off | off | on | on | on |
| 4 | on | on | off | on | on |
| 5 | off | on | off | on | on |
| 6 | on | off | off | on | on |
| 7 | off | off | off | on | on |
| 8 | on | on | on | off | on |
| 9 | off | on | on | off | on |
| 10 | on | off | on | off | on |
| 11 | off | off | on | off | on |
| 12 | on | on | off | off | on |
| 13 | off | on | off | off | on |
| 14 | on | off | off | off | on |
| 15 | off | off | off | off | on |
| 16 | on | on | on | on | off |
| 17 | off | on | on | on | off |
| 18 | on | off | on | on | off |
| 19 | off | off | on | on | off |
| 20 | on | on | off | on | off |
| 21 | off | on | off | on | off |
| 22 | on | off | off | on | off |
| 23 | off | off | off | on | off |
| 24 | on | on | on | off | off |
| 25 | off | on | on | off | off |
| 26 | on | off | on | off | off |
| 27 | off | off | on | off | off |
| 28 | on | on | off | off | off |
| 29 | off | on | off | off | off |
| 30 | on | off | off | off | off |
| 31 | off | off | off | off | off |

### Baud rate setting

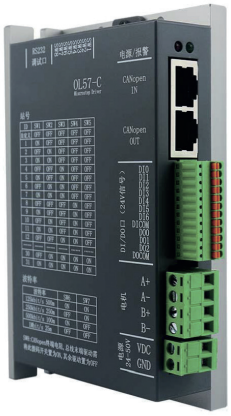
| Baud rate | 9600 | 19200 | 38400 | 37600 | 76800 | 115200 |
|---|---|---|---|---|---|---|
| SW8 | on | off | on | off | on | off |
| SW9 | on | on | off | off | on | on |
| SW10 | on | on | on | on | off | off |

SW6: Axis 1 mode/SW7: Axis 2 mode, OFF: closed-loop, ON: open-loop
SW11: Axis 1/SW12: Axis 2, OFF: reverse, ON: forward

### Installation size (unit: mm)



# OL57-C 2 Phase Stepper Driver



## Technical parameter

- Voltage input range: DC24V～50V
- Maximum peak current: 5A
- Communication interface: CANopen
- Communication protocol: CiA301 and CiA402 sub-protocol
- Motor parameter auto-tuning function
- With overvoltage, overcurrent and other protection functions.

## Environmental parameters

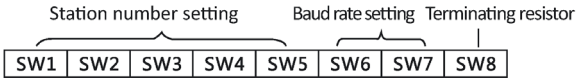
- Storage temperature: -20℃～65℃ (no frost)
- Operating temperature: 0℃～45℃
- Operating humidity: below 90%RH (no condensation)
- Vibration frequency: less than 0.5G (4.9m/s2), 10～60 Hz (non-continuous operation)
- Installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.

## Drive function description

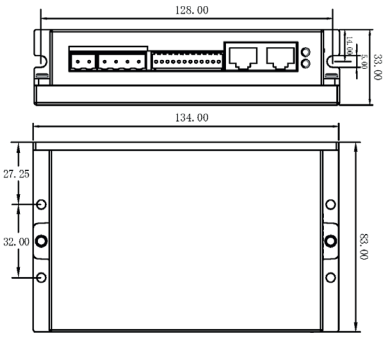
| Drive function | Instructions |
|---|---|
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| CANopen IN/OUT | CANopen communication interface, support CIA301 protocol and CIA402.V2 sub-protocol. |
| Station number setting | The communication station number of the drive is set by the five DIP switches SW1~SW5. It supports up to 31 slave stations. In actual use, the drive should be stopped first. For details, please set the slave station address according to the instructions on the drive panel table. |
| Baud rate setting | The driver's communication baud rate is set by the two DIP switches SW6~SW7, and the setting range is 125K~1M, a total of 4 ranges. In actual use, the driver should be stopped first. For details, please set the communication wave according to the instructions on the driver panel. Special rate, SW8 is terminal resistance. |
| DI/DO signal port | DI0~DI6 are single-ended input ports, DICOM is public input port, DO0~DO2 are single-ended output ports, DOCOM is public output port, you can configure the corresponding command value according to actual needs, you can use the corresponding command value Function; |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. |
| Power connector | Adopt DC power supply, working input voltage range: 24V~50VDC, recommended working voltage 36VDC, it is recommended that the power of a single drive is greater than 100W. |
| Installation Notes | Dimensions of the Driver: 134 x 83 x 33mm, installation pitch of holes: 128mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

OL57-C driver supports CANopen bus, with a total of 8 dial switches, which can be used to set CANopen station number, communication baud rate, and terminal resistance, as shown in the following table:




## Installation size (unit: mm)




## Baud rate setting

| Baud rate | 125Kbps | 250Kbps | 500Kbps | 1Mbps |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

## Station number setting

| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

# CL57-C 2 Phase Closed Loop Stepper Driver

## Technical parameter

The CL57-C stepping driver samples a new generation of 32-bit DSP technology, combines the CANopen bus control function, supports the CIA301 protocol and the CIA402.V2 sub-protocol, can mount up to 31 axes, can realize multi-axis high-speed bus synchronization control, and the driver supports position Mode, speed mode and return to zero mode, standardized protocols make the entire control system more stable and reliable, and simple field wiring can effectively avoid the problem of pulse loss in traditional drives in interference environments.

## Functional Characteristics

- Voltage input range: DC24V~50V
- Maximum peak current: 5A
- Communication interface: CANopen
- Communication protocol: CiA301 and CiA402 sub-protocol
- Baud rate: 125K, 250K, 500K, 1M (set by dialing SW6～SW7)
- Station number: 1～31 (set by dialing SW1～SW5)
- Terminal resistance: 120 ohms (set by dialing SW8)
- Installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.

## Application Industriy

It is suitable for assembly line, lighting control, smart home, automated agricultural machinery, multi-axis positioning platform and other fields.

## Main Parameters

### 1. Product Specifications

| | | | |
|---|---|---|---|
| Drive model | CL57-C | Encoder | 2 Phase 42/57/60 stepping closed-loop motor |
| DI input current | 10～50mA | DI input voltage | 24V DC |
| Encoder | 1000 line incremental | Serial debugging | RS232 interface |
| Insulation resistance | 100MΩ | Drive size | 134*83*33mm |
| Storage environment | -20～65℃ (no frost), below 90%RH (no condensation) | Drive weight | 0.3kg |
| Use environment | Temperature: 0℃～45℃; Humidity: no condensation below 90% RH; altitude: ≤1000m; installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.; vibration: less than 0.5G (4.9m /s2), 10～60 Hz (non-continuous operation) | | |

### 2. Motor and power input interface

| Symbol | Name | illustrate |
|---|---|---|
| A+ | A phase motor winding positive end | - |
| A- | A phase motor winding negative terminal | - |
| B+ | B phase motor winding positive end | - |
| B- | B phase motor winding negative terminal | - |
| VDC | Power input positive terminal | VDC:24V~50V |
| GND | Power input negative terminal | |

### 3. RS232 Communication port

| Pin | Signal definition | Name |
|---|---|---|
| 1 | GND | Signal ground |
| 2 | GND | Signal ground |
| 3 | TXD | Communication |
| 4 | RXD | Communication reception |
| 5 | GND | Signal ground |
| 6 | GND | Signal ground |

3. Encoder signal input terminal (CL57-C encoder signal interface uses 6Pin green terminals, and the pin definitions are as follows)

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| EA+ | Motor encoder phase A positive input | EZ- | Motor encoder Z phase negative input |
| EA- | Motor encoder phase A negative input | EVCC | Positive terminal of encoder power supply (5V) |
| EB+ | Motor encoder B phase positive input | EGND | Encoder power negative terminal |
| EB- | Motor encoder B phase negative input | NC | Empty feet |
| EZ+ | Motor encoder Z phase positive input | NC | Empty feet |

4. DI/DO signal interface

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| DI0 | Single-ended input; effective working voltage 24V | DI6 | Single-ended input; effective working voltage 24V |
| DI1 | Single-ended input; effective working voltage 24V | DICOM | Common terminal of input port; compatible with common anode/common cathode connection |
| DI2 | Single-ended input; effective working voltage 24V | DO0 | Single-ended output |
| DI3 | Single-ended input; effective working voltage 24V | DO1 | Single-ended output |
| DI4 | Single-ended input; effective working voltage 24V | DO2 | Single-ended output |
| DI5 | Single-ended input; effective working voltage 24V | DOCOM | The common end of the output port; can only be connected to the negative end of the power supply |

## Station number setting

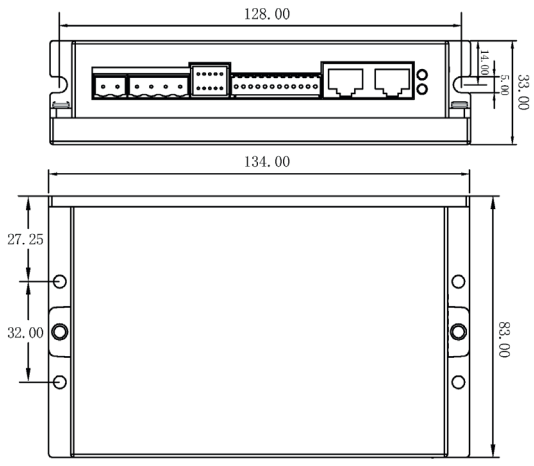
| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

## Baud rate setting

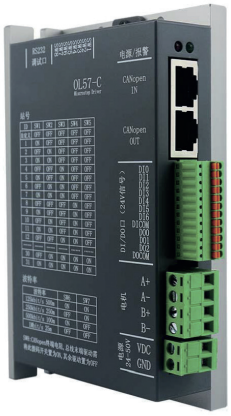
| Baud rate | 125Kbps | 250Kbps | 500Kbps | 1Mbps |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

SW8: Set the terminal resistance
When SW8 is set to ON, a 120Ω terminal resistance will be connected between the signal lines to preventThe signal sent by the node on the network is reflected when it reaches the end of the cable.

## Installation size (unit: mm)



# OL86-C 2 Phase Stepper Driver



## Technical parameter

- Voltage input range: DC30V~110V/AC20V~80V
- Maximum peak current: 8A
- Communication interface: CANopen
- Communication protocol: CiA301 and CiA402 sub-protocol
- Motor parameter auto-tuning function
- With overvoltage, overcurrent and other protection functions.

## Environmental parameters

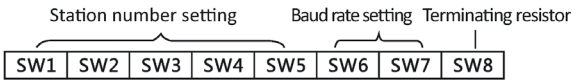
- Storage temperature: -20℃～65℃ (no frost)
- Operating temperature: 0℃～45℃
- Operating humidity: below 90%RH (no condensation)
- Vibration frequency: less than 0.5G (4.9m/s2), 10～60 Hz (non-continuous operation)
- Installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.

## Drive function description

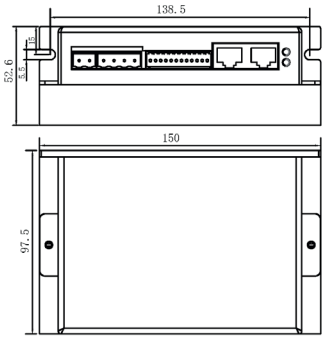
| Drive function | Instructions |
|---|---|
| Indicator light | There is 1 green indicator light and 1 red indicator light on the Driver. The green one is power indicator light, it illuminates when the Driver is connected to power supply; the red one is failure indicator light, it illuminates when over-voltage or over-current failure occurs. Red indicator light goes off after failure is eliminated. Failure of the Driver can only be eliminated by re-connecting to power supply and reusing. |
| CANopen IN/OUT | CANopen communication interface, support CIA301 protocol and CIA402.V2 sub-protocol. |
| Station number setting | The communication station number of the drive is set by the five DIP switches SW1~SW5. It supports up to 31 slave stations. In actual use, the drive should be stopped first. For details, please set the slave station address according to the instructions on the drive panel table. |
| Baud rate setting | The driver's communication baud rate is set by the two DIP switches SW6~SW7, and the setting range is 125K~1M, a total of 4 ranges. In actual use, the driver should be stopped first. For details, please set the communication wave according to the instructions on the driver panel. Special rate, SW8 is terminal resistance. |
| DI/DO signal port | DI0~DI6 are single-ended input ports, DICOM is public input port, DO0~DO2 are single-ended output ports, DOCOM is public output port, you can configure the corresponding command value according to actual needs, you can use the corresponding command value Function; |
| Motor interface | A+ and A- are connected to the positive and negative ends of the A-phase winding of the stepping motor; B+ and B- are connected to the positive and negative ends of the B-phase winding of the stepping motor. |
| Power connector | Adopt DC power supply, working input voltage range: 30V ~ 110VDC or 20V ~ 80VAC, recommended input voltage is greater than 48V, power supply is greater than 300W. |
| Installation Notes | Dimensions of the Driver: 150 x 97.5 x 52.6mm, installation pitch of holes: 138.5mm. Both horizontal and vertical installations can be selected (vertical installation is suggested)The Driver shall be installed closely against metal cabinet for heat dissipation. |

## Parameter setting

OL86-C driver supports CANopen bus, with a total of 8 dial switches, which can be used to set Set the CANopen station number, communication baud rate, and terminal resistance, as shown in the following table:




## Installation size (unit: mm)




## Baud rate setting

| Baud rate | 125Kbps | 250Kbps | 500Kbps | 1Mbps |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

## Station number setting

| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

# C L86-C 2 Phase Closed Loop Stepper Driver

## Technical parameter

CL86-C stepping driver samples a new generation of 32-bit DSP technology, combined with CANopen bus control function, supports CIA301 protocol and CIA402.V2 sub-protocol, can mount up to 31 axes, can realize multi-axis high-speed bus synchronous control, and the driver supports position mode , Speed mode and return to zero mode, standardized protocols make the entire control system more stable and reliable, and simple on-site wiring can effectively avoid the problem of pulse loss in the interference environment of traditional drives.

### Functional Characteristics

- Voltage input range: DC30V~110V / AC20V~80V
- Maximum peak current: 8A
- Communication interface: CANopen
- Communication protocol: CiA301 and CiA402 sub-protocol
- Baud rate: 125K, 250K, 500K, 1M (set by dialing SW6～SW7)
- Station number: 1～31 (set by dialing SW1～SW5)
- Terminal resistance: 120 ohms (set by dialing SW8)
- Installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.

## Application Industriy

It is suitable for assembly line, lighting control, smart home, automated agricultural machinery, multi-axis positioning platform and other fields.

## Main Parameters

### 1. Product Specifications

| | | | |
|---|---|---|---|
| Drive model | CL86-C | Matching motor | 2 Phase 60/86 stepping closed-loop motor |
| DI input current | 10～50mA | DI input voltage | 24V DC |
| Encoder | 1000 line incremental | Serial debugging | RS232 interface |
| Insulation resistance | 100MΩ | Drive size | 150*97.5*52.6mm |
| Storage environment | -20～65℃ (no frost), below 90%RH (no condensation) | Drive weight | 0.5kg |
| Use environment | Temperature: 0℃～45℃; Humidity: no condensation below 90% RH; altitude: ≤1000m; installation environment: no corrosive gas, flammable gas, oil mist or dust, etc.; vibration: less than 0.5G (4.9m /s2), 10～60 Hz (non-continuous operation) | | |

### 2. Motor and power input interface

| Symbol | Name | illustrate |
|---|---|---|
| A+ | A phase motor winding positive end | - |
| A- | A phase motor winding negative terminal | - |
| B+ | B phase motor winding positive end | - |
| B- | B phase motor winding negative terminal | - |
| VDC | Power input positive terminal | VDC:30V~110V VAC:20V~80V |
| GND | Power input negative terminal | |

### 3. RS232 Communication port

| Pin | Signal definition | Name |
|---|---|---|
| 1 | GND | Signal ground |
| 2 | GND | Signal ground |
| 3 | TXD | Communication |
| 4 | RXD | Communication reception |
| 5 | GND | Signal ground |
| 6 | GND | Signal ground |

## C L86-C 2 Phase Closed Loop Stepper Driver

3. Encoder signal input terminal (CL86-C encoder signal interface uses 6Pin green terminals, and the pin definitions are as follows)

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| EA+ | Motor encoder phase A positive input | EZ- | Motor encoder Z phase negative input |
| EA- | Motor encoder phase A negative input | EVCC | Positive terminal of encoder power supply (5V) |
| EB+ | Motor encoder B phase positive input | EGND | Encoder power negative terminal |
| EB- | Motor encoder B phase negative input | NC | Empty feet |
| EZ+ | Motor encoder Z phase positive input | NC | Empty feet |

4. DI/DO signal interface

| Symbol | Name | Symbol | Name |
|---|---|---|---|
| DI0 | Single-ended input; effective working voltage 24V | DI6 | Single-ended input; effective working voltage 24V |
| DI1 | Single-ended input; effective working voltage 24V | DICOM | Common terminal of input port; compatible with common anode/common cathode connection |
| DI2 | Single-ended input; effective working voltage 24V | DO0 | Single-ended output |
| DI3 | Single-ended input; effective working voltage 24V | DO1 | Single-ended output |
| DI4 | Single-ended input; effective working voltage 24V | DO2 | Single-ended output |
| DI5 | Single-ended input; effective working voltage 24V | DOCOM | The common end of the output port; can only be connected to the negative end of the power supply |

### Station number setting

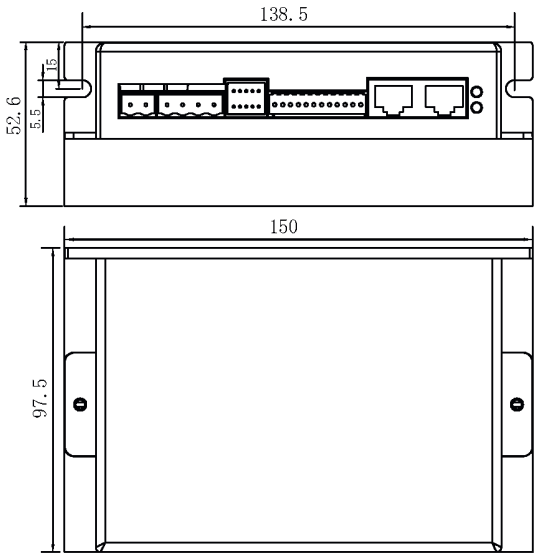
| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| customize | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

### Baud rate setting

| Baud rate | 125Kbps | 250Kbps | 500Kbps | 1Mbps |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

OL86C driver supports CANopen bus, with a total of 8 dial switches, which can be used to set Set the CANopen station number, communication baud rate, and terminal resistance, as shown in the following table:

### Installation size (unit: mm)



# EtherCAT Bus Type Stepper Driver

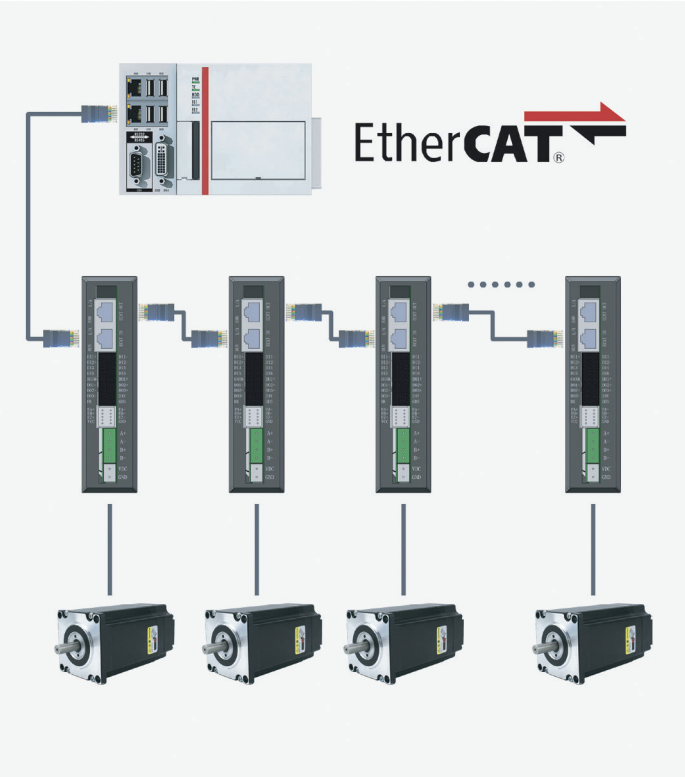
## Overview of EtherCAT

EtherCAT (Ethernet for Control Automation Technology) is a real-time industrial fieldbus communication protocol based on an Ethernet-based development framework. It was introduced to the market in 2003, became an international standard in 2007, and became a Chinese national standard in 2014. The emergence of EtherCAT has established a new standard for the system's real-time performance and topology flexibility.

## Functional Characteristics

- Flexible topology: EtherCAT can form linear, tree, and star topology.
- High-precision synchronization: The data transmission speed of EtherCAT can reach 100Mbit/s, and the high-resolution distributed clock enables the synchronization accuracy between each slave node to reach the micro level.
- Simple maintenance: EtherCAT node address can be automatically set, no network debugging is required.
- The hardware is simple and cost-effective: the EtherCAT master device does not need a special card, and the slave device uses a highly integrated chip.

## EtherCAT networking diagram




## EtherCAT communication specifications

| | |
|---|---|
| Physical layer | 100BASE-TX |
| Communication connector | RJ45 × 2 (input: CN4A; output: CN4B) |
| Network Architecture | Cascade |
| Transmission rate | 2 x 100 Mbps (full duplex) |
| Data frame length | Maximum 1484 bytes |
| Application layer protocol | CoE：CANopen over EtherCAT |
| Sync mode | DC synchronization mode (SYNC0)<br>Asynchronous mode (Free Run) |
| Communication object | SDO: Aperiodic Data Object<br>PDO: Periodic Data Object<br>EMCY: emergency items |
| Application layer specifications | CiA402 Drive Profile |
| Supported control modes | PP: Profile position mode<br>PV: Profile speed mode<br>HM: Home mode (HM)<br>CSP: Cyclic Synchronous Position Mode |

## Product specifications and electrical characteristics

| Drive model / parameter | OL3-E57H | CL3-E57H | OL3-E86H | CL3-E86H |
|---|---|---|---|---|
| Matching motor | 2 Phase 42/57/60 series Open loop motor | 2 Phase 42/57/60 series Closed loop motor | 2 Phase 60/86 series Open loop motor | 2 Phase 60/86 series Closed loop motor |
| Supply voltage | 24V～48VDC | | 24V～110VDC / 18V～80VAC | |
| Output current | 5A | | 8A | |
| Drive size | 133*34*90mm | | 151*40*114mm | |
| Drive weight | 0.3kg | | 0.6kg | |
| input Output | 2 differential inputs, 4 24V single-ended inputs; 3 differential outputs; independent brake output signal | | | |

# OL3-E57H Bus Type Stepping Driver

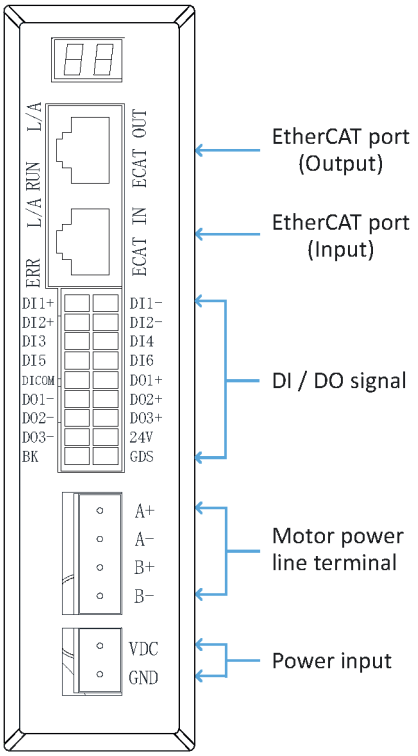

## Product description

OL3-E57H bus-type stepping driver is a digital stepping driver that combines advanced digital stepping motor algorithms and EtherCAT bus communication protocol. This product supports the CoE (CANopen over EtherCAT) protocol and conforms to the CIA402 standard. Compared with the traditional pulse-type driver, the bus-type driver has simpler wiring, real-time data transmission, high-reliability communication, and can realize multi-axis synchronous communication control. This series of drivers sample advanced digital stepper motor algorithms, which can effectively suppress motor temperature rise and reduce motor vibration, and can be adapted to 42/57/60 series open-loop stepper motors.

## Application Industriy

It can be used in 3C electronics industry, stage lighting control, robotic arm, medical treatment, lithium battery and other automation equipment.

## Function Description



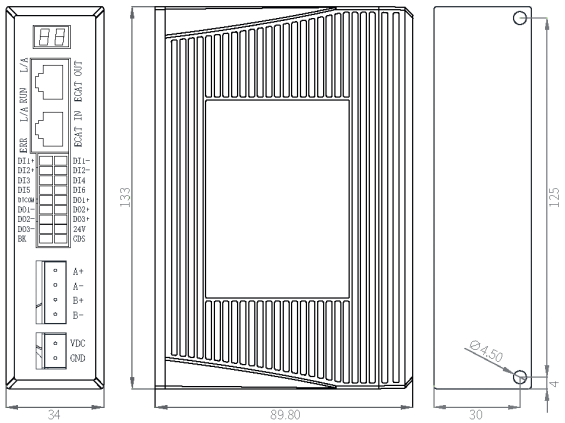

## DI/DO signal interface

| symbol | Name |
|---|---|
| D11+ | The differential input signal DI1, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 1. |
| D11- | |
| D12+ | The differential input signal DI2, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 2. |
| D12- | |
| D13 | Single-ended input signal, 12V～24V is valid, the default is the origin signal. |
| D14 | Single-ended input signal, 12V～24V is valid, the default is positive limit signal. |
| D15 | Single-ended input signal, 12V～24V is valid, the default is negative limit signal. |
| D16 | Single-ended input signal, 12V～24V valid, no default function defined. |
| DICOM | The common terminal of single-ended input signal can use common anode or common cathode connection. |
| DO1+ | Differential output signal DO1, the maximum current is 100mA, the default is the alarm output signal. |
| DO1- | |
| DO2+ | Differential output signal DO2, the maximum current is 100mA, the default is the positioning completion signal. |
| DO2- | |
| DO3+ | Differential output signal DO3, the maximum current is 100mA, the default is the zero return completion signal. |
| DO3- | |
| +24V | Brake signal 24V power positive input terminal. |
| BK | The brake control signal can be directly connected to the motor brake without adding a relay. |
| GDS | Brake signal The negative input terminal of 24V power supply. |

## MODBUS Communication

| symbol | Name |
|---|---|
| A+ | A phase motor winding positive end |
| A- | A phase motor winding negative terminal |
| B+ | B phase motor winding positive end |
| B- | B phase motor winding negative terminal |
| VDC | The power supply is connected to the positive terminal (power supply voltage: DC24V~48V) |
| GND | Power supply is connected to the negative terminal |

## Installation size (unit: mm)



# CL3-E57H Bus Type Closed Loop Stepper Driver

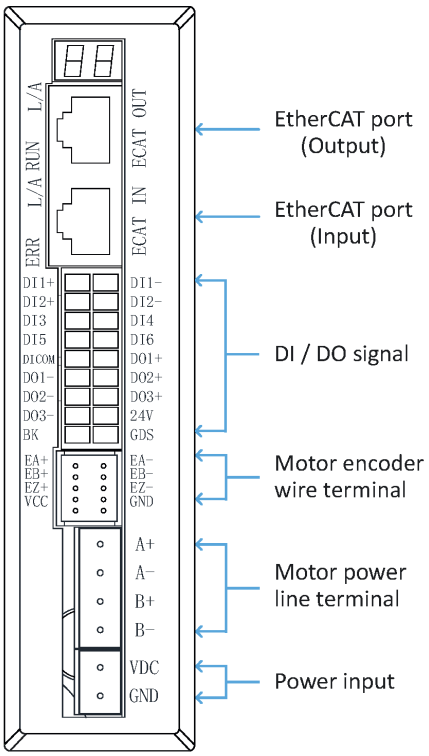
## Product description

CL3-E57H bus type closed-loop stepper driver is a digital closed-loop stepper driver that combines the latest closed-loop control algorithm and EtherCAT bus communication protocol. This product supports the CoE (CANopen over EtherCAT) protocol and conforms to the CIA402 standard. Compared with the traditional pulse-type driver, the bus-type driver has simpler wiring, real-time data transmission, high-reliability communication, and can realize multi-axis synchronous communication control. This series of drivers sample advanced closed-loop algorithms, which can effectively suppress motor temperature rise, reduce motor vibration, and effectively increase motor rotation. Torque, can be adapted to 42/57/60 series closed-loop stepper motors.

## Application Industriy

It can be used in 3C electronics industry, stage lighting control, robotic arm, medical treatment, lithium battery and other automation equipment.

## Function Description



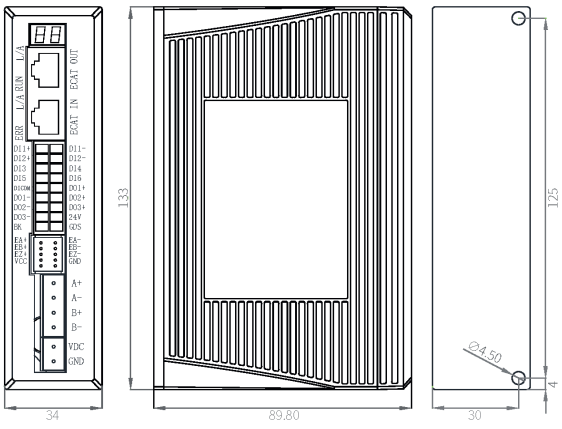

## DI/DO signal interface

| symbol | Name |
|---|---|
| D11+ | The differential input signal DI1, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 1. |
| D11- | |
| D12+ | The differential input signal DI2, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 2. |
| D12- | |
| D13 | Single-ended input signal, 12V～24V is valid, the default is the origin signal. |
| D14 | Single-ended input signal, 12V～24V is valid, the default is positive limit signal. |
| D15 | Single-ended input signal, 12V～24V is valid, the default is negative limit signal. |
| D16 | Single-ended input signal, 12V～24V valid, no default function defined. |
| DICOM | The common terminal of single-ended input signal can use common anode or common cathode connection. |
| DO1+ | Differential output signal DO1, the maximum current is 100mA, the default is the alarm output signal. |
| DO1- | |
| DO2+ | Differential output signal DO2, the maximum current is 100mA, the default is the positioning completion signal. |
| DO2- | |
| DO3+ | Differential output signal DO3, the maximum current is 100mA, the default is the zero return completion signal. |
| DO3- | |
| +24V | Brake signal 24V power positive input terminal. |
| BK | The brake control signal can be directly connected to the motor brake without adding a relay. |
| GDS | Brake signal The negative input terminal of 24V power supply. |

## MODBUS Communication

| symbol | Name |
|---|---|
| A+ | A phase motor winding positive end |
| A- | A phase motor winding negative terminal |
| B+ | B phase motor winding positive end |
| B- | B phase motor winding negative terminal |
| VDC | The power supply is connected to the positive terminal (power supply voltage: DC24V~48V) |
| GND | Power supply is connected to the negative terminal |

## Installation size (unit: mm)



# OL3-E86H Bus Type Stepping Driver

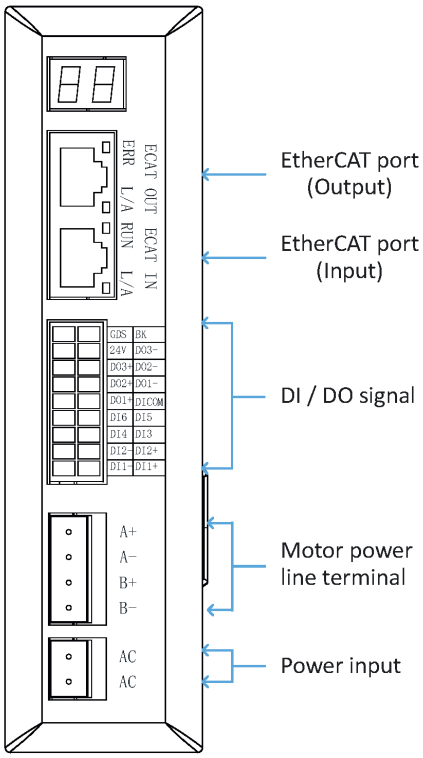
## Product description

OL3-E86H bus-type stepping driver is a digital stepping driver that combines advanced digital stepping motor algorithms and EtherCAT bus communication protocol. This product supports the CoE (CANopen over EtherCAT) protocol and conforms to the CIA402 standard. Compared with the traditional pulse-type driver, the bus-type driver has simpler wiring, real-time data transmission, high-reliability communication, and can realize multi-axis synchronous communication control. This series of drivers sample the advanced digital stepping motor algorithm, which can effectively suppress the motor temperature rise and reduce the motor vibration.It can be adapted to 86 series open loop stepper motors.

## Application Industriy

It can be used in 3C electronics industry, stage lighting control, robotic arm, medical treatment, lithium battery and other automation equipment.

## Function Description



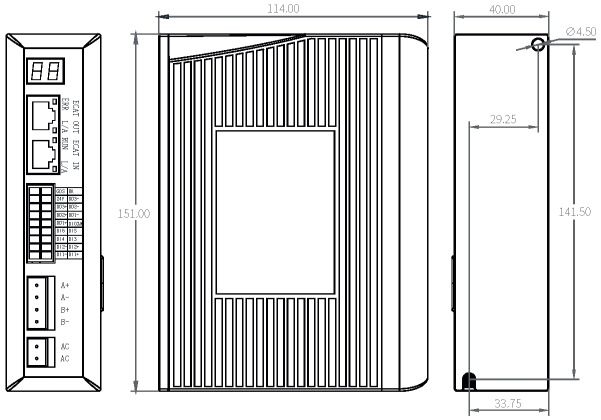

## DI/DO signal interface

| symbol | Name |
|---|---|
| D11+ | The differential input signal DI1, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 1. |
| D11- | |
| D12+ | The differential input signal DI2, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 2. |
| D12- | |
| D13 | Single-ended input signal, 12V～24V is valid, the default is the origin signal. |
| D14 | Single-ended input signal, 12V～24V is valid, the default is positive limit signal. |
| D15 | Single-ended input signal, 12V～24V is valid, the default is negative limit signal. |
| D16 | Single-ended input signal, 12V～24V valid, no default function defined. |
| DICOM | The common terminal of single-ended input signal can use common anode or common cathode connection. |
| DO1+ | Differential output signal DO1, the maximum current is 100mA, the default is the alarm output signal. |
| DO1- | |
| DO2+ | Differential output signal DO2, the maximum current is 100mA, the default is the positioning completion signal. |
| DO2- | |
| DO3+ | Differential output signal DO3, the maximum current is 100mA, the default is the zero return completion signal. |
| DO3- | |
| +24V | Brake signal 24V power positive input terminal. |
| BK | The brake control signal can be directly connected to the motor brake without adding a relay. |
| GDS | Brake signal The negative input terminal of 24V power supply. |

## MODBUS Communication

| symbol | Name |
|---|---|
| A+ | A phase motor winding positive end |
| A- | A phase motor winding negative terminal |
| B+ | B phase motor winding positive end |
| B- | B phase motor winding negative terminal |
| AC | Power access terminal (Power supply voltage: DC24V~110V/AC18V~80V) |
| AC | |

## Installation size (unit: mm)



# CL3-E86H Bus Type Closed Loop Stepper Driver

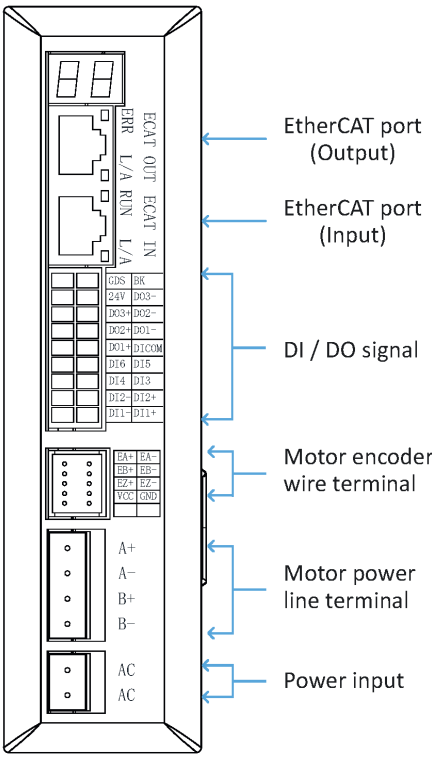
## Product description

CL3-E86H bus-type closed-loop stepper driver is a digital closed-loop stepper driver that combines the latest closed-loop control algorithm and EtherCAT bus communication protocol. This product supports the CoE (CANopen over EtherCAT) protocol and conforms to the CIA402 standard. Compared with the traditional pulse-type driver, the bus-type driver has simpler wiring, real-time data transmission, high-reliability communication, and can realize multi-axis synchronous communication control. This series of drivers sample advanced closed-loop algorithms, which can effectively suppress motor temperature rise, reduce motor vibration, and effectively increase motor torque. It can be adapted to 86 series closed-loop stepper motors.

## Application Industriy

It can be used in 3C electronics industry, stage lighting control, robotic arm, medical treatment, lithium battery and other automation equipment.

## Function Description



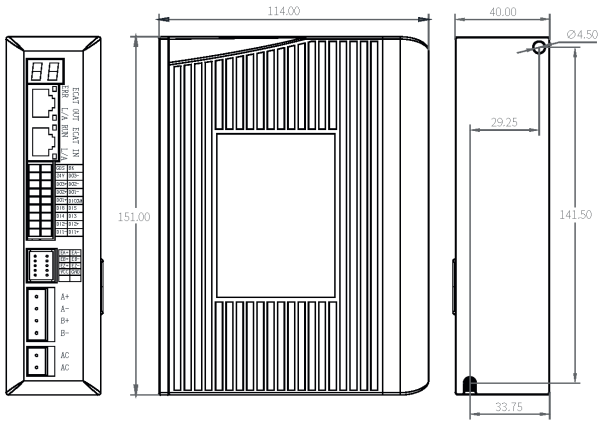

## DI/DO signal interface

| symbol | Name |
|---|---|
| D11+ | The differential input signal DI1, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 1. |
| D11- | |
| D12+ | The differential input signal DI2, 12V～24V is valid, the maximum input frequency is 500K, the signal function can be freely configured, and the default function is the probe input signal 2. |
| D12- | |
| D13 | Single-ended input signal, 12V～24V is valid, the default is the origin signal. |
| D14 | Single-ended input signal, 12V～24V is valid, the default is positive limit signal. |
| D15 | Single-ended input signal, 12V～24V is valid, the default is negative limit signal. |
| D16 | Single-ended input signal, 12V～24V valid, no default function defined. |
| DICOM | The common terminal of single-ended input signal can use common anode or common cathode connection. |
| DO1+ | Differential output signal DO1, the maximum current is 100mA, the default is the alarm output signal. |
| DO1- | |
| DO2+ | Differential output signal DO2, the maximum current is 100mA, the default is the positioning completion signal. |
| DO2- | |
| DO3+ | Differential output signal DO3, the maximum current is 100mA, the default is the zero return completion signal. |
| DO3- | |
| +24V | Brake signal 24V power positive input terminal. |
| BK | The brake control signal can be directly connected to the motor brake without adding a relay. |
| GDS | Brake signal The negative input terminal of 24V power supply. |

## MODBUS Communication

| symbol | Name |
|---|---|
| A+ | A phase motor winding positive end |
| A- | A phase motor winding negative terminal |
| B+ | B phase motor winding positive end |
| B- | B phase motor winding negative terminal |
| AC | Power access terminal (Power supply voltage: DC24V~110V/AC18V~80V) |
| AC | |

## Installation size (unit: mm)



## DS-P Low Voltage DC Servo Drive

### Technical parameter

DS-P series low-voltage servo driver is a low-voltage pulse-type servo controller developed by using the latest generation of 32-bit DSP chips and our company's many years of experience in servo motion control. It supports pulse + direction and double-pulse input control; it has small size and stable performance. and reliable protection.

Through the optimized PID control algorithm, the driver realizes full digital control of position, speed and torque accuracy, and has the advantages of high accuracy and fast response. It can support 100W~750W, the encoder is a 2500-line incremental low-voltage servo motor, and the sampling low-voltage DC power supply is used to meet the different requirements of customer performance.

DS_P_100/200/400 Driver　　DS_P_750 Driver

### Application Industriy

Suitable for all kinds of small and medium-sized automation equipment and instruments, such as: engraving machines, wire stripping machines, marking machines, cutting machines, laser machines, plotters, medical equipment, CNC machine tools, automated assembly equipment, electronic processing equipment, etc. It is particularly effective in applications where users expect low noise and high speed.

### Main Parameters

#### 1. Product Specifications

| Drive model / Parameter | DS_P_100 | DS_P_200 | DS_P_400 | DS_P_750 |
|---|---|---|---|---|
| Match motor | 100W | 200W | 400W | 750W |
| Supply voltage | 24V-50V | 24V-50V | 24V-50V | 24V-80V |
| Rated output current | 5A | 7A | 10A | 20A |
| Maximum output current | 15A | 21A | 30A | 57A |
| Encoder | 2500 line incremental | | | |
| Size(L*H*W) | 134*83*33mm | | | 168*100*36mm |
| Weight | 0.35kg | | | 0.7kg |

#### 2. Definition of power terminal interface (DS_P_100/200/400)

| Terminal name | illustrate |
|---|---|
| W | The three-phase winding of the motor, the winding order cannot be reversed, Otherwise it will cause malfunction or flying! |
| V | |
| U | |
| VDC | DC power input positive terminal |
| GND | DC power input negative terminal |
| RB+ | Connect the external braking resistor between RB+ and RB-10R 50W aluminum case resistor is recommended |
| RB- | |

#### 3. Definition of power terminal interface (DS_P_750)

| Terminal name | illustrate |
|---|---|
| PE | Motor ground wire |
| W | The three-phase winding of the motor, the winding order cannot be reversed, Otherwise it will cause malfunction or flying! |
| V | |
| U | |
| BRK | Connect an external braking resistor between BRK and VDC It is recommended to use 10R 100W aluminum case resistor |
| GND | DC power input negative terminal |
| VDC | DC power input positive terminal |

4. Definition of driver encoder wire terminal

| Pin number | Signal | Color | Pin number | Signal | Color |
|---|---|---|---|---|---|
| 1 | EA+ | yellow | 2 | HU+ | Ash |
| 3 | EA- | yellow black | 4 | HV+ | orange |
| 5 | EB+ | green | 6 | HW+ | White |
| 7 | EB- | green black | 8 | 5V | red |
| 9 | EZ+ | brown | 10 | GND | black |
| 11 | EZ- | brown black | 12 | PE | shield |

5. Definition of motor terminals

| Pin number | Definition | Pin number | Definition | Pin number | Definition |
|---|---|---|---|---|---|
| 1 | 0V | 6 | Z+ | 11 | V- |
| 2 | 5V | 7 | B+ | 12 | U- |
| 3 | W+ | 8 | A+ | 13 | Z- |
| 4 | V+ | 9 | empty leg | 14 | B- |
| 5 | U+ | 10 | W- | 15 | A- |

6. Control signal terminals

| Terminal name | illustrate | Terminal name | illustrate |
|---|---|---|---|
| PUL+ | Pulse signal input positive terminal (5-24V) | PEND+ | Positioning completion signal output positive terminal (NC) |
| PUL- | Pulse signal input negative terminal (5-24V) | PEND- | Positioning complete signal output negative terminal (NC) |
| DIR+ | Direction signal input positive terminal (5-24V) | ALM+ | Alarm signal output positive terminal (NC) |
| DIR- | Direction signal input negative terminal (5-24V) | ALM- | Alarm signal output negative terminal (NC) |
| ENA+ | Enable signal input positive terminal (5-24V) | | |
| ENA- | Enable signal input negative terminal (5-24V) | | |

## Electronic gear settings

| Pulse/circle | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| 40000 | off | off | off | off |
| 20000 | on | off | off | off |
| 10000 | off | on | off | off |
| 8000 | on | on | off | off |
| 5000 | off | off | on | off |
| 4000 | on | off | on | off |
| 2000 | off | on | on | off |
| 1000 | on | on | on | off |
| 51200 | off | off | off | on |
| 25600 | on | off | off | on |
| 12800 | off | on | off | on |
| 7200 | on | on | off | on |
| 6400 | off | off | on | on |
| 3600 | on | off | on | on |
| 3200 | off | on | on | on |
| 1600 | on | on | on | on |

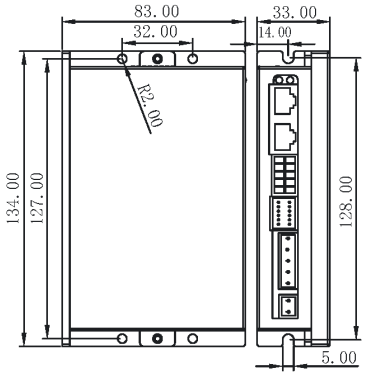
## Rigid settings

| Rigidity | 100% | 80% | 75% | 50% |
|---|---|---|---|---|
| SW5 | off | on | off | on |
| SW6 | off | off | on | on |

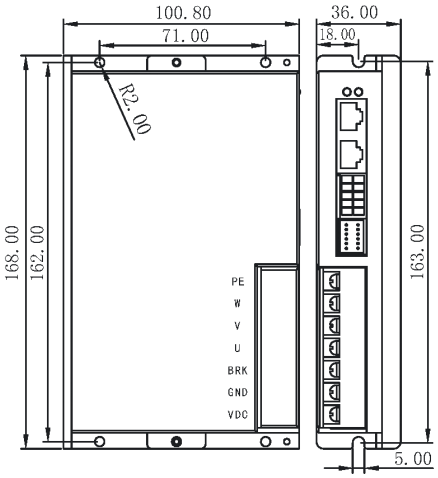
SW7: OFF: direction + pulse, ON: double pulse

SW8: OFF: Counterclockwise, ON: Clockwise

## Installation size (unit: mm)




DS_P_100/200/400 Driver Dimensions



## DS-R Low Voltage DC Servo Drive

### Technical parameter

DS-R series low-voltage servo driver is a low-voltage 485 bus-type servo controller developed with the latest generation of 32-bit DSP chips and our company's many years of servo motion control experience. It integrates single-axis motion suitable for I/O signals and MODBUS-RTU input. Control; the product has the characteristics of small size, stable performance and reliable protection.

Through the optimized PID control algorithm, the driver realizes full digital control of position, speed and torque accuracy, and has the advantages of high accuracy and fast response. It can support 100W~750W, the encoder is a 2500-line incremental low-voltage servo motor, and the sampling low-voltage DC power supply is used to meet the different requirements of customer performance.

DS_R_100/200/400 Driver　　DS_R_750 Driver

### Application Industriy

Suitable for all kinds of small and medium-sized automation equipment and instruments, such as: engraving machines, wire stripping machines, marking machines, cutting machines, laser machines, plotters, medical equipment, CNC machine tools, automated assembly equipment, electronic processing equipment, etc. It is particularly effective in applications where users expect low noise and high speed.

### Main Parameters

#### 1. Product Specifications

| Drive model / Parameter | DS_R_100 | DS_R_200 | DS_R_400 | DS_R_750 |
|---|---|---|---|---|
| Match motor | 100W | 200W | 9600 400W | 750W |
| Supply voltage | 24V-50V | 24V-50V | 24V-50V | 24V-80V |
| Rated output current | 5A | 7A | 10A | 20A |
| Maximum output current | 15A | 21A | 30A | 57A |
| Encoder | 2500 line incremental | | | |
| Size(L*H*W) | 134*83*33mm | | | 168*100*36mm |
| Weight | 0.35kg | | | 0.7kg |

#### 2. Definition of power terminal interface (DS_R_100/200/400)

| Terminal name | illustrate |
|---|---|
| W | The three-phase winding of the motor, the winding order cannot be reversed, Otherwise it will cause malfunction or flying! |
| V | |
| U | |
| VDC | DC power input positive terminal |
| GND | DC power input negative terminal |
| RB+ | Connect the external braking resistor between RB+ and RB-10R 50W aluminum case resistor is recommended |
| RB- | |

#### 3. Definition of power terminal interface (DS_R_750)

| Terminal name | illustrate |
|---|---|
| PE | Motor ground wire |
| W | The three-phase winding of the motor, the winding order cannot be reversed, Otherwise it will cause malfunction or flying! |
| V | |
| U | |
| BRK | Connect an external braking resistor between BRK and VDC It is recommended to use 10R 100W aluminum case resistor |
| GND | DC power input negative terminal |
| VDC | DC power input positive terminal |

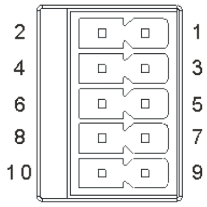
4. Definition of driver encoder wire terminal

| Pin number | Signal | Color | Pin number | Signal | Color |
|---|---|---|---|---|---|
| 1 | EA+ | yellow | 2 | HU+ | Ash |
| 3 | EA- | yellow black | 4 | HV+ | orange |
| 5 | EB+ | green | 6 | HW+ | White |
| 7 | EB- | green black | 8 | 5V | red |
| 9 | EZ+ | brown | 10 | GND | black |
| 11 | EZ- | brown black | 12 | PE | shield |

5. Definition of motor terminals

| Pin number | Definition | Pin number | Definition | Pin number | Definition |
|---|---|---|---|---|---|
| 1 | 0V | 6 | Z+ | 11 | V- |
| 2 | 5V | 7 | B+ | 12 | U- |
| 3 | W+ | 8 | A+ | 13 | Z- |
| 4 | V+ | 9 | empty leg | 14 | B- |
| 5 | U+ | 10 | W- | 15 | A- |

6. DI/DO terminal

| Serial number | Name | Serial number | Name | Terminal Definition Diagram |
|---|---|---|---|---|
| 1 | DI0 | 6 | DICOM |  |
| 2 | DI1 | 7 | DO0 | |
| 3 | DI2 | 8 | DO1 | |
| 4 | DI3 | 9 | DO2 | |
| 5 | DI4 | 10 | DOCOM | |



## Electronic gear settings

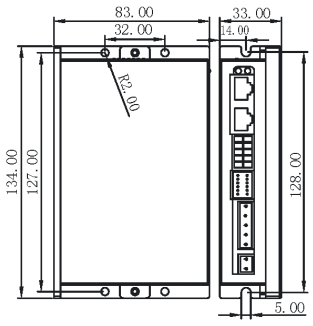
| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| 0 | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

## Rigid settings

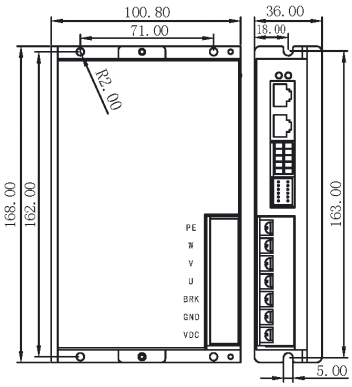
| Baud rate | 9600 | 19200 | 38400 | 115200 |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

SW8: Terminal resistance, OFF: invalid, ON: valid

## Installation size (unit: mm)




DS_R_100/200/400 Driver Dimensions




DS_R_750 Driver Dimensions

## DS-C Low Voltage DC Servo Drive

### Technical parameter

DS-C series low-voltage servo driver is a low-voltage CANopen bus-type servo controller developed with the latest generation of 32-bit DSP chips and our company's many years of servo motion control experience. It supports CANopen bus and can be transmitted in real time with only one communication line. The command of the driver and the status feedback information of the motor/driver, the product has the characteristics of small size, stable performance and reliable protection.

Through the optimized PID control algorithm, the driver realizes full digital control of position, speed and torque accuracy, and has the advantages of high accuracy and fast response. It can support 100W~750W, and the encoder is a 2500-line incremental low-voltage servo motor.

DS_C_100/200/400 Driver　　DS_C_750 Driver

### Application Industriy

Suitable for all kinds of small and medium-sized automation equipment and instruments, such as: engraving machines, wire stripping machines, marking machines, cutting machines, laser machines, plotters, medical equipment, CNC machine tools, automated assembly equipment, electronic processing equipment, etc. It is particularly effective in applications where users expect low noise and high speed.

### Main Parameters

#### 1. Product Specifications

| Drive model / Parameter | DS_C_100 | DS_C_200 | DS_C_400 | DS_C_750 |
|---|---|---|---|---|
| Match motor | 100W | 200W | 9600 400W | 750W |
| Supply voltage | 24V-50V | 24V-50V | 24V-50V | 24V-80V |
| Rated output current | 5A | 7A | 10A | 20A |
| Maximum output current | 15A | 21A | 30A | 57A |
| Encoder | 2500 line incremental | | | |
| Size(L*H*W) | 134*83*33mm | | | 168*100*36mm |
| Weight | 0.35kg | | | 0.7kg |

#### 2. Definition of power terminal interface (DS_C_100/200/400)

| Terminal name | illustrate |
|---|---|
| W | The three-phase winding of the motor, the winding order cannot be reversed, Otherwise it will cause malfunction or flying! |
| V | |
| U | |
| VDC | DC power input positive terminal |
| GND | DC power input negative terminal |
| RB+ | Connect the external braking resistor between RB+ and RB-10R 50W aluminum case resistor is recommended |
| RB- | |

#### 3. Definition of power terminal interface (DS_C_750)

| Terminal name | illustrate |
|---|---|
| PE | Motor ground wire |
| W | The three-phase winding of the motor, the winding order cannot be reversed, Otherwise it will cause malfunction or flying! |
| V | |
| U | |
| BRK | Connect an external braking resistor between BRK and VDC It is recommended to use 10R 100W aluminum case resistor |
| GND | DC power input negative terminal |
| VDC | DC power input positive terminal |

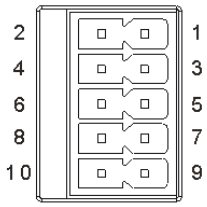
4. Definition of driver encoder wire terminal

| Pin number | Signal | Color | Pin number | Signal | Color |
|---|---|---|---|---|---|
| 1 | EA+ | yellow | 2 | HU+ | Ash |
| 3 | EA- | yellow black | 4 | HV+ | orange |
| 5 | EB+ | green | 6 | HW+ | White |
| 7 | EB- | green black | 8 | 5V | red |
| 9 | EZ+ | brown | 10 | GND | black |
| 11 | EZ- | brown black | 12 | PE | shield |

5. Definition of motor terminals

| Pin number | Definition | Pin number | Definition | Pin number | Definition |
|---|---|---|---|---|---|
| 1 | 0V | 6 | Z+ | 11 | V- |
| 2 | 5V | 7 | B+ | 12 | U- |
| 3 | W+ | 8 | A+ | 13 | Z- |
| 4 | V+ | 9 | empty leg | 14 | B- |
| 5 | U+ | 10 | W- | 15 | A- |

6. DI/DO terminal

| Serial number | Name | Serial number | Name | Terminal Definition Diagram |
|---|---|---|---|---|
| 1 | DI0 | 6 | DICOM |  |
| 2 | DI1 | 7 | DO0 | |
| 3 | DI2 | 8 | DO1 | |
| 4 | DI3 | 9 | DO2 | |
| 5 | DI4 | 10 | DOCOM | |



## Electronic gear settings

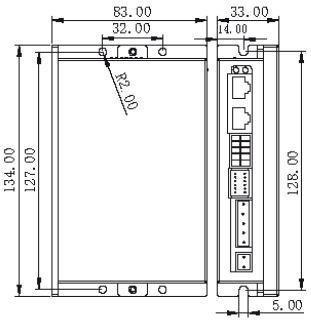
| Station No | SW1 | SW2 | SW3 | SW4 | SW5 |
|---|---|---|---|---|---|
| 0 | off | off | off | off | off |
| 1 | on | off | off | off | off |
| 2 | off | on | off | off | off |
| 3 | on | on | off | off | off |
| 4 | off | off | on | off | off |
| 5 | on | off | on | off | off |
| 6 | off | on | on | off | off |
| 7 | on | on | on | off | off |
| 8 | off | off | off | on | off |
| 9 | on | off | off | on | off |
| 10 | off | on | off | on | off |
| 11 | on | on | off | on | off |
| 12 | off | off | on | on | off |
| 13 | on | off | on | on | off |
| 14 | off | on | on | on | off |
| 15 | on | on | on | on | off |
| 16 | off | off | off | off | on |
| 17 | on | off | off | off | on |
| 18 | off | on | off | off | on |
| 19 | on | on | off | off | on |
| 20 | off | off | on | off | on |
| 21 | on | off | on | off | on |
| 22 | off | on | on | off | on |
| 23 | on | on | on | off | on |
| 24 | off | off | off | on | on |
| 25 | on | off | off | on | on |
| 26 | off | on | off | on | on |
| 27 | on | on | off | on | on |
| 28 | off | off | on | on | on |
| 29 | on | off | on | on | on |
| 30 | off | on | on | on | on |
| 31 | on | on | on | on | on |

## Rigid settings

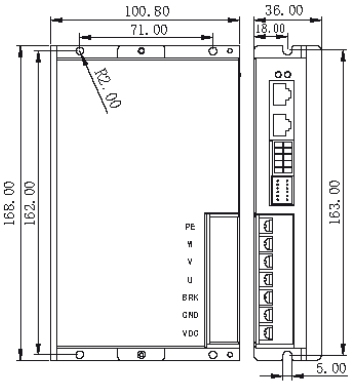
| Baud rate | 125Kbps | 250Kbps | 500Kbps | 1Mbps |
|---|---|---|---|---|
| SW6 | on | off | on | off |
| SW7 | on | on | off | off |

SW8: Terminal resistance, OFF: invalid, ON: valid

## Installation size (unit: mm)



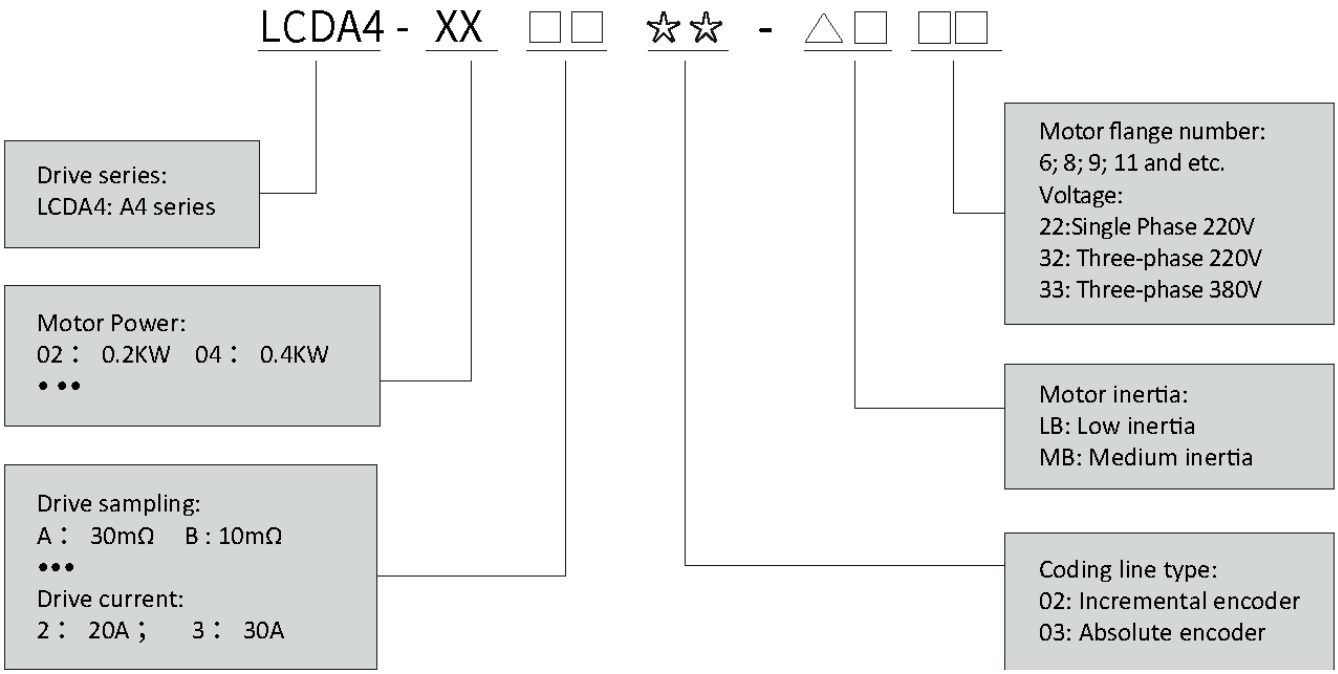

DS_C_100/200/400 Driver Dimensions




DS_C_750 Driver Dimensions

## Drive naming rules

# LCDA4 - 02A202 - LB632




## A4 series servo drive specifications

| | | |
|---|---|---|
| Input power | Control power | Single phase 220VAC |
| | Main power | Single-phase/three-phase 220VAC |
| Working environment | Temperature | 0 ~ 45℃ |
| | Humidity | ≤90% RH or less, no condensation |
| | Altitude | Altitude ≤1000m |
| | Installation Environment | No corrosive gas, flammable gas, oil mist or dust, etc. |
| | Installation method | Vertical installation |
| Encoder feedback | | 2500 p/r (resolution: 10000), incremental encoder |
| Control signal | Digital input | 10 ordinary digital inputs, with configurable functions. |
| | Digital output | 6 digital outputs, with configurable functions. |
| Pulse signal | Enter | 2 high-speed inputs: differential (600K) and single-ended (200K) pulses. Support pulse input mode: PULS+DIR, A+B, CW+CCW |
| | Output | 3 high-speed pulse outputs, output signal form: 5V differential signal. 1 channel Z signal single-ended output signal. |
| Analog signal | Enter | 2 analog inputs, 12-bit resolution, input range -10～+10V. AI2 is fixed as the torque limit input. |
| | Output | None |
| Communication function | | RS485 communication, Modbus protocol. The main controller can control the position/speed/torque of the servo through RS485, up to 32 control stations |
| Display panel and key operation | | 5 buttons (Mode, Set, Left, Up, Down) and 6 digital tubes |
| Regenerative discharge braking resistor | | Built-in 100W, 40Ω braking resistor. In frequent braking situations, an external braking resistor is required. |

## MODBUS Communication

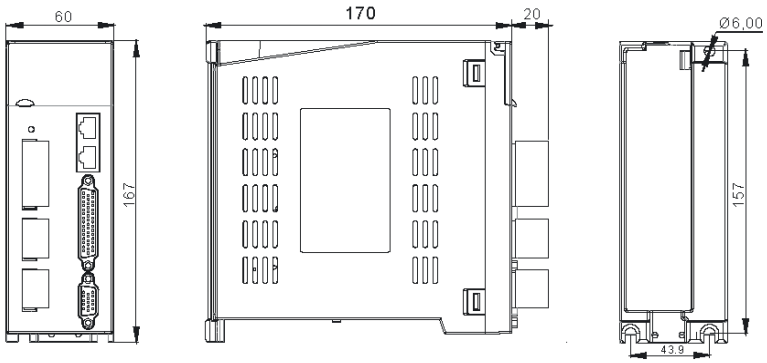
A4 series servo drivers have MODBUS communication function, location/speed/torque control can be realized for the Servo through controller with MODBUS function, control stations can be as many as 32 and controller cost can be largely reduced.

| Item | Specification |
|---|---|
| Communication | MODBUS RTU |
| Bus Connections | RJ45(CN1、CN2) |
| Baud Rate | 9600、19200、38400 |
| Number of sites | At most 32 (the last station shall be short connected to terminal resistance jumper) |

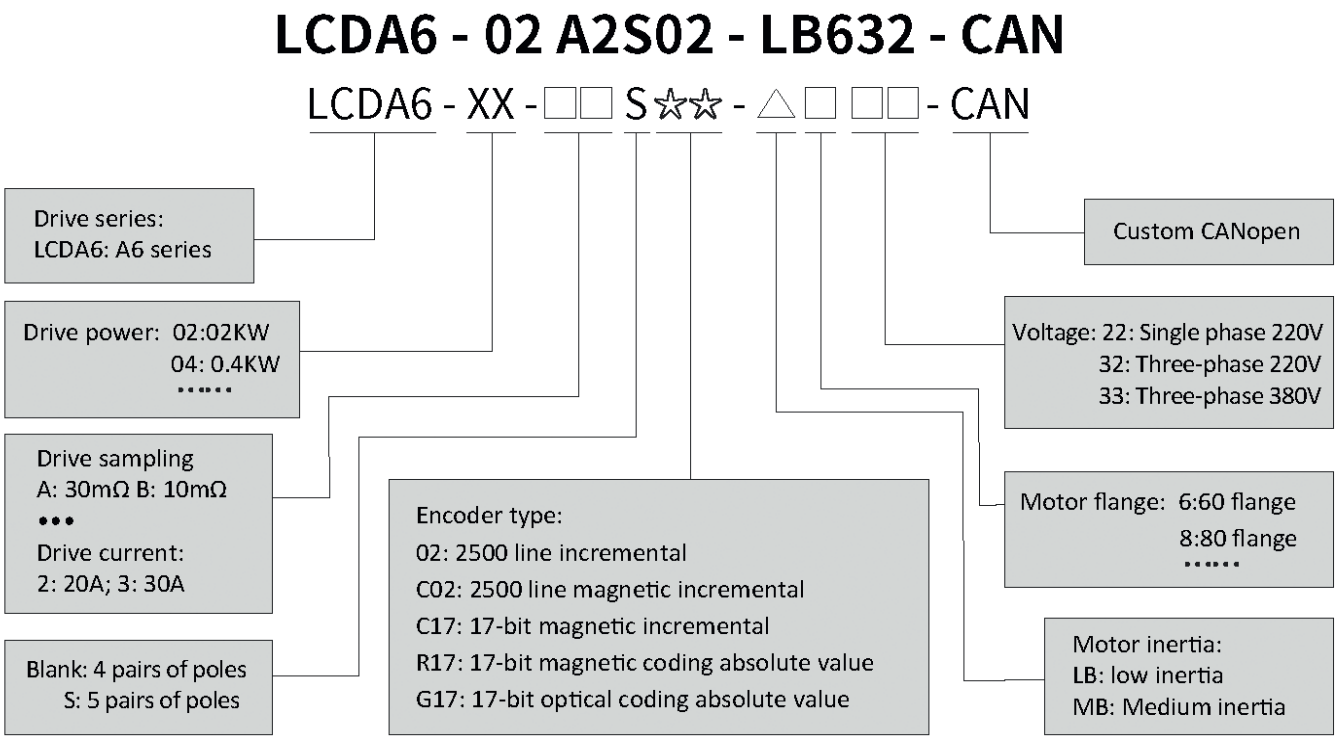
## Combination of A4 Series Servo Driver Model and Motor

| Driver model | Motor Model | Power (KW) |
|---|---|---|
| LCDA4-XXA2 | 005L02 - 40M00130 | 0.05 |
| | 01L02 - 40M00330 | 0.1 |
| | 02L02 - 60M00630 | 0.2 |
| LCDA4-XXB2 | 04L02-60M01330 | 0.4 |
| | 06L02-60M01930 | 0.6 |
| | 04L02-80M01330 | 0.4 |
| | 07L02-80M02430 | 0.75 |
| | 07M02-80M03520 | 0.75 |
| | 07L02-90M02430 | 0.75 |
| | 07M02-90M03520 | 0.75 |
| | 06L02-110M02030 | 0.6 |
| | 08L02-110M04020 | 0.8 |
| LCDA4-XXC2 | 10L02-80M04025 | 1.0 |
| | 10L02-90M04025 | 1.0 |
| | 10L02-130M04025 | 1.0 |
| LCDA4-XXC3 | 12L02-110M04030 | 1.2 |
| | 15L02-110M05030 | 1.5 |
| | 12L02-110M06020 | 1.2 |
| | 18L02-110M06030 | 1.8 |
| | 13L02-130M05025 | 1.3 |
| | 15L02-130M06025 | 1.5 |
| | 10M02-130M10010 | 1.0 |
| | 15M02-130M10015 | 1.5 |
| LCDA4-XXD3 | 20L02-130M07725 | 2.0 |
| | 26M02-130M10025 | 2.6 |
| | 23M02-130M15015 | 2.3 |

## Installation Dimensions of A4 Servo Drivers (Unit: mm)



## Drive naming rules




## A4 series servo drive specifications

| | | |
|---|---|---|
| Input power | Control power | Single phase 220VAC |
| | Main power | Single-phase/three-phase 220VAC |
| Working environment | Temperature | 0 ~ 45°C |
| | Humidity | ≤90% RH or less, no condensation |
| | Altitude | Altitude ≤1000m |
| | Installation Environment | No corrosive gas, flammable gas, oil mist or dust, etc. |
| | Installation method | Vertical installation |
| Encoder feedback | | 2500 p/r (resolution: 10000), incremental encoder |
| Control signal | Digital input | 10 ordinary digital inputs, with configurable functions. |
| | Digital output | 6 digital outputs, with configurable functions. |
| Pulse signal | Enter | 2 high-speed inputs: differential (600K) and single-ended (200K) pulses. Support pulse input mode: PULS+DIR, A+B, CW+CCW |
| | Output | 3 high-speed pulse outputs, output signal form: 5V differential signal. 1 channel Z signal single-ended output signal. |
| Analog signal | Enter | 2 analog inputs, 12-bit resolution, input range -10～+10V. AI2 is fixed as the torque limit input. |
| | Output | None |
| Communication function | | RS485 communication, Modbus protocol. The main controller can control the position/speed/torque of the servo through RS485, up to 32 control stations |
| Display panel and key operation | | 5 buttons (Mode, Set, Left, Up, Down) and 6 digital tubes |
| Regenerative discharge braking resistor | | Built-in 100W, 40Ω braking resistor. In frequent braking situations, an external braking resistor is required. |

## MODBUS Communication

A4 series servo drivers have MODBUS communication function, location/ speed/torque control can be realized for the Servo through controller with MODBUS function, control stations can be as many as 32 and controller cost can be largely reduced.

| Item | Specification |
|---|---|
| Communication | MODBUS RTU |
| Bus Connections | RJ45(CN1、CN2) |
| Baud Rate | 9600、19200、38400 |
| Number of sites | Up to 32 (the last station needs to short-circuit the terminal resistance jumper) |

## CANopen Communication

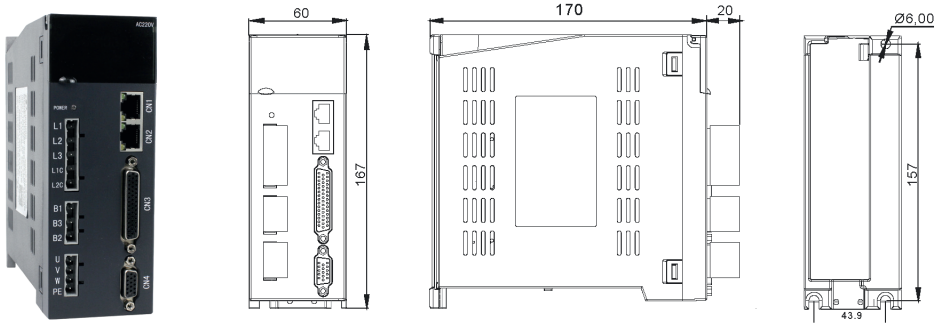
The A6 series supports CANopen high-speed bus, the maximum communication rate can be as large as 1Mbps, multi-axis synchronous control can be realized, and the heartbeat detection function can ensure the overall stability and reliability of the system.

| Item | Specification |
|---|---|
| Communication | CIA301、CIA402.V2 |
| Communication connector | RJ45 × 2 (input: CN6A; output: CN6B) |
| Baud Rate | 125K、250K、500K、1M |
| Number of sites | Up to 32 (the last station needs to short-circuit the terminal resistance jumper) |

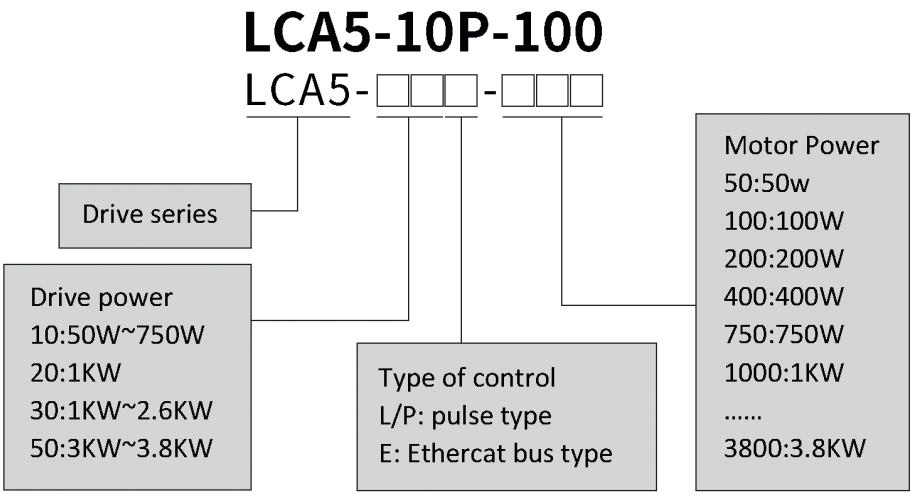
## Combination of A6 Series Servo Driver Model and Motor

| Driver model | Motor Model | Power (KW) |
|---|---|---|
| LCDA6-XXA2 | 005L02 - 40M00130 | 0.05 |
| | 01L02 - 40M00330 | 0.1 |
| | 02L02 - 60M00630 | 0.2 |
| LCDA6-XXB2 | 04L02-60M01330 | 0.4 |
| | 06L02-60M01930 | 0.6 |
| | 04L02-80M01330 | 0.4 |
| | 07L02-80M02430 | 0.75 |
| | 07M02-80M03520 | 0.75 |
| | 07L02-90M02430 | 0.75 |
| | 07M02-90M03520 | 0.75 |
| | 06L02-110M02030 | 0.6 |
| | 08L02-110M04020 | 0.8 |
| LCDA6-XXC2 | 10L02-80M04025 | 1.0 |
| | 10L02-90M04025 | 1.0 |
| | 10L02-130M04025 | 1.0 |
| LCDA6-XXC3 | 12L02-110M04030 | 1.2 |
| | 15L02-110M05030 | 1.5 |
| | 12L02-110M06020 | 1.2 |
| | 18L02-110M06030 | 1.8 |
| | 13L02-130M05025 | 1.3 |
| | 15L02-130M06025 | 1.5 |
| | 10M02-130M10010 | 1.0 |
| | 15M02-130M10015 | 1.5 |
| LCDA6-XXD3 | 20L02-130M07725 | 2.0 |
| | 26M02-130M10025 | 2.6 |
| | 23M02-130M15015 | 2.3 |

## Installation Dimensions of A6 Servo Drivers (Unit: mm)



## Drive naming rules




## A4 series servo drive specifications

| | | |
|---|---|---|
| Enter the power supply | | Single-phase 220VAC (A5 -10/A5 -20)/three-phase 220VAC (A5 -30/A5 -50) |
| Working Environment | Temperature | 0 ~ 45°C |
| | Humidity | ≤90% Rh, no condensation |
| | Altitude | Elevation ≤1000m |
| | Installation environment | No corrosive gas, flammable gas, oil mist or dust, etc. |
| | Installation mode | Vertical installation |
| Encoders | | Support 17-bit incremental/absolute encoder, 23-bit incremental/absolute encoder |
| Output Power | 24V voltage output | 100mA, can supply power to DI port and pulse port. |
| Control signal | Digital quantity input | 8 channels of ordinary digital input, the function can be configured. |
| | Digital quantity output | 6-way digital output, function configurable. |
| Pulse signal | Input | 2 high-speed input: the highest support 1MHz pulse, duty cycle 50% ;<br>support pulse input: Puls + DIR, a + b, CW + CC. |
| | Output | 3 channels high-speed pulse output, output signal form: 5V differential signal;<br>1 channel Z signal single-ended output signal. |
| Analog signal | Input | 2 analog inputs, 12-bit discrimination, input range-9.5-+ 9.5 V.<br>Where AI2 is fixed as the torque limit input. |
| | Output | None |
| Communication function | | RS485 communication, MODBUSRTU protocol. |
| Display panel and key operation | | 5 buttons (Mode, Set, Left, Up, Down) and 6 digital tubes |
| Regenerative discharge brake resistance | | Built-in 50W 40ω brake resistance. External brake resistance is required for frequent braking. |

## A4 series servo drive specifications

A5 series servo drivers have MODBUS communication function, location/speed/torque control can be realized for the Servo through controller with MODBUS function, control stations can be as many as 32 and controller cost can be largely reduced.

| Item | Specification |
|---|---|
| Communication | MODBUS RTU |
| Bus Connections | RJ45(CN3、CN4) |
| Baud Rate | 2400bps、 4800bps、9600bps、19200bps 、38400bps、57600bps |
| Number of sites | At most 32 (the last station shall be short connected to terminal resistance jumper) |

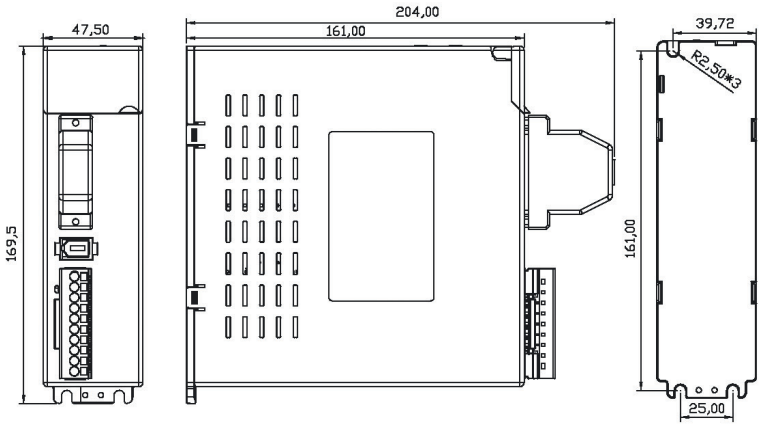
## Combination of A5 Series Servo Driver Model and Motor

| Driver model | Motor Model (5 pairs of Poles) | Power (KW) | Driver model | Motor Model (5 pairs of Poles) | Power (KW) |
|---|---|---|---|---|---|
| LC10L/LC10P | 005SLC17 - 40M00130B | 0.05 | LC10L/LC10P | 06SLC17 - 60M01930B | 0.6 |
| | 01SLC17 - 40M00330B | 0.1 | | 07SLC17 - 80M02430B | 0.75 |
| | 02SLC17 - 60M00630B | 0.2 | LC20L/LC20P | 10SLC17 - 80M03230B | 1.0 |
| | 04SLC17 - 60M01330B | 0.4 | | 10SLC17 - 80M04025B | 1.0 |

| Driver model | Motor Model (4 pairs of Poles) | Power (KW) | Driver model | Motor Model (5 pairs of Poles) | Power (KW) |
|---|---|---|---|---|---|
| LC30P | 12LC17 - 110M04030B | 1.2 | LC30P | 13SMC17 - 110M04230B | 1.3 |
| | 15LC17 - 110M05030B | 1.5 | | 16SMC17 - 110M07520B | 1.6 |
| | 18LC17 - 110M06030B | 1.8 | | 17SMC17 - 110M05430B | 1.7 |
| | 10LC17 - 130M04025B | 1.0 | | 17SMC17 - 110M06425B | 1.7 |
| | 13LC17 - 130M05025B | 1.3 | | 08SMC17 - 130M05415B | 0.85 |
| | 15LC17 - 110M06025B | 1.5 | | 13SMC17 - 130M08315B | 1.3 |
| | 20LC17 - 130M07725B | 2.0 | | 18SMC17 - 130M11515B | 1.8 |
| | 15MC17 - 130M10015B | 1.5 | | 10SMC17 - 130M04820B | 1.0 |
| | 26LC17 - 130M10025B | 2.6 | | 15SMC17 - 130M07220B | 1.5 |
| | 23MC17 - 130M15015B | 2.3 | | 20SMC17 - 130M09620B | 2.0 |
| LC50P | 38MC17 - 130M15025B | 3.8 | LC50P | 30SMC17 - 130M14320B | 3.0 |

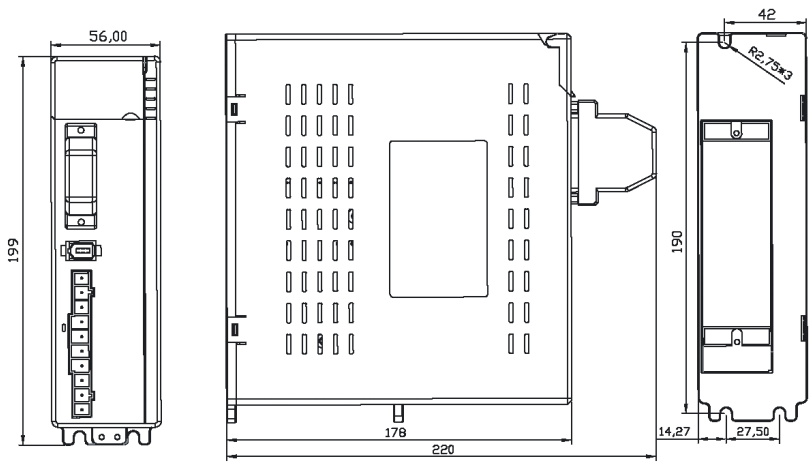
## Installation Dimensions of LC10/20 Servo Drivers (Unit: mm)


LC10L/LC20L　　LC10P/LC20P




## Installation Dimensions of LC30/50 Servo Drivers (Unit: mm)


LC30P/LC50P

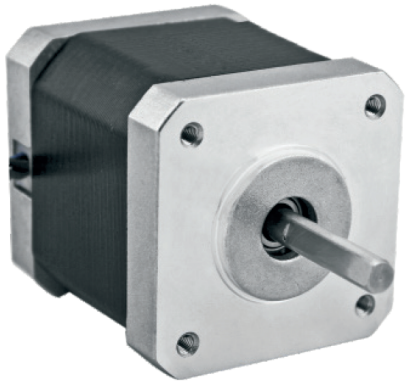


## 2 Phase Nema17 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 28N (20mm from flange surface) |
| Shaft Max Load | 10N |

2Phase



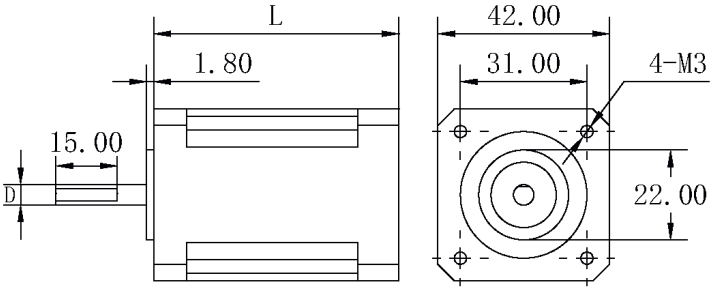
CE RoHS

### Technical Data

| Series | Step Angle (°) | Motor Length (mm) | Holding Torque (N.m) | Rated Current (A) | Phase Resistance (Ω) | Phase Inductance (mH) | Rotor Inertia (g.cm$^2$) | Motor Weight (Kg) | Lead Wire (No.) |
|---|---|---|---|---|---|---|---|---|---|
| LC42HS28 | 1.8 | 28 | 0.12 | 1.2 | 0.8 | 1.0 | 30 | 0.15 | 4 |
| LC42HS34 | 1.8 | 34 | 0.21 | 1.2 | 1.2 | 1.8 | 35 | 0.22 | 4 |
| LC42HS40 | 1.8 | 40 | 0.3 | 1.2 | 1.5 | 2.8 | 54 | 0.3 | 4 |
| LC42HS48 | 1.8 | 48 | 0.4 | 1.2 | 1.2 | 1.6 | 68 | 0.38 | 4 |
| LC42HS60 | 1.8 | 60 | 0.6 | 1.2 | 2.75 | 6.4 | 102 | 0.5 | 4 |

Above are representative products. Products can be customized!

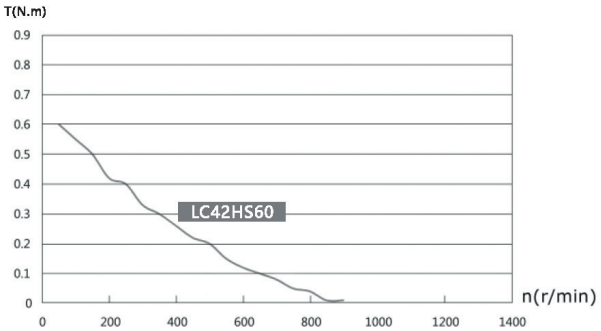
### Shape and installation size (unit:mm)



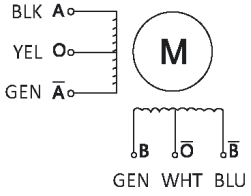

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC42HS28 | ϕ5 | D-cut 0.5 x 15 | 24 |
| LC42HS34 | ϕ5 | D-cut 0.5 x 15 | 24 |
| LC42HS40 | ϕ5 | D-cut 0.5 x 15 | 24 |
| LC42HS48 | ϕ5 | D-cut 0.5 x 15 | 24 |
| LC42HS60 | ϕ5 | D-cut 0.5 x 15 | 24 |

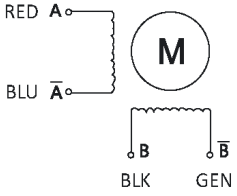
### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram




UNI-POLAR(6 LEADS)



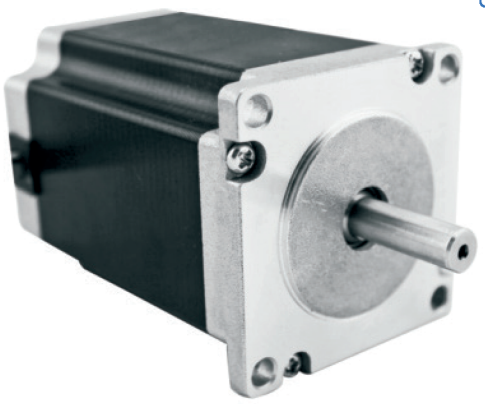

BI- POLAR(4 LEADS)

## 2 Phase Nema23 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 75N (20mm from flange surface) |
| Shaft Max Load | 15N |

2Phase



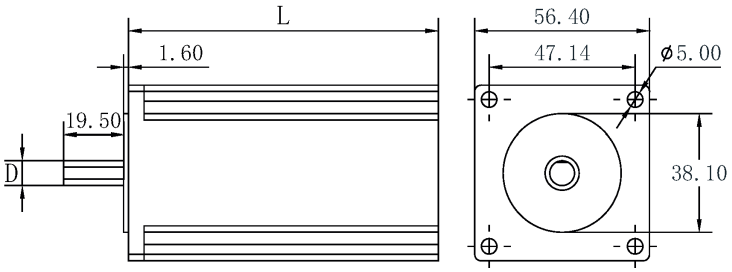
CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Phase Resistance(Ω) | Phase Inductance(mH) | Rotor Inertia (g.cm²) | Motor Weight (Kg) | Lead Wire(No.) |
|---|---|---|---|---|---|---|---|---|---|
| LC57HS41 | 1.8 | 41 | 0.6 | 2.5 | 1.2 | 3.2 | 120 | 0.5 | 4 |
| LC57HS56 | 1.8 | 56 | 1.0 | 3.0 | 0.8 | 2.4 | 300 | 0.68 | 4 |
| LC57HS64 | 1.8 | 64 | 1.5 | 3.0 | 0.8 | 2.3 | 400 | 1.08 | 4 |
| LC57HS76 | 1.8 | 76 | 2.0 | 3.0 | 1.0 | 3.5 | 480 | 1.2 | 4 |
| LC57HS82 | 1.8 | 82 | 2.2 | 4.0 | 1.1 | 2.1 | 530 | 1.25 | 4 |
| LC57HS100 | 1.8 | 100 | 2.6 | 4.0 | 1.4 | 5.5 | 700 | 1.58 | 4 |
| LC57HS112 | 1.8 | 112 | 3.0 | 4.0 | 1.6 | 6.8 | 800 | 1.78 | 4 |

Above are representative products. Products can be customized!

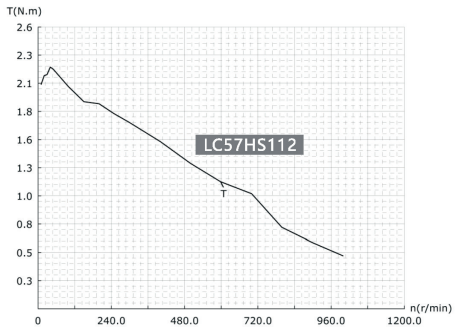
### Shape and installation size (unit:mm)



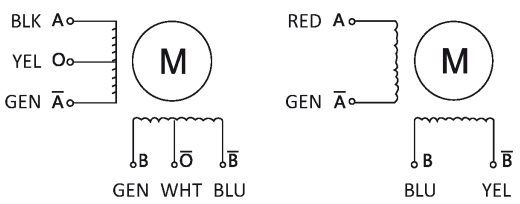

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC57HS41 | ϕ6.35 | D-cut 0.5X19.5 | 21 |
| LC57HS56 | ϕ6.35 or ϕ8 | D-cut 0.5X19.5 | 21 |
| LC57HS64 | ϕ6.35 or ϕ8 | D-cut 0.5X19.5 | 21 |
| LC57HS76 | ϕ6.35 or ϕ8 | D-cut 0.5X19.5 | 21 |
| LC57HS82 | ϕ8 | D-cut 0.5X19.5 | 21 or 24 |
| LC57HS100 | ϕ8 | D-cut 0.5X19.5 | 21 |
| LC57HS112 | ϕ8 or ϕ10 | D-cut 0.5X19.5 | 21 |

### Curves of Torque Frequency Characteristics



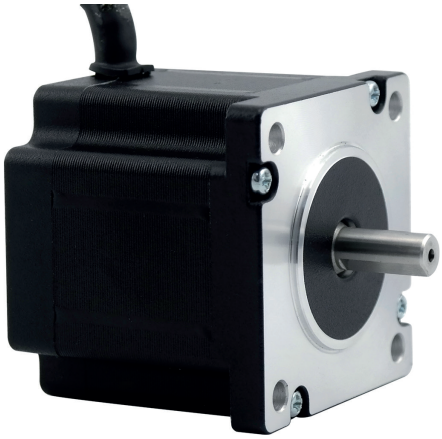

### Motor Wiring Diagram



## 2 Phase Nema24 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 75N (20mm from flange surface) |
| Shaft Max Load | 15N |



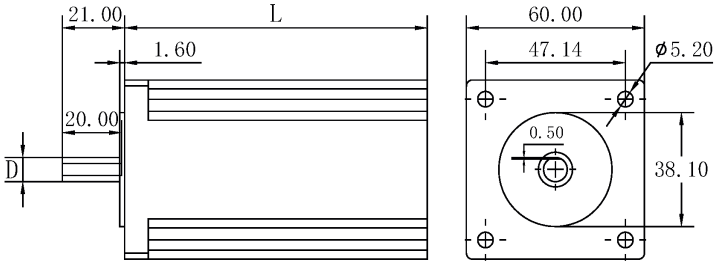
2Phase

CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Phase Resistance(Ω) | Phase Inductance(mH) | Rotor Inertia ($g.cm^2$) | Motor Weight (Kg) | Lead Wire(No.) |
|---|---|---|---|---|---|---|---|---|---|
| LC60HS58 | 1.8 | 58 | 1.6 | 3.0 | 0.42 | 2.65 | 300 | 0.85 | 4 |
| LC60HS65 | 1.8 | 65 | 2.1 | 3.0 | 0.65 | 1.6 | 570 | 1.0 | 4 |
| LC60HS78 | 1.8 | 76 | 2.5 | 3.0 | 0.5 | 1.66 | 620 | 1.1 | 4 |
| LC60HS84 | 1.8 | 84 | 3.1 | 3.0 | 0.63 | 1.8 | 840 | 1.29 | 4 |
| LC60HS102 | 1.8 | 102 | 3.5 | 3.0 | 0.75 | 2.4 | 1000 | 1.65 | 4 |
| LC60HS112 | 1.8 | 112 | 3.8 | 3.0 | 1.56 | 3.9 | 1200 | 1.807 | 4 |

### Shape and installation size (unit:mm)

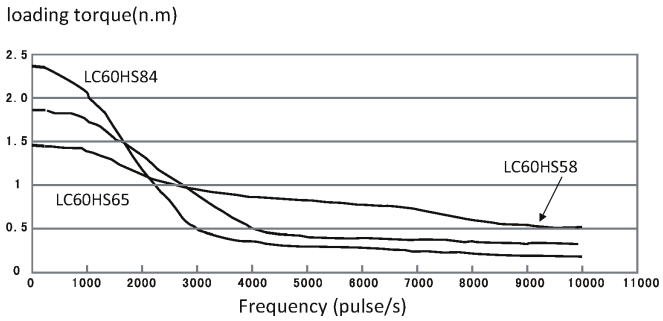



Note: 60 series motors with 50x50mm holes are available. Please confirm with salesman about motor model!

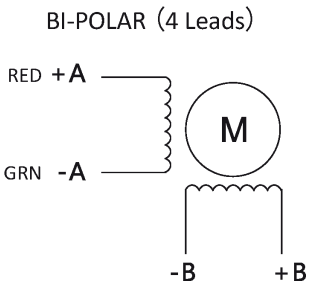
### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC60HS58 | ϕ8 | D-cut 0.5 X 20 | 21 |
| LC60HS65 | ϕ8 | D-cut 0.5 X 20 | 21 |
| LC60HS78 | ϕ8 | D-cut 0.5 X 20 | 21 |
| LC60HS84 | ϕ8 | D-cut 0.5 X 20 | 21 |
| LC60HS102 | ϕ8 | D-cut 0.5 X 20 | 21 |
| LC60HS112 | ϕ8 | D-cut 0.5 X 20 | 21 |

### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram



## 2 Phase Nema34 Series Hybrid Stepper Motor

### Motor Wiring Diagram

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 130N (20mm from flange surface) |
| Shaft Max Load | 30N |

2Phase

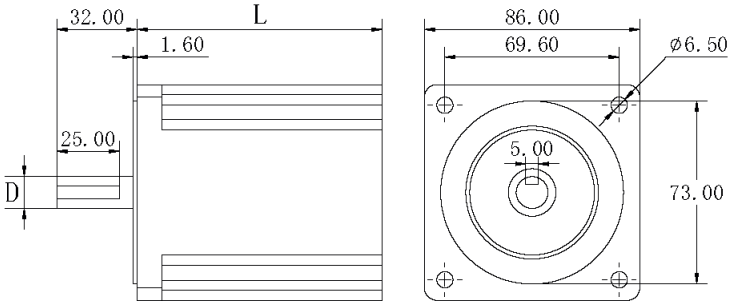
CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Phase Resistance(Ω) | Phase Inductance(mH) | Rotor Inertia (g.cm$^2$) | Motor Weight (Kg) | Lead Wire(No.) |
|---|---|---|---|---|---|---|---|---|---|
| LC86HS66 | 1.8 | 66 | 3.3 | 3.0 | 0.6 | 1.6 | 1000 | 2.0 | 4 |
| LC86HS80 | 1.8 | 80 | 4.5 | 5.0 | 0.7 | 3.0 | 1400 | 2.5 | 4 |
| LC86HS98 | 1.8 | 98 | 6.9 | 5.0 | 0.98 | 4.1 | 2100 | 3.4 | 4 |
| LC86HS114 | 1.8 | 114 | 8.5 | 6.0 | 0.49 | 3.58 | 2800 | 4.0 | 4 |
| LC86HS128 | 1.8 | 128 | 10 | 6.0 | 1.3 | 5.8 | 3200 | 4.5 | 4 |
| LC86HS150 | 1.8 | 150 | 12 | 6.0 | 1.4 | 9.2 | 4000 | 5.4 | 4 |

Above are representative products. Products can be customized!

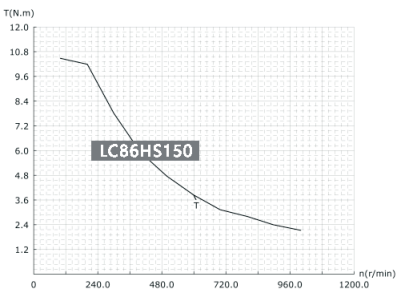
### Shape and installation size (unit:mm)



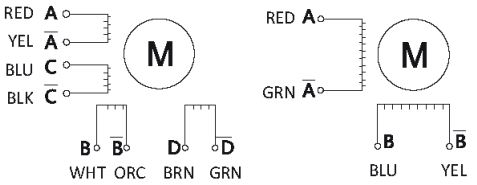

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC86HS66 | ϕ9.5 | D-cut 1 X 25 | 32 |
| LC86HS80 | ϕ12.7 or ϕ14 | D-cut 1 X 25 | 32 |
| LC86HS98 | ϕ12.7 or ϕ14 | Keyway 5 x 5 x 25 | 32 |
| LC86HS114 | ϕ12.7 or ϕ14 | Keyway 5 x 5 x 25 | 32 |
| LC86HS128 | ϕ12.7 or ϕ14 | Keyway 5 x 5 x 25 | 32 |
| LC86HS150 | ϕ12.7 or ϕ14 or ϕ15.8 | Keyway 5 x 5 x 25 | 32 |

### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram

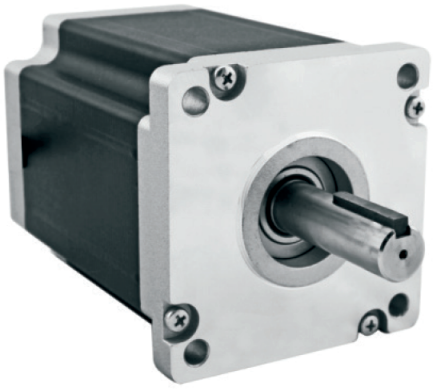


## 2 Phase Nema42 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 220N (20mm from flange surface) |
| Shaft Max Load | 60N |

2Phase



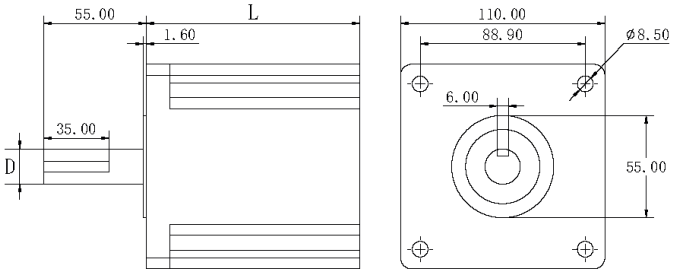
CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Phase Resistance(Ω) | Phase Inductance(mH) | Rotor Inertia (g.cm²) | Motor Weight (Kg) | Lead Wire(No.) |
|---|---|---|---|---|---|---|---|---|---|
| LC110-99 | 1.8 | 99 | 12 | 6.0 | 0.5 | 6.0 | 5500 | 5.0 | 4 |
| LC110-115 | 1.8 | 115 | 15 | 6.0 | 0.47 | 7.5 | 7200 | 6.0 | 4 |
| LC110-150 | 1.8 | 150 | 22 | 6.0 | 0.8 | 13.5 | 10900 | 8.4 | 4 |
| LC110-201 | 1.8 | 201 | 29 | 6.5 | 1.1 | 22 | 16200 | 11.7 | 4 |

Above are representative products. Products can be customized!

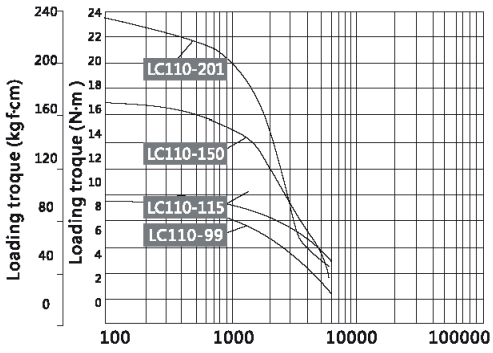
### Shape and installation size (unit:mm)



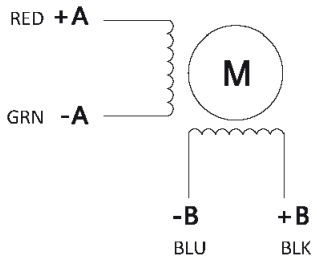

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC110-99 | ϕ16 | Keyway 6 x 35 | 55 |
| LC110-115 | ϕ19 | Keyway 6 x 35 | 55 |
| LC110-150 | ϕ19 | Keyway 6 x 35 | 55 |
| LC110-201 | ϕ19 | Keyway 6 x 35 | 55 |

### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram

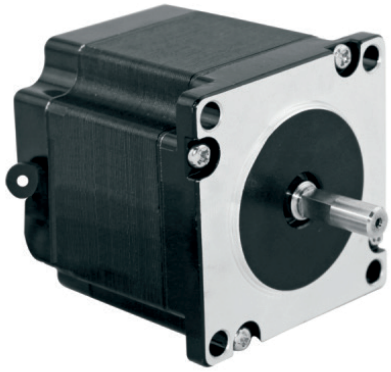


## 3 Phase Nema23 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 75N (20mm from flange surface) |
| Shaft Max Load | 15N |

3Phase



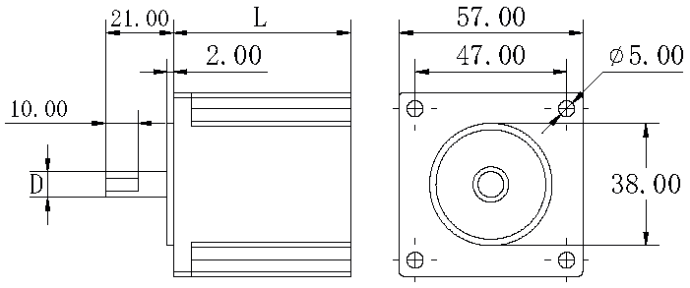
CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Phase Resistance(Ω) | Phase Inductance(mH) | Rotor Inertia (g.cm²) | Matched Driver | Lead Wire(No.) | Motor Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| LC57HS341 | 1.2 | 41 | 0.45 | 5.2 | 100 | 0.242 | 0.22 | 3MC580 | 3 | 0.5 |
| LC57HS354 | 1.2 | 54 | 0.9 | 5.6 | 220 | 0.24 | 0.267 | 3MC580 | 3 | 0.75 |
| LC57HS376 | 1.2 | 76 | 1.5 | 5.8 | 380 | 0.29 | 0.39 | 3MC580 | 3 | 1.1 |
| LC57HS3100 | 1.2 | 100 | 2.0 | 5.8 | 530 | 0.376 | 0.5 | 3MC580 | 3 | 1.57 |

Above are representative products. Products can be customized!

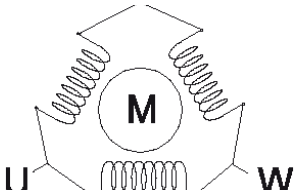
### Shape and installation size (unit:mm)



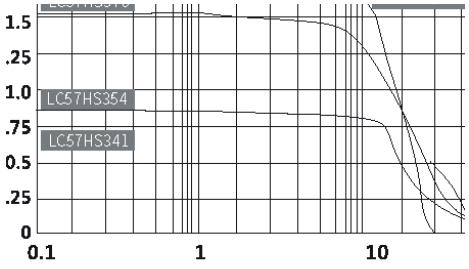

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC57HS341 | ϕ6.35 | D-cut 0.5 X 10 | 21 |
| LC57HS354 | ϕ8 | D-cut 0.5 X 10 | 21 |
| LC57HS376 | ϕ8 | Keyway 3 x 15 | 21 |
| LC57HS3100 | ϕ8 | Keyway 3 x 15 | 21 |

### Motor Wiring Diagram




### Curves of Torque Frequency Characteristics



## 3 Phase Nema34 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 130N (20mm from flange surface) |
| Shaft Max Load | 30N |

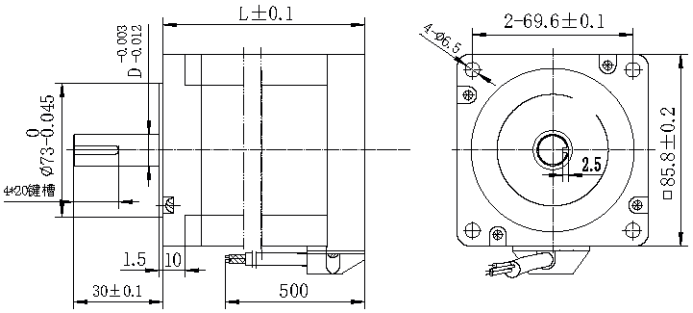
3Phase

CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Rotor Inertia (g.cm$^2$) | Phase Resistance(Ω) | Phase Inductance(mH) | Matched Driver | Lead Wire(No.) | Motor Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| LC86HS376 | 1.2 | 76 | 3.0 | 3.0 | 1320 | 0.5 | 0.9 | 3MC580 | 3 | 2.0 |
| LC86HS398-H | 1.2 | 98 | 4.0 | 2.0 | 2400 | 4.6 | 14.6 | LC3722D | 3 | 3.0 |
| LC86HS398 | 1.2 | 98 | 4.0 | 5.8 | 2400 | 0.7 | 1.5 | 3MC580 | 3 | 3.0 |
| LC86HS3114-H | 1.2 | 114 | 6.0 | 3.0 | 3480 | 2.0 | 8.0 | LC3722D | 3 | 4.0 |
| LC86HS3114 | 1.2 | 114 | 6.0 | 5.8 | 3480 | 0.9 | 2.17 | 3MC580 | 3 | 4.0 |
| LC86HS3129-H | 1.2 | 129 | 8.0 | 5.0 | 3900 | 1.08 | 6.5 | LC3722D | 3 | 4.6 |
| LC86HS3156-H | 1.2 | 156 | 10 | 5.0 | 4600 | 1.29 | 8.8 | LC3722D | 3 | 5.2 |

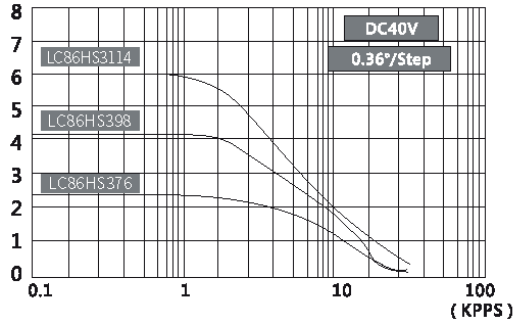
### Shape and installation size (unit:mm)



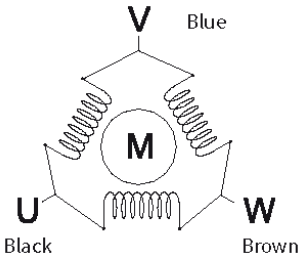

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC86HS376 | ϕ14 | Keyway 4 x 20 | 35 |
| LC86HS398-H | ϕ12 | Keyway 4 x 20 | 30 |
| LC86HS398 | ϕ12 | Keyway 4 x 20 | 30 |
| LC86HS3114-H | ϕ14 | Keyway 5 x 25 | 35 |
| LC86HS3114 | ϕ14 | Keyway 5 x 25 | 35 |
| LC86HS3129-H | ϕ14 | Keyway 5 x 25 | 32 |
| LC86HS3156-H | ϕ14 | Keyway 5 x 25 | 35 |

### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram



## 3 Phase Nema42 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 220N (20mm from flange surface) |
| Shaft Max Load | 60N |

2Phase

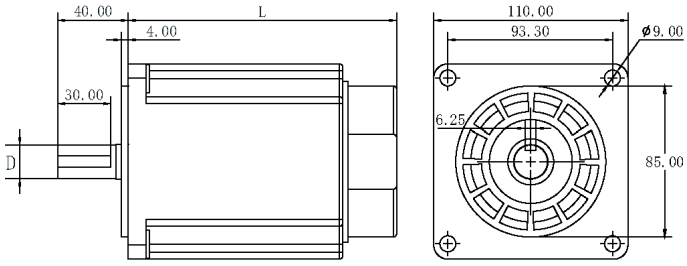
CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Rotor Inertia (g.cm$^2$) | Phase Resistance(Ω) | Phase Inductance(mH) | Matched Driver | Lead Wire(No.) | Motor Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| LC31112 | 1.2 | 128 | 8.0 | 4.3 | 6000 | 1.25 | 4.49 | LC3722D | 3 | 5.0 |
| LC31115 | 1.2 | 152 | 12 | 6.0 | 9720 | 1.89 | 8.34 | LC3722D | 3 | 6.6 |
| LC31118 | 1.2 | 186 | 16 | 6.4 | 13560 | 1.89 | 8.73 | LC3722D | 3 | 9.0 |
| LC31122 | 1.2 | 219 | 20 | 6.9 | 17400 | 1.859 | 7.26 | LC3722D | 3 | 11.1 |

Above are representative products. Products can be customized!

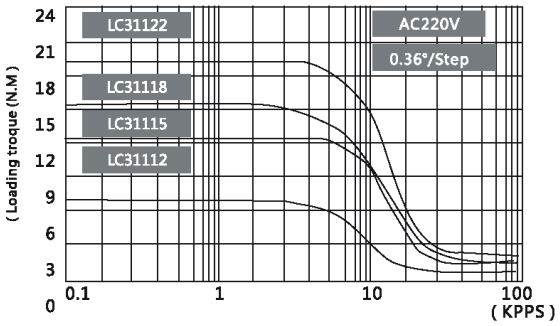
### Shape and installation size (unit:mm)



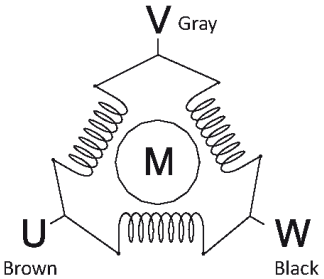

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC31112 | ϕ19 | Keyway 6 x 30 | 40 |
| LC31115 | ϕ19 | Keyway 6 x 30 | 40 |
| LC31118 | ϕ19 | Keyway 6 x 30 | 40 |
| LC31122 | ϕ19 | Keyway 6 x 30 | 40 |

### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram



## 3 Phase Nema51 Series Hybrid Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 300N (20mm from flange surface) |
| Shaft Max Load | 80N |

3Phase

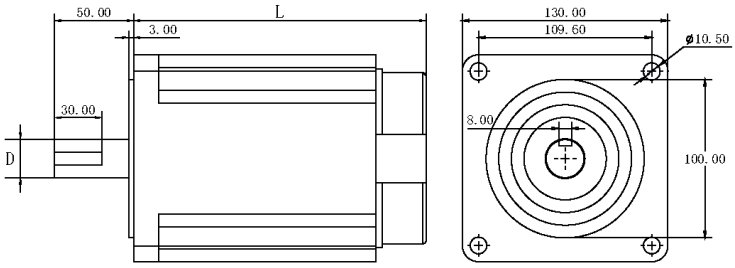
CE RoHS

### Technical Data

| Series | Step Angle(°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Rotor Inertia (g.cm$^2$) | Phase Resistance(Ω) | Phase Inductance(mH) | Matched Driver | Lead Wire(No.) | Motor Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| LC31315 | 1.2 | 154 | 15 | 6.9 | 20000 | 0.88 | 3.7 | LC3722D | 3 | 11 |
| LC31318 | 1.2 | 185 | 20 | 6.9 | 26700 | 1.1 | 4.9 | LC3722D | 3 | 14.1 |
| LC31322 | 1.2 | 218 | 28 | 6.9 | 33970 | 2.8 | 17.9 | LC3722D | 3 | 17.2 |
| LC31325 | 1.2 | 255 | 35 | 6.9 | 41240 | 3.3 | 21.52 | LC3722D | 3 | 19.8 |
| LC31332 | 1.2 | 280 | 50 | 6.9 | 55780 | 4.2 | 28.9 | LC3722D | 3 | 26 |

Above are representative products. Products can be customized!

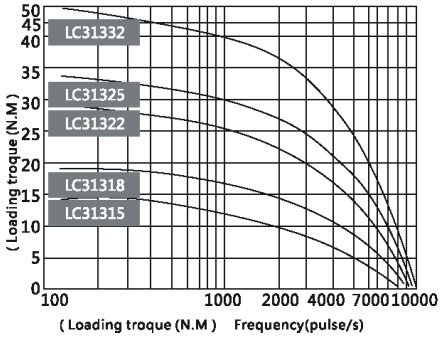
### Shape and installation size (unit:mm)



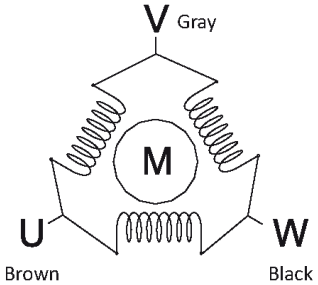

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC31315 | ϕ24 | Keyway 8 x 30 | 50 |
| LC31318 | ϕ24 | Keyway 8 x 30 | 50 |
| LC31322 | ϕ24 | Keyway 8 x 30 | 50 |
| LC31325 | ϕ24 | Keyway 8 x 30 | 50 |
| LC31332 | ϕ24 | Keyway 8 x 30 | 50 |

### Curves of Torque Frequency Characteristics




### Motor Wiring Diagram



# 2 Phase Nema17 Series Closed Loop Stepper Motor

## Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 28N (20mm from flange surface) |
| Shaft Max Load | 10N |

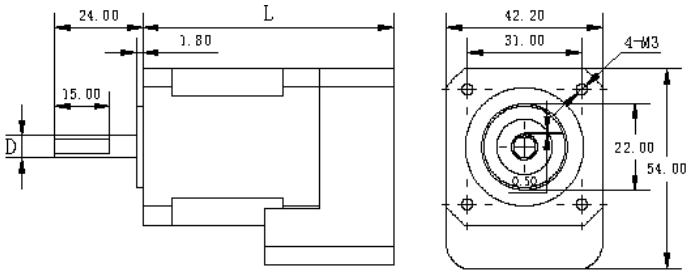

CE RoHS

## Technical Data

| Series | Step Angle (°) | Length (mm) | Holding Torque (N.m) | Phase Current (A) | Rotational Inertia (g.cm²) | Weight (kg) | Encoder Resolution(PPR) |
|---|---|---|---|---|---|---|---|
| LC42H249 | 1.8 | 68 | 0.48 | 1.2 | 68 | 0.47 | 1000 |
| LC42H261 | 1.8 | 79 | 0.72 | 1.2 | 102 | 0.60 | 1000 |

Above are representative products. Products can be customized!

## Shape and installation size (unit:mm)

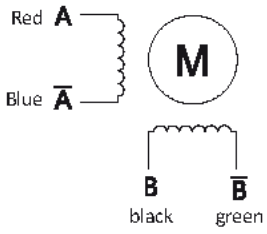



## Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC42H249 | ϕ5 or ϕ6 | D-cut 0.5 x 15 | 24 |
| LC42H261 | ϕ5 or ϕ6 | D-cut 0.5 x 15 | 24 |

## Motor Wiring Diagram

Motor Wire Colors




Definitions of Encoder Lead Colors

| | | |
|---|---|---|
| 1 | yellow | EB+ |
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

## Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

## 2 Phase Nema23 Series Closed Loop Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 100MΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 75N (20mm from flange surface) |
| Shaft Max Load | 15N |

2Phase

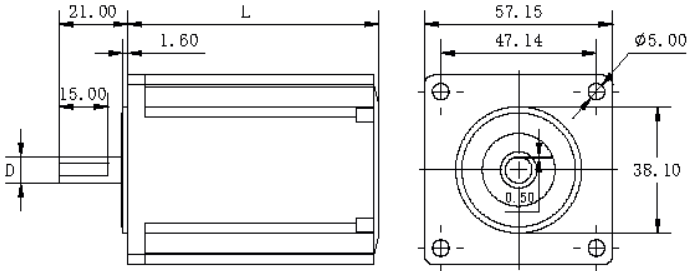
CE RoHS

### Technical Data

| Series | Step Angle (°) | Length (mm) | Holding Torque (N.m) | Phase Current (A) | Rotational Inertia (g.cm²) | Weight (kg) | Encoder Resolution(PPR) |
|---|---|---|---|---|---|---|---|
| LC57H256 | 1.8 | 76 | 1.0 | 3.0 | 300 | 0.78 | 1000 |
| LC57H265 | 1.8 | 85 | 1.5 | 3.0 | 400 | 1.18 | 1000 |
| LC57H276 | 1.8 | 98 | 2.0 | 3.0 | 480 | 1.2 | 1000 |
| LC57H280 | 1.8 | 102 | 2.2 | 4.0 | 520 | 1.5 | 1000 |
| LC57H2100 | 1.8 | 123 | 3.0 | 4.0 | 720 | 1.7 | 1000 |
| LC57H2112 | 1.8 | 134 | 3.5 | 4.0 | 800 | 1.8 | 1000 |

Above are representative products. Products can be customized!

### Shape and installation size (unit:mm)

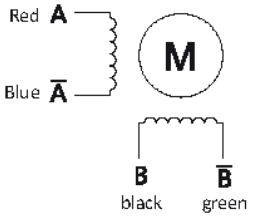



### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC57H256 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H265 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H276 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H280 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H2100 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H2112 | ϕ8 | D-cut 0.5 x 15 | 21 |

### Motor Wiring Diagram

Motor Wire Colors




Definitions of Encoder Lead Colors

| | | |
|---|---|---|
| 1 | yellow | EB+ |
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

### Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

# 2 Phase Nema24 Series Closed Loop Stepper Motor

## Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 75N (20mm from flange surface) |
| Shaft Max Load | 15N |

2Phase

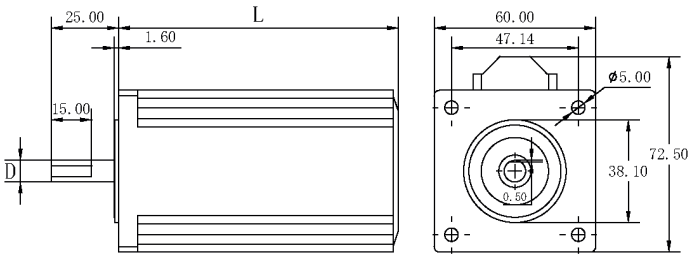
CE RoHS

## Technical Data

| Series | Step Angle(°) | Length (mm) | Holding Torque (N.m) | Phase Current (A) | Rotational Inertia (g.cm$^2$) | Weight (kg) | Encoder Resolution(PPR) |
|---|---|---|---|---|---|---|---|
| LC60H265 | 1.8 | 90 | 2.0 | 4.0 | 560 | 1.0 | 1000 |
| LC60H278 | 1.8 | 104 | 2.3 | 4.0 | 570 | 1.1 | 1000 |
| LC60H286 | 1.8 | 112 | 2.8 | 4.5 | 620 | 1.45 | 1000 |
| LC60H2102 | 1.8 | 126 | 4.5 | 5.0 | 1000 | 1.87 | 1000 |
| LC60H2112 | 1.8 | 137 | 4.8 | 5.8 | 1200 | 2.1 | 1000 |
| LC60H2127 | 1.8 | 152 | 5.5 | 5.8 | 1370 | 2.45 | 1000 |

Above are representative products. Products can be customized!

## Shape and installation size (unit:mm)

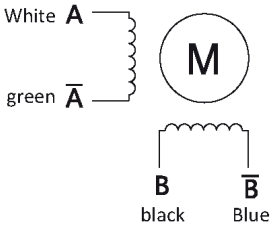



## Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC60H265 | ϕ8 or ϕ10 | D-cut 0.5 x 15 | 25 |
| LC60H278 | ϕ8 or ϕ10 | D-cut 0.5 x 15 | 25 |
| LC60H286 | ϕ8 or ϕ10 | D-cut 0.5 x 15 | 25 or 31 |
| LC60H2102 | ϕ8 or ϕ10 | D-cut 0.5 x 15 | 25 or 31 |
| LC60H2112 | ϕ8 or ϕ10 | D-cut 0.5 x 15 | 25 |
| LC60H2127 | ϕ8 or ϕ10 | Keyway 3 x 16 | 35 |

## Motor Wiring Diagram

Motor Wire Colors




Definitions of Encoder Lead Colors

| | | |
|---|---|---|
| 1 | yellow | EB+ |
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

## Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

## 2 Phase Nema34 Series Closed Loop Stepper Motor

### Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 130N (20mm from flange surface) |
| Shaft Max Load | 30N |

3Phase

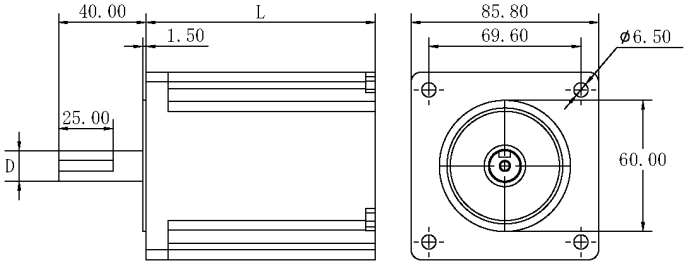
CE RoHS

### Technical Data

| Series | Step Angle (°) | Length (mm) | Holding Torque (N.m) | Phase Current (A) | Phase Resistance (Ω) | Phase Inductance (mH) | Rotational Inertia (g.cm$^2$) | Weight (kg) | Encoder Resolution(PPR) |
|---|---|---|---|---|---|---|---|---|---|
| LC86H260 | 1.8 | 82 | 3.0 | 6.0 | 0.3 | 1.6 | 1100 | 2.0 | 1000 |
| LC86H268 | 1.8 | 90 | 3.5 | 6.0 | 0.3 | 2.2 | 1400 | 2.2 | 1000 |
| LC86H280 | 1.8 | 105 | 4.5 | 6.0 | 0.3 | 3.4 | 1800 | 2.5 | 1000 |
| LC86H298 | 1.8 | 123 | 6.5 | 6.0 | 0.5 | 4.3 | 2800 | 3.3 | 1000 |
| LC86H2114 | 1.8 | 140 | 8.0 | 6.0 | 0.5 | 3.6 | 2800 | 4.0 | 1000 |
| LC86H2128 | 1.8 | 155 | 10 | 7.5 | 0.4 | 4.6 | 4200 | 4.5 | 1000 |
| LC86H2150 | 1.8 | 176 | 12 | 7.5 | 0.5 | 4.7 | 4300 | 5.5 | 1000 |

Above are representative products. Products can be customized!

### Shape and installation size (unit:mm)



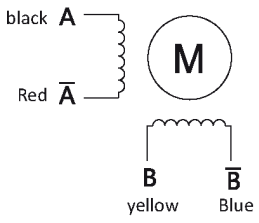

Remarks: 73/60mm is available for motor stop with brake (brake), and 60mm without brake. Please pay attention to the model selection!

### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC86H260 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H268 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H280 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H298 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H2114 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H2128 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H2150 | ϕ14 | Keyway 5 x 5 x 15 | 40 |

### Motor Wiring Diagram

Motor Wire Colors




Definitions of Encoder Lead Colors

| | | |
|---|---|---|
| 1 | yellow | EB+ |
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

### Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

# 3 Phase Nema23 Series Closed Loop Stepper Motor

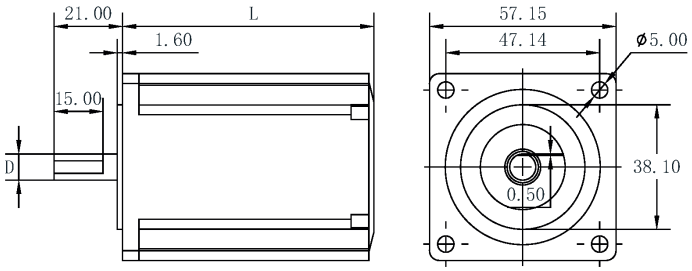
## Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 75N (20mm from flange surface) |
| Shaft Max Load | 15N |


## Technical Data

| Series | Step Angle (°) | Length (mm) | Holding Torque (N.m) | Phase Current (A) | Rotational Inertia (g.cm$^2$) | Weight (kg) | Encoder Resolution(PPR) |
|---|---|---|---|---|---|---|---|
| LC57H355 | 1.2 | 77 | 1.0 | 3.5 | 300 | 1.0 | 1000 |
| LC57H380 | 1.2 | 102 | 2.0 | 3.5 | 500 | 1.4 | 1000 |
| LC57H3100 | 1.2 | 123 | 3.0 | 4.0 | 700 | 1.8 | 1000 |

## Shape and installation size (unit:mm)

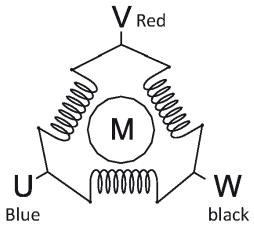



## Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC57H355 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H380 | ϕ8 | D-cut 0.5 x 15 | 21 |
| LC57H3100 | ϕ8 | D-cut 0.5 x 15 | 21 |

## Motor Wiring Diagram

Motor Wire Colors




Definitions of Encoder Lead Colors

| | | |
|---|---|---|
| 1 | yellow | EB+ |
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

## Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

# 3 Phase Nema34 Series Closed Loop Stepper Motor

## Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 130N (20mm from flange surface) |
| Shaft Max Load | 30N |

3Phase

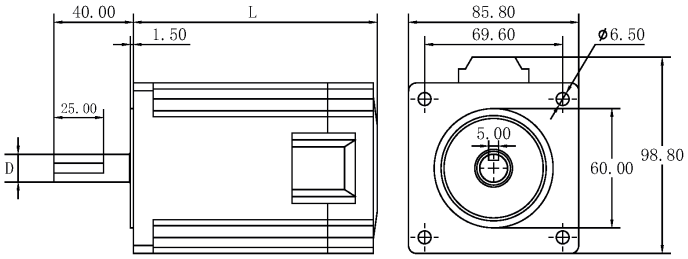
CE RoHS

## Technical Data

| Series | Step Angle(°) | Length (mm) | Holding Torque(N.m) | Phase Current(A) | Rotational Inertia(g.cm$^2$) | Phase Resistance(Ω) | Phase Inductance(mH) | Matchend driver | Lead wire(No.) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| LC86H398 | 1.2 | 123 | 6.0 | 3.0 | 2800 | 1.3 | 8.0 | LCDA2260E | 3 | 3.5 |
| LC86H3114 | 1.2 | 140 | 6.8 | 3.0 | 3600 | 0.98 | 7.0 | LCDA2260E | 3 | 4.2 |
| LC86H3129 | 1.2 | 154 | 10 | 3.0 | 3800 | 2.45 | 16 | LCDA2260E | 3 | 4.7 |
| LC86H3156 | 1.2 | 182 | 12 | 3.0 | 4000 | 2.5 | 18 | LCDA2260E | 3 | 5.5 |

Above are representative products. Products can be customized!

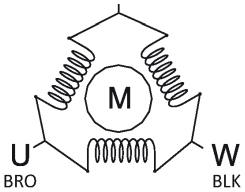
## Shape and installation size (unit:mm)




## Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC86H398 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H3114 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H3129 | ϕ14 | Keyway 5 x 5 x 15 | 40 |
| LC86H3156 | ϕ14 | Keyway 5 x 5 x 15 | 40 |

## Motor Wiring Diagram




| | | |
|---|---|---|
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

## Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

# 3 Phase Nema42 Series Closed Loop Stepper Motor

## Electrical Performance Parameters

| Item | Specifications |
|---|---|
| Step Angle Accuracy | ±5% (Full Step) |
| Resistance Accuracy | ±10% (20°C) |
| Inductance Accuracy | ±20% (1KHZ) |
| Temperature Rise | 80°C max (rated current, 2 phase power on) |
| Ambient Temperature | -20°C~ * 50°C |
| Insulation Resistance | 1OOMΩMin 500VDC |
| Dielectric Strength | 500V AC 1 minute |
| Allowable Radial Load | 0.02mm Max . (450g load) |
| Allowable Thrust Load | 0.08mm Max . (450g load) |
| Radial Max Load | 220N (20mm from flange surface) |
| Shaft Max Load | 60N |

3Phase

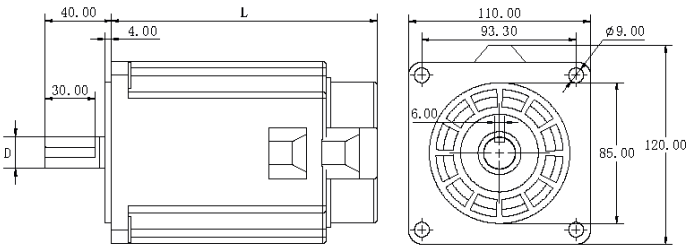
CE RoHS

## Technical Data

| Series | Step Angle (°) | Length (mm) | Holding Torque (N.m) | Phase Current (A) | Rotational Inertia (g.cm$^2$) | Phase Resistance (Ω) | Phase Inductance (mH) | Matchend driver | Lead wire(No.) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| LC110H3151 | 1.2 | 161 | 12 | 6.0 | 9720 | 1.89 | 8.34 | LCDA2260E | 3 | 6.6 |
| LC110H3185 | 1.2 | 185 | 16 | 6.4 | 13560 | 1.89 | 8.73 | LCDA2260E | 3 | 9.0 |
| LC110H3219 | 1.2 | 219 | 20 | 6.9 | 17400 | 1.859 | 7.26 | LCDA2260E | 3 | 11.1 |

Above are representative products. Products can be customized!

## Shape and installation size (unit:mm)

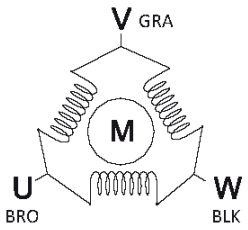



## Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| LC110H3151 | ϕ19 | Keyway 6 x 30 | 40 |
| LC110H3185 | ϕ19 | Keyway 6 x 30 | 40 |
| LC110H3219 | ϕ19 | Keyway 6 x 30 | 40 |

## Motor Wiring Diagram

Motor Wire Colors



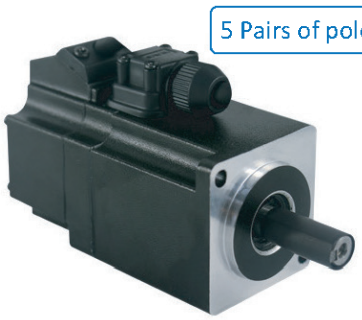

Definitions of Encoder Lead Colors

| | | |
|---|---|---|
| 1 | yellow | EB+ |
| 2 | green | EB- |
| 3 | black | EA+ |
| 4 | blue | EA- |
| 5 | Red | +5VCC |
| 6 | White | EGND |

## Notes

1. Phases shall be correctly connected while connecting motor and the Driver.
2. Obvious heat generation of motor may occur under different driving conditions. Surface temperature of motor is allowed to exceed 85°C during operation.
3. Motor must be positioned by installation rabbet on front cover of motor, attention shall be paid on error matching, and the concentricity between motor shaft and load shall be controlled strictly.

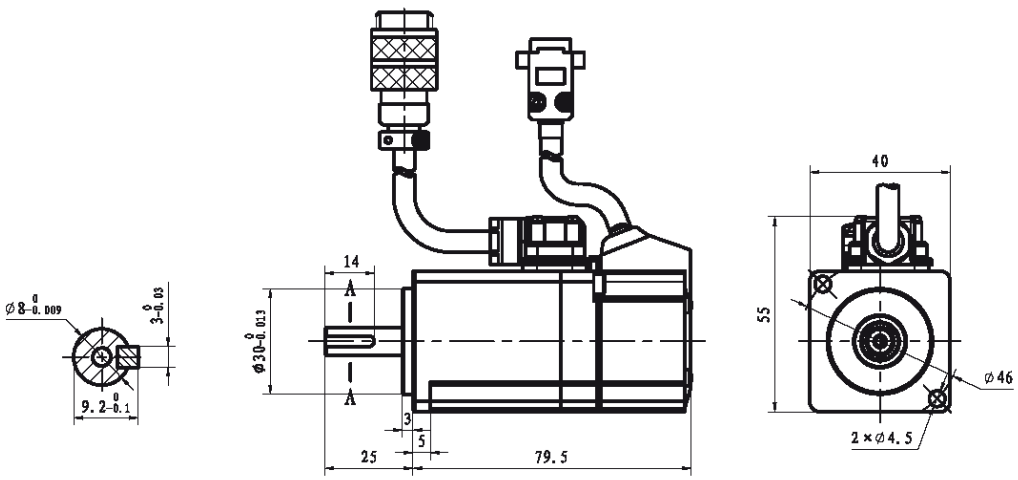
## 40 Series DC 5 Pairs of Poles Servo Motor



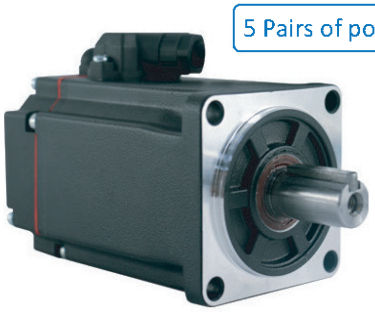

### Technical Specifications

| Motor model | LCMT-01SLC02NB-40M00330DC |
|---|---|
| Rated power(KW) | 0.1 |
| Rated voltage(V) | 24 |
| Rated current (A) | 6 |
| Rated speed(rpm) | 3000 |
| Holding torque (N.m) | 0.32 |
| Peak torque (N.m) | 0.64 |
| Voltage constant(V/1000r/min) | 3.2 |
| Torque coefficient (N.m/A) | 0.05 |
| Rotor inertia ($Kg.m^2$) | $0.053 \times 10^{-4}$ |
| Phase Resistance(Ω) | 0.4 |
| Phase Inductance (mH) | 0.38 |
| Mechanical time-constant (Ms) | 0.95 |
| Weight(Kg) | 0.5 |
| Encoder line number(PPR) | 2500 |
| Insulation class | Class B(130°C) |
| Safety class | IP65 |

### Appearance and Installation Dimensions (Unit: mm)



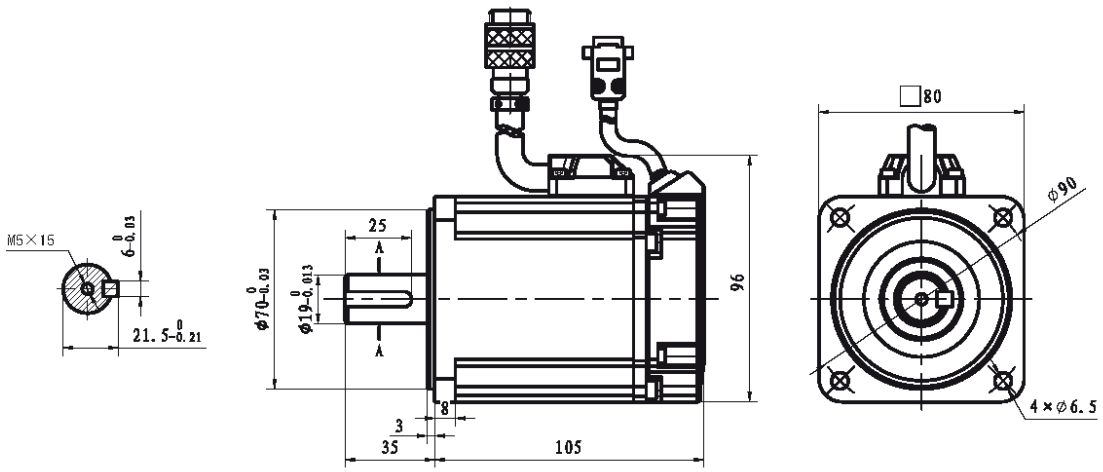
## 60 Series DC 5 Pairs of Poles Servo Motor




### Technical Specifications

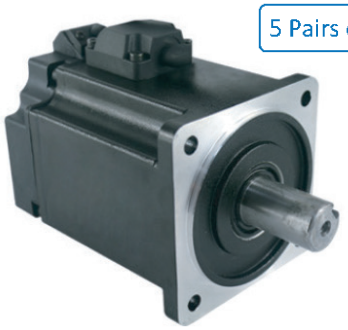
| Motor model | LCMT-02SLC02NB-60M00630DC | LCMT-04SLC02NB-60M01330DC |
|---|---|---|
| Rated power(KW) | 0.2 | 0.4 |
| Rated voltage(V) | 48 | 48 |
| Rated current (A) | 6 | 10 |
| Rated speed(rpm) | 3000 | 3000 |
| Holding torque (N.m) | 0.637 | 1.27 |
| Peak torque (N.m) | 1.91 | 3.81 |
| Voltage constant(V/1000r/min) | 7.7 | 8.6 |
| Torque coefficient (N.m/A) | 0.106 | 0.127 |
| Rotor inertia ($Kg.m^2$) | $0.3 \times 10^{-4}$ | $0.53 \times 10^{-4}$ |
| Phase Resistance(Ω) | 0.63 | 0.39 |
| Phase Inductance (mH) | 1.12 | 0.72 |
| Mechanical time-constant (Ms) | 1.77 | 1.8 |
| Weight(Kg) | 1.0 | 1.4 |
| Encoder line number(PPR) | 2500 | |
| Insulation class | Class B(130°C) | |
| Safety class | IP65 | |

### Appearance and Installation Dimensions (Unit: mm)



## 80 Series DC 5 Pairs of Poles Servo Motor

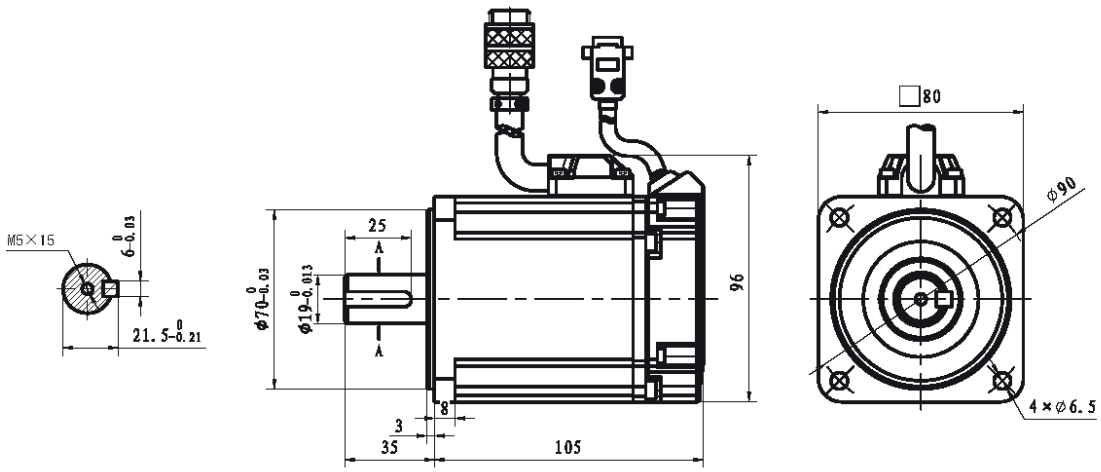
5 Pairs of poles



### Technical Specifications

| Motor model | LCMT-07SLC02NB-80M02430DC |
|---|---|
| Rated power(KW) | 0.75 |
| Rated voltage(V) | 48 |
| Rated current (A) | 19 |
| Rated speed(rpm) | 3000 |
| Holding torque (N.m) | 2.4 |
| Peak torque (N.m) | 4.8 |
| Voltage constant(V/1000r/min) | 8 |
| Torque coefficient (N.m/A) | 0.13 |
| Rotor inertia (Kg.m$^2$) | 1.62 x 10$^{-4}$ |
| Phase Resistance(Ω) | 0.08 |
| Phase Inductance (mH) | 0.27 |
| Mechanical time-constant (Ms) | 3.4 |
| Weight(Kg) | 2.5 |
| Encoder line number(PPR) | 2500 |
| Insulation class | Class B(130°C) |
| Safety class | IP65 |

### Appearance and Installation Dimensions (Unit: mm)

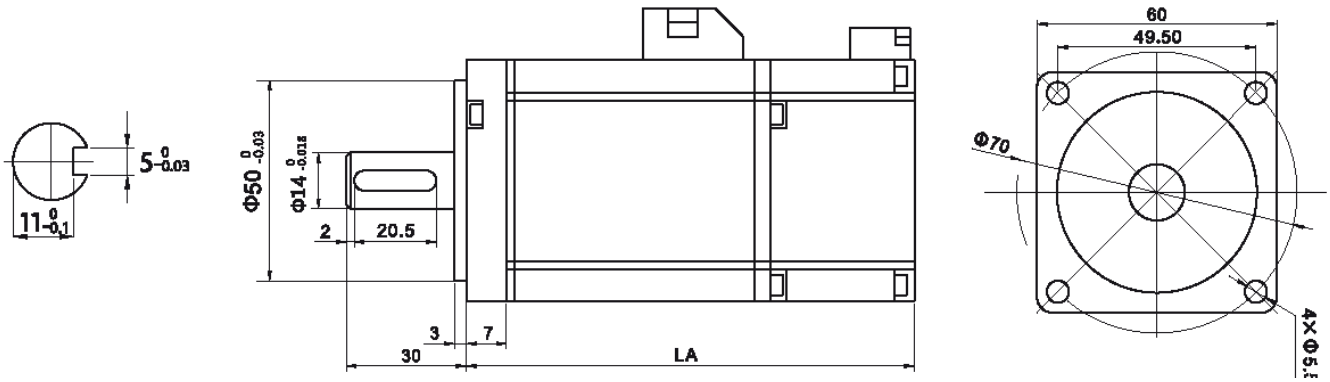


## 40 Series Servo Motors

### Technical Specifications

| Motor model | LCMT-005L□□-40M00130 | LCMT-01L□□-40M00330 |
|---|---|---|
| Rated power(KW) | 0.05 | 0.1 |
| Rated voltage(V) | 220 | 220 |
| Rated current (A) | 0.4 | 0.6 |
| Rated speed(rpm) | 3000 | 3000 |
| Holding torque (N.m) | 0.16 | 0.32 |
| Peak torque (N.m) | 0.32 | 0.64 |
| Voltage constant(V/1000r/min) | 36.8 | 32.8 |
| Torque coefficient (N.m/A) | 0.4 | 0.53 |
| Rotor inertia ($Kg.m^2$) | $0.025 \times 10^{-4}$ | $0.051 \times 10^{-4}$ |
| Phase Resistance(Ω) | 108 | 34 |
| Phase Inductance (mH) | 108 | 40 |
| Mechanical time-constant (Ms) | 1.0 | 1.18 |
| Weight(Kg) | 0.32 | 0.47 |
| Encoder line number(PPR) | 2500 / Absolute Value Encoder | |
| Insulation class | Class B(130°C) | |
| Safety class | IP64 | |

### Appearance and Installation Dimensions (Unit: mm)

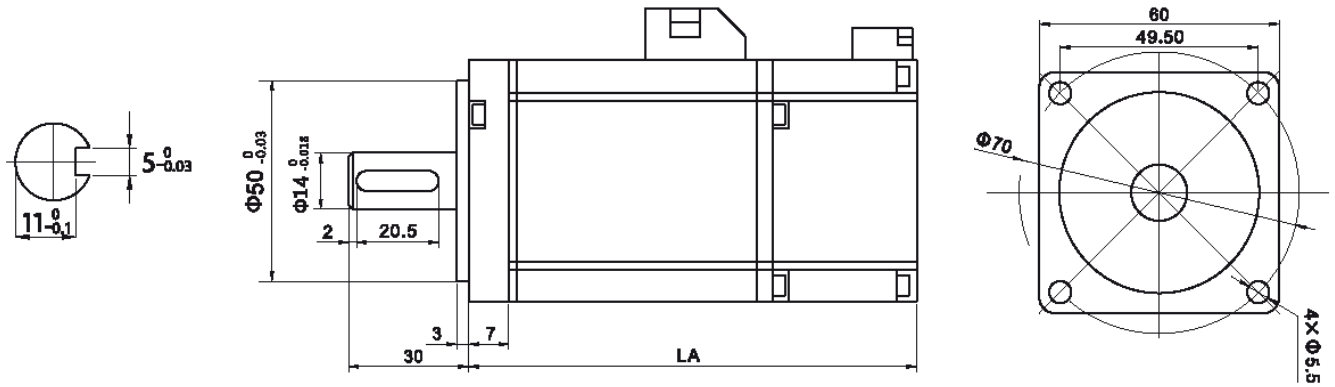


## 60 Series Servo Motors

### Technical Specifications

| Motor model | LCMT-02L□□-60M00630 | LCMT-04L□□-60M01330 | LCMT-06L□□-60M01930 |
|---|---|---|---|
| Rated power(KW) | 0.2 | 0.4 | 0.6 |
| Rated voltage(V) | 220 | 220 | 220 |
| Rated current (A) | 1.5 | 2.8 | 3.5 |
| Rated speed(rpm) | 3000 | 3000 | 3000 |
| Holding torque (N.m) | 0.637 | 1.27 | 1.91 |
| Peak torque (N.m) | 1.911 | 3.8 | 5.73 |
| Voltage constant(V/1000r/min) | 28 | 28 | 28 |
| Torque coefficient (N.m/A) | 0.42 | 0.5 | 0.55 |
| Rotor inertia ($Kg.m^2$) | $0.17 \times 10^{-4}$ | $0.302 \times 10^{-4}$ | $0.438 \times 10^{-4}$ |
| Phase Resistance(Ω) | 11.6 | 5.83 | 3.49 |
| Phase Inductance (mH) | 22 | 12.23 | 8.47 |
| Mechanical time-constant (Ms) | 1.9 | 2.1 | 2.4 |
| Weight(Kg) | 1.11 | 1.33 | 1.78 |
| Encoder line number(PPR) | 2500 / Absolute Value Encoder | | |
| Insulation class | Class B(130°C) | | |
| Safety class | IP64 | | |

### Appearance and Installation Dimensions (Unit: mm)

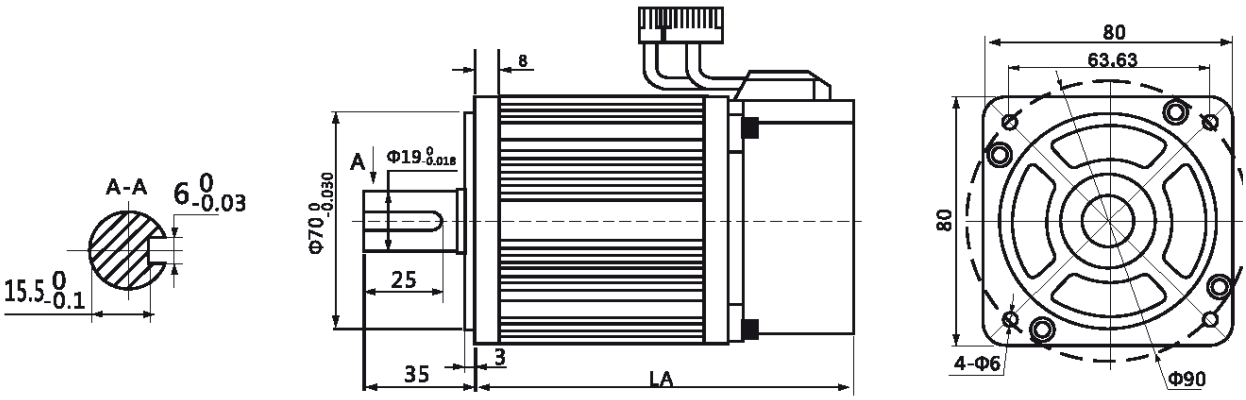


## 80 Series Servo Motors

### Technical Specifications

| Motor model | LCMT-04L□□-80M01330 | LCMT-07L□□-80M02430 | LCMT-07M□□-80M03520 | LCMT-10L□□-80M04025 |
|---|---|---|---|---|
| Rated power(KW) | 0.4 | 0.75 | 0.75 | 1.0 |
| Rated voltage(V) | 220 | 220 | 220 | 220 |
| Rated current (A) | 2.0 | 3.0 | 3.0 | 4.4 |
| Rated speed(rpm) | 3000 | 3000 | 2000 | 2500 |
| Holding torque(N.m) | 1.27 | 2.39 | 3.5 | 4.0 |
| Peak torque(N.m) | 3.8 | 7.1 | 10.5 | 12 |
| Peak current(A) | 6.0 | 9.0 | 9.0 | 13.2 |
| Voltage constant(V/1000r/min) | 40 | 48 | 71 | 56 |
| Torque coefficient(N.m/A) | 0.64 | 0.8 | 1.17 | 0.9 |
| Rotor inertia ($Kg.m^2$) | $1.05 \times 10^{-4}$ | $1.82 \times 10^{-4}$ | $2.63 \times 10^{-4}$ | $2.97 \times 10^{-4}$ |
| Phase Resistance(Ω) | 4.44 | 2.88 | 3.65 | 1.83 |
| Phase Inductance(mH) | 7.93 | 6.4 | 8.8 | 4.72 |
| Mechanical time-constant (Ms) | 1.66 | 2.22 | 2.4 | 2.58 |
| Weight(Kg) | 1.78 | 2.86 | 3.7 | 3.8 |
| Encoder line number(PPR) | 2500 / Absolute Value Encoder | | | |
| Insulation class | Class B(130°C) | | | |
| Safety class | IP65 | | | |

### Appearance and Installation Dimensions (Unit: mm)

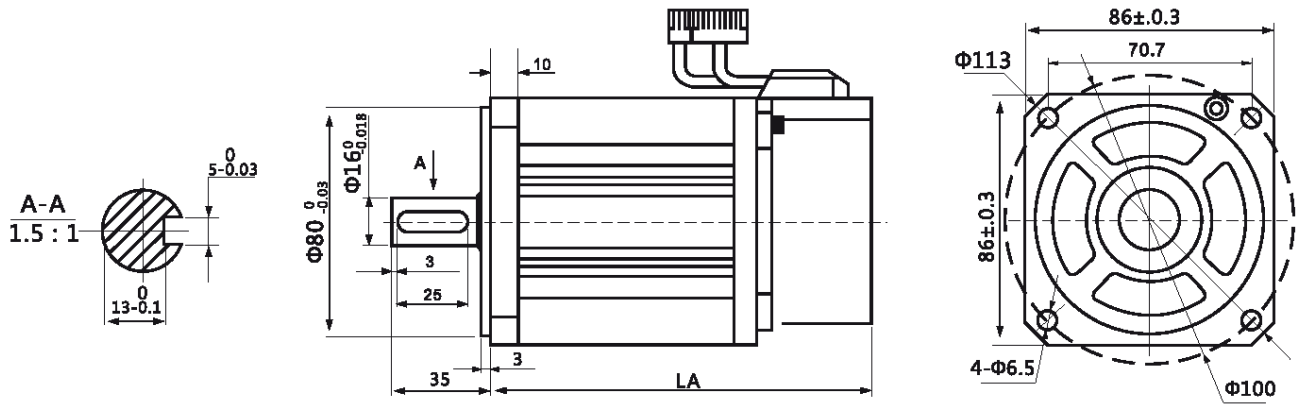


## 90 Series Servo Motors

### Technical Specifications

| Motor model | LCMT-07L□□-90M02430 | LCMT-07M□□-90M03520 | LCMT-10L□□-90M04025 |
|---|---|---|---|
| Rated power(KW) | 0.75 | 0.75 | 1.0 |
| Rated voltage(V) | 220 | 220 | 220 |
| Rated current (A) | 3.0 | 3.0 | 4.0 |
| Rated speed(rpm) | 3000 | 2000 | 2500 |
| Holding torque(N.m) | 2.4 | 3.5 | 4.0 |
| Peak torque(N.m) | 7.1 | 10.5 | 12 |
| Peak current(A) | 9.0 | 7.5 | 12 |
| Voltage constant(V/1000r/min) | 51 | 67 | 60 |
| Torque coefficient(N.m/A) | 0.8 | 1.2 | 1.0 |
| Rotor inertia ($Kg.m^2$) | $2.45 \times 10^{-4}$ | $3.4 \times 10^{-4}$ | $3.7 \times 10^{-4}$ |
| Phase Resistance(Ω) | 3.2 | 4.06 | 2.69 |
| Phase Inductance(mH) | 7.0 | 9.7 | 6.21 |
| Mechanical time-constant (Ms) | 2.2 | 2.39 | 2.3 |
| Weight(Kg) | 3.4 | 3.8 | 4.13 |
| Encoder line number(PPR) | 2500 / Absolute Value Encoder | | |
| Insulation class | Class B(130°C) | | |
| Safety class | IP66 | | |

### Appearance and Installation Dimensions (Unit: mm)



## 110 Series Servo Motors

## Technical Specifications

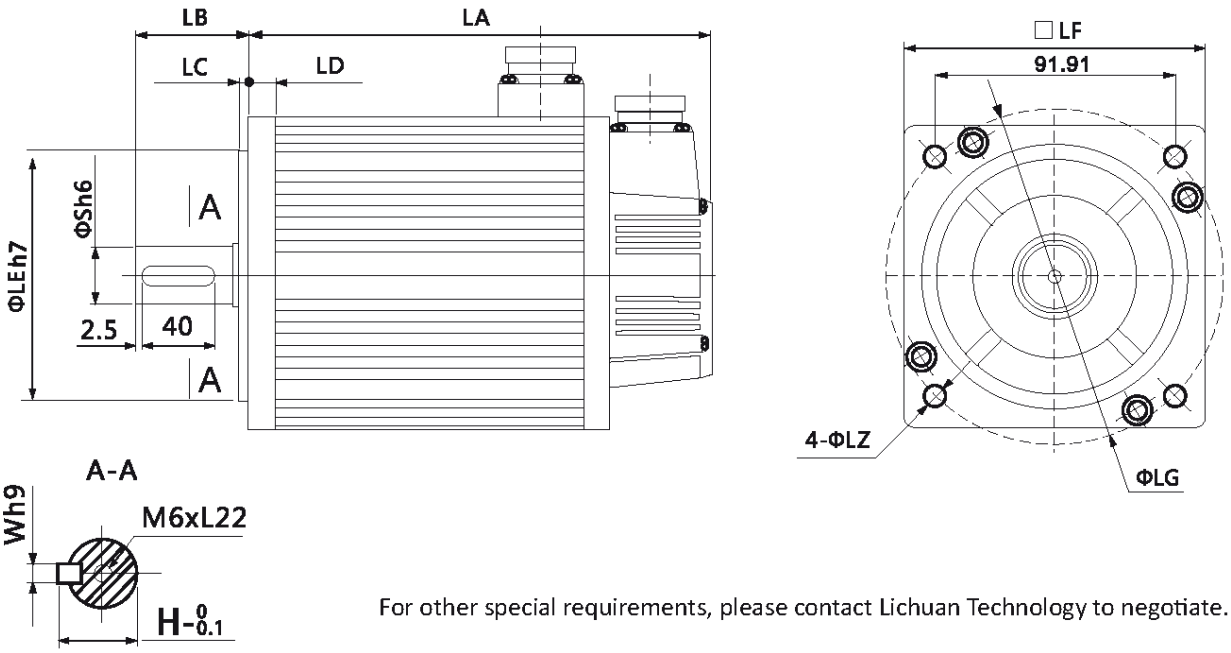
| Motor model | LCMT-06L□□ -110M02030 | LCMT-08L□□ -110M04020 | LCMT-12L□□ -110M04030 | LCMT-15L□□ -110M05030 | LCMT-12L□□ -110M06020 | LCMT-18L□□ -110M06030 |
|---|---|---|---|---|---|---|
| Rated power(KW) | 0.6 | 0.8 | 1.2 | 1.5 | 1.2 | 1.8 |
| Rated voltage(V) | 220 | 220 | 220 | 220 | 220 | 220 |
| Rated current (A) | 2.5 | 3.5 | 5.0 | 6.0 | 4.5 | 6.0 |
| Rated speed(rpm) | 3000 | 2000 | 3000 | 3000 | 2000 | 3000 |
| Holding torque(N.m) | 2.0 | 4.0 | 4.0 | 5.0 | 6.0 | 6.0 |
| Peak torque(N.m) | 6.0 | 12 | 12 | 15 | 12 | 18 |
| Voltage constant (V/1000r/min) | 56 | 79 | 54 | 62 | 83 | 60 |
| Torque coefficient(N.m/A) | 0.8 | 1.14 | 0.8 | 0.83 | 1.3 | 1.0 |
| Rotor inertia ($Kg.m^2$) | $0.31 \times 10^{-3}$ | $0.54 \times 10^{-3}$ | $0.54 \times 10^{-3}$ | $0.63 \times 10^{-3}$ | $0.76 \times 10^{-3}$ | $0.76 \times 10^{-3}$ |
| Phase Resistance(Ω) | 3.6 | 2.41 | 1.09 | 1.03 | 1.46 | 0.81 |
| Phase Inductance(mH) | 8.32 | 7.3 | 3.3 | 3.43 | 4.7 | 2.59 |
| Mechanical time-constant (Ms) | 2.3 | 3.0 | 3.0 | 3.33 | 3.2 | 3.2 |
| Weight(Kg) | 4.5 | 5.2 | 5.5 | 6.1 | 6.7 | 6.7 |
| Encoder line number(PPR) | 2500 / Absolute Value Encoder | | | | | |
| Insulation class | Class B(130°C) | | | | | |
| Safety class | IP65 | | | | | |
| Use environment | Temperature:-20°C~ + 50°C Humidity: Below 90% RH No dewing | | | | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Motor winding plug | Winding lead wire | U | | | V | | | W | | | PE | | | | |
| | Plug serial number | 2 | | | 3 | | | 4 | | | 1 | | | | |
| Encoder plug | Signal lead wire | 5V | 0V | A + | B + | Z + | A - | B - | Z - | U + | V + | W + | U - | V - | W - | PE |
| | Plug serial number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 |

## Installation Notes

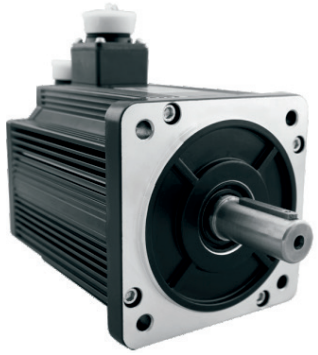
| 110 Series | | | | |
|---|---|---|---|---|
| Rated torque(N.m) | 2.0 | 4.0 | 5.0 | 6.0 |
| LA (Length) | 159 | 189 | 204 | 219 |
| LB (Shaft Length) | 55 | 55 | 55 | 55 |
| LC (Rabbet Depth) | 5.0 | 5.0 | 5.0 | 5.0 |
| LD (Flange Depth) | 12 | 12 | 12 | 12 |
| LE (Rabbet Diameter) | 95 | 95 | 95 | 95 |
| LF (Flange Size) | 110 | 110 | 110 | 110 |
| LG (Diagonal Pitch) | 130 | 130 | 130 | 130 |
| LZ (Installation Holes) | 9.0 | 9.0 | 9.0 | 9.0 |
| S (Shaft Diameter) | 19 | 19 | 19 | 19 |
| W (Key Slot Width) | 6.0 | 6.0 | 6.0 | 6.0 |
| H (Key to wheelbase) | 21.5 | 21.5 | 21.5 | 21.5 |
| Length of body with brake | 223 | 263 | 278 | 293 |

## Appearance and Installation Dimensions (Unit: mm)




For other special requirements, please contact Lichuan Technology to negotiate.

## 130 Series Servo Motors



## Technical Specifications

| Motor model | LCMT-10L□□ -130M04025 | LCMT-13L□□ -130M05025 | LCMT-15L□□ -130M06025 | LCMT-20L□□ -130M07725 | LCMT-10M□□ -130M10010 | LCMT-15M□□ -130M10015 | LCMT-26M□□ -130M10025 | LCMT-23M□□ -130M15015 | LCMT-30M□□ -130M15020 | LCMT-38M□□ -130M15025 |
|---|---|---|---|---|---|---|---|---|---|---|
| Rated power(KW) | 1.0 | 1.3 | 1.5 | 2.0 | 1.0 | 1.5 | 2.6 | 2.3 | 3.0 | 3.8 |
| Rated voltage(V) | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 |
| Rated current (A) | 4.0 | 5.0 | 6.0 | 7.5 | 4.5 | 6.0 | 10 | 9.5 | 12 | 13.5 |
| Rated speed(rpm) | 2500 | 2500 | 2500 | 2500 | 1000 | 1500 | 2500 | 1500 | 2000 | 2500 |
| Holding torque(N.m) | 4.0 | 5.0 | 6.0 | 7.7 | 10 | 10 | 10 | 15 | 15 | 15 |
| Peak torque(N.m) | 12 | 16 | 18 | 22 | 20 | 25 | 25 | 30 | 30 | 30 |
| Voltage constant (V/1000r/min) | 72 | 68 | 65 | 68 | 140 | 103 | 70 | 114 | 80 | 67 |
| Torque coefficient (N.m/A) | 1.0 | 1.0 | 1.0 | 1.03 | 2.2 | 1.67 | 1.0 | 1.58 | 1.25 | 1.11 |
| Rotor inertia (Kg.m$^2$) | 0.85 x $10^{-3}$ | 1.06 x $10^{-3}$ | 1.26 x $10^{-3}$ | 1.53 x $10^{-3}$ | 1.94 x $10^{-3}$ | 1.94 x $10^{-3}$ | 1.94 x $10^{-3}$ | 2.77 x $10^{-3}$ | 2.77 x $10^{-3}$ | 2.77 x $10^{-3}$ |
| Phase Resistance(Ω) | 2.76 | 1.84 | 1.21 | 1.01 | 2.7 | 1.29 | 0.73 | 1.1 | 0.64 | 0.49 |
| Phase Inductance(mH) | 6.42 | 4.9 | 3.87 | 2.94 | 8.8 | 5.07 | 2.45 | 4.45 | 4.45 | 1.68 |
| Mechanical time-constant (Ms) | 2.32 | 2.66 | 3.26 | 3.80 | 3.26 | 3.93 | 3.36 | 4.05 | 4.05 | 3.43 |
| Weight(Kg) | 7.7 | 8.2 | 8.9 | 10 | 11.5 | 11.5 | 11.5 | 14.4 | 14.4 | 14.4 |
| Encoder line number (PPR) | 2500 / Absolute Value Encoder | | | | | | | | | |
| Insulation class | Class B(130°C) | | | | | | | | | |
| Safety class | IP66 | | | | | | | | | |
| Use environment | Temperature:-20°C~ + 50°C Humidity: Below 90% RH No dewing | | | | | | | | | |

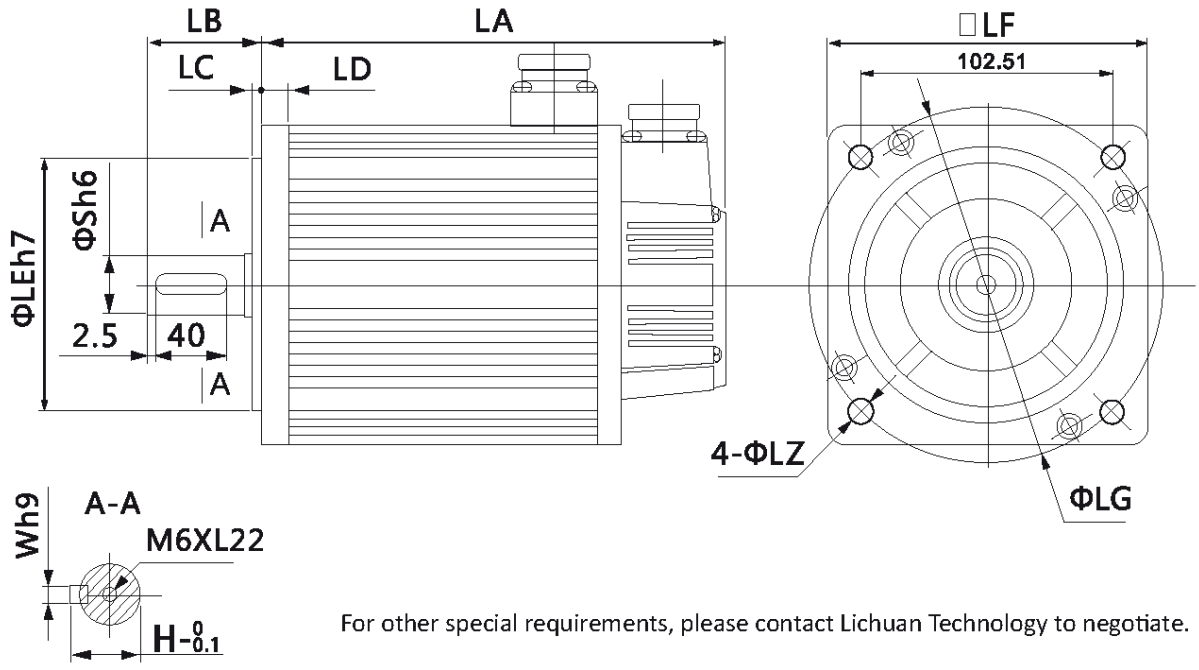
| Motor winding plug | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Winding lead wire | U | | | | V | | | | W | | | | PE | | |
| | Plug serial number | 2 | | | | 3 | | | | 4 | | | | 1 | | |
| Encoder plug | Signal lead wire | 5V | 0V | A + | B + | Z + | A - | B - | Z - | U + | V + | W + | U - | V - | W - | PE |
| | Plug serial number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 |

130 Series Servo Motors

## Installation Notes

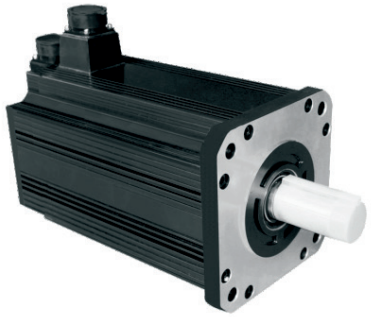
| 130 Series | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Rated torque(N.m) | 4.0 | 5.0 | 6.0 | 7.7 | 10 | | | 15 | | |
| | | | | | 1000rpm | 1500rpm | 2500rpm | 1500rpm | 2000rpm | 2500rpm |
| LA (Length) | 166 | 171 | 179 | 192 | 213 | | 209 | 241 | 231 | |
| LB (Shaft Length) | 57 | 57 | 57 | 57 | 57 | | 57 | 57 | 57 | |
| LC (Rabbet Depth) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | |
| LD (Flange Depth) | 14 | 14 | 14 | 14 | 14 | | 14 | 14 | 14 | |
| LE (Rabbet Diameter) | 110 | 110 | 110 | 110 | 110 | | 110 | 110 | 110 | |
| LF (Flange Size) | 130 | 130 | 130 | 130 | 130 | | 130 | 130 | 130 | |
| LG (Diagonal Pitch) | 145 | 145 | 145 | 145 | 145 | | 145 | 145 | 145 | |
| LZ (Installation Holes) | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | | 9.0 | 9.0 | 9.0 | |
| S (Shaft Diameter) | 22 | 22 | 22 | 22 | 22 | | 22 | 22 | 22 | |
| W (Key Slot Width) | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | | 6.0 | 6.0 | 6.0 | |
| H (Key to wheelbase) | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | | 24.5 | 24.5 | 24.5 | |
| Length of body with brake | 223 | 228 | 236 | 249 | 294 | | 290 | 322 | 312 | |

## Appearance and Installation Dimensions (Unit: mm)




For other special requirements, please contact Lichuan Technology to negotiate.

## 180 Series Servo Motors



## Technical Specifications

| Motor model | LCMT-27M□□-180M17215 | | LCMT-30M□□-180M19015 | | LCMT-45M□□-180M21520 | | LCMT-29M□□-180M27010 | |
|---|---|---|---|---|---|---|---|---|
| Rated power(KW) | 2.7 | | 3.0 | | 4.5 | | 2.9 | |
| Rated voltage(V) | 220 | 380 | 220 | 380 | 220 | 380 | 220 | 380 |
| Rated current (A) | 10.5 | 6.5 | 12 | 7.5 | 16 | 9.5 | 12 | 7.5 |
| Rated speed(rpm) | 1500 | | 1500 | | 2000 | | 1000 | |
| Holding torque(N.m) | 17.2 | | 19 | | 21.5 | | 27 | |
| Peak torque(N.m) | 43 | | 47 | | 53 | | 67 | |
| Voltage constant (V/1000r/min) | 112 | 167 | 94 | 158 | 84 | 140 | 138 | 224 |
| Torque coefficient(N.m/A) | 1.64 | 2.65 | 1.58 | 2.5 | 1.34 | 2.26 | 2.25 | 3.6 |
| Rotor inertia ($Kg.m^2$) | $3.4 \times 10^{-3}$ | | $3.8 \times 10^{-3}$ | | $4.7 \times 10^{-3}$ | | $6.1 \times 10^{-3}$ | |
| Phase Resistance(Ω) | 0.7 | 1.47 | 0.4 | 1.15 | 0.24 | 0.71 | 0.48 | 1.37 |
| Phase Inductance(mH) | 3.5 | 7.8 | 2.42 | 6.4 | 1.45 | 4.0 | 3.26 | 8.6 |
| Mechanical time-constant (Ms) | 5.0 | 5.3 | 6.0 | 5.57 | 6.0 | 5.6 | 6.79 | 6.27 |
| Weight(Kg) | 19.5 | | 20.5 | | 22.2 | | 25.5 | |
| Encoder line number(PPR) | 2500 / Absolute Value Encoder | | | | | | | |
| Insulation class | Class B(130°C) | | | | | | | |
| Safety class | IP66 | | | | | | | |
| Use environment | Temperature:-20°C~ + 50°C Humidity: Below 90% RH No dewing | | | | | | | |

| Motor winding plug | | | | | |
|---|---|---|---|---|---|
| | Winding lead wire | U | V | W | PE |
| | Plug serial number | 2 | 3 | 4 | 1 |

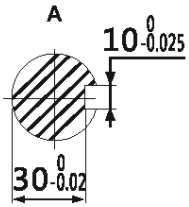
| Encoder plug | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Signal lead wire | 5V | 0V | A + | B + | Z + | A - | B - | Z - | U + | V + | W + | U - | V - | W - | PE |
| | Plug serial number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 |

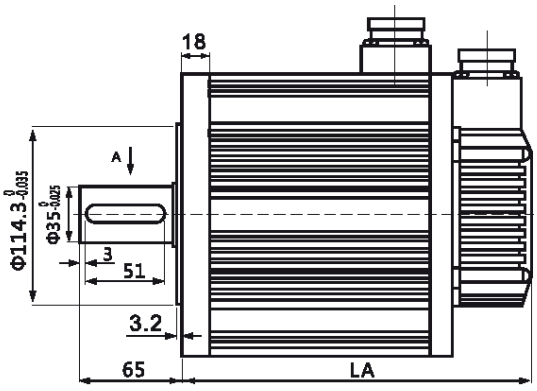
## 180 Series Servo Motors

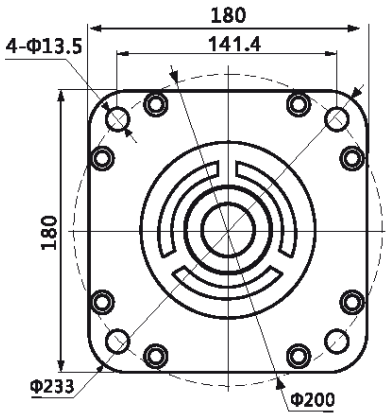
### Installation Notes

| Motor model | LCMT-43M□□-180M27015 | | LCMT-37M□□-180M35010 | | LCMT-55M□□-180M35015 | | LCMT-75M□□-180M48015 | |
|---|---|---|---|---|---|---|---|---|
| Rated power(KW) | 4.3 | | 3.7 | | 5.5 | | 7.5 | |
| Rated voltage(V) | 220 | 380 | 220 | 380 | 220 | 380 | 220 | 380 |
| Rated current (A) | 16 | 10 | 16 | 10 | 19 | 12 | 32 | 20 |
| Rated speed(rpm) | 1500 | | 1000 | | 1500 | | 1500 | |
| Holding torque(N.m) | 27 | | 35 | | 35 | | 48 | |
| Peak torque(N.m) | 67 | | 70 | | 70 | | 96 | |
| Voltage constant (V/1000r/min) | 103 | 172 | 134 | 223 | 113 | 181 | 94 | 156 |
| Torque coefficient(N.m/A) | 1.69 | 2.7 | 2.2 | 3.5 | 1.84 | 2.9 | 1.5 | 2.4 |
| Rotor inertia ($Kg.m^2$) | $6.1 \times 10^{-3}$ | | $8.6 \times 10^{-3}$ | | $8.6 \times 10^{-3}$ | | $9.5 \times 10^{-3}$ | |
| Phase Resistance(Ω) | 0.28 | 0.796 | 0.31 | 0.93 | 0.21 | 0.62 | 0.104 | 0.273 |
| Phase Inductance(mH) | 1.74 | 4.83 | 3.28 | 9.1 | 1.57 | 4.0 | 0.77 | 2.14 |
| Mechanical time-constant (Ms) | 6.2 | 6.0 | 10.58 | 9.78 | 7.47 | 6.45 | 7.4 | 7.8 |
| Weight(Kg) | 25.5 | | 30.5 | | 30.5 | | 40 | |

### Appearance and Installation Dimensions (Unit: mm)



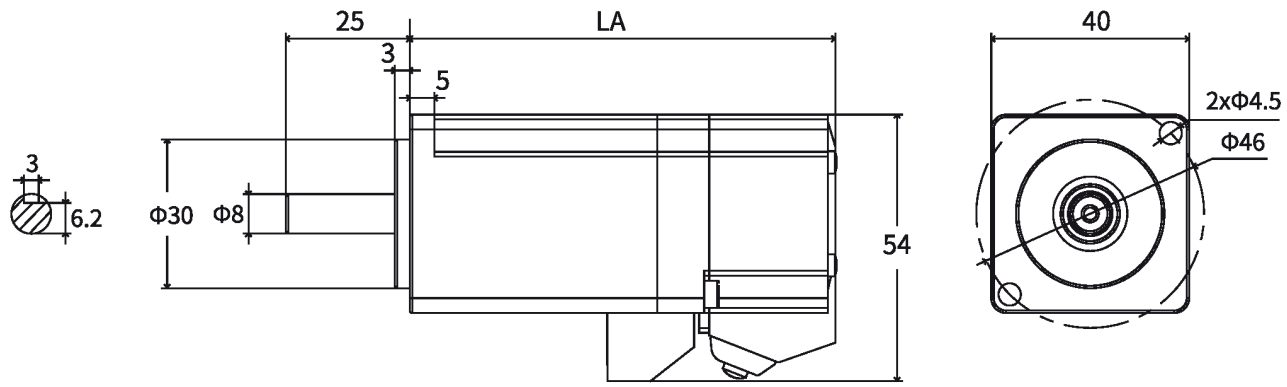

| Specifications (Torque) | 17.2N.m | 19N.m | 21.5N.m | 27N.m | 35N.m | 48N.m |
|---|---|---|---|---|---|---|
| LA (Length) | 226 | 232 | 243 | 262 | 292 | 346 |
| Length of Motor with Brake | 298 | 304 | 315 | 334 | 364 | 418 |

## 40 Series 5 Pairs of Poles Servo Motors

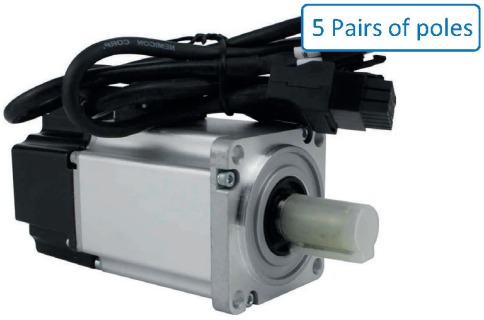

### Technical Specifications

| Motor model | LCMT-005SLC17□□-40M00130B | LCMT-01SLC17□□-40M00330B |
|---|---|---|
| Rated power(KW) | 0.05 | 0.1 |
| Rated voltage(V) | 220 | 220 |
| Rated current (A) | 0.8 | 1.1 |
| Rated speed(rpm) | 3000 | 3000 |
| Holding torque (N.m) | 0.16 | 0.32 |
| Peak torque (N.m) | 0.48 | 0.95 |
| Voltage constant(V/1000r/min) | 19 | 20 |
| Torque coefficient (N.m/A) | 0.2 | 0.29 |
| Rotor inertia (Kg.m$^2$) | 0.035 x $10^{-4}$ | 0.06 x $10^{-4}$ |
| Phase Resistance(Ω) | 19.7 | 10.5 |
| Phase Inductance (mH) | 41 | 8.9 |
| Mechanical time-constant (Ms) | 2.0 | 0.85 |
| Weight(Kg) | 0.6 | 0.8 |
| Encoder line number(PPR) | 17 Bit incremental / 17 Bit absolute encoder | |
| Insulation class | Class F | |
| Safety class | IP65 | |

### Appearance and Installation Dimensions (Unit: mm)



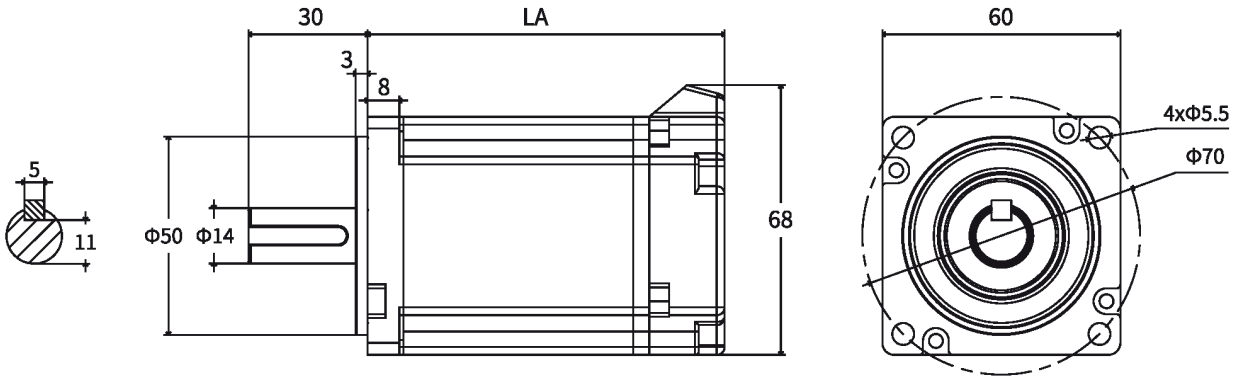
## 60 Series 5 Pairs of Poles Servo Motors




### Technical Specifications

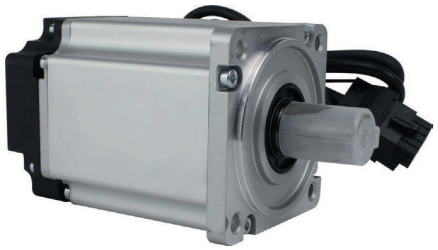
| Motor model | LCMT-02SLC17□□-60M00630B | LCMT-04SLC17□□-60M01330B | LCMT-06SLC17□□-60M01930B |
|---|---|---|---|
| Rated power(KW) | 0.2 | 0.4 | 0.6 |
| Rated voltage(V) | 220 | 220 | 220 |
| Rated current (A) | 1.6 | 2.5 | 3.3 |
| Rated speed(rpm) | 3000 | 3000 | 3000 |
| Holding torque (N.m) | 0.637 | 1.27 | 1.91 |
| Peak torque (N.m) | 1.92 | 3.81 | 5.73 |
| Voltage constant(V/1000r/min) | 29.3 | 31.2 | 34.5 |
| Torque coefficient (N.m/A) | 0.4 | 0.5 | 0.75 |
| Rotor inertia (Kg.m$^2$) | 0.3 x $10^{-4}$ | 0.52 x $10^{-4}$ | 0.58 x $10^{-4}$ |
| Phase Resistance(Ω) | 8.9 | 3.5 | 3.4 |
| Phase Inductance (mH) | 13.5 | 5.8 | 6.4 |
| Mechanical time-constant (Ms) | 1.52 | 1.66 | 1.88 |
| Weight(Kg) | 0.72 | 1.06 | 1.2 |
| Encoder line number(PPR) | 2500 / 17 Bit incremental / 17 Bit absolute encoder | | |
| Insulation class | Class F | | |
| Safety class | IP65 | | |

### Appearance and Installation Dimensions (Unit: mm)



## 80 Series 5 Pairs of Poles Servo Motors

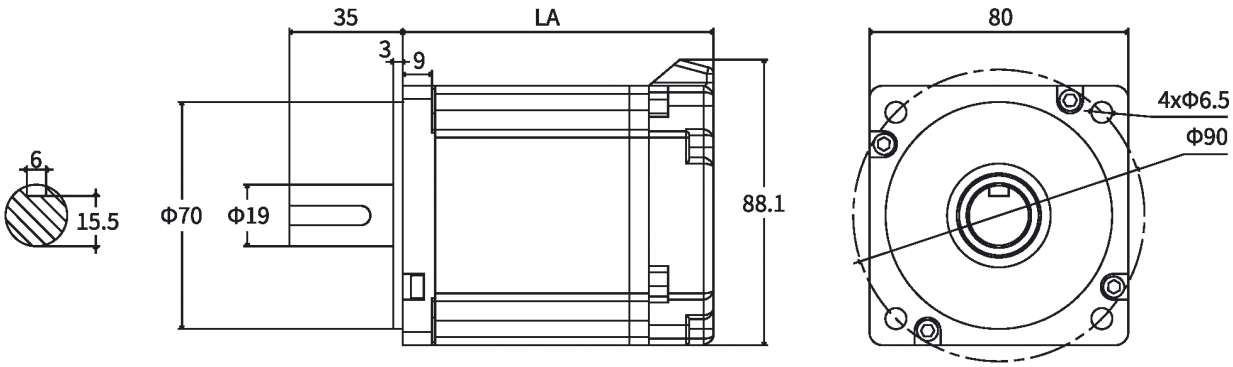
5 Pairs of poles



### Technical Specifications

| Motor model | LCMT-07SLC17□□-80M02430B | LCMT-10SLC17□□-80M03230B | LCMT-10SLC17□□-80M04025B |
|---|---|---|---|
| Rated power(KW) | 0.75 | 1.0 | 1.0 |
| Rated voltage(V) | 220 | 220 | 220 |
| Rated current (A) | 4.5 | 5.8 | 4.6 |
| Rated speed(rpm) | 3000 | 3000 | 2500 |
| Holding torque(N.m) | 2.39 | 3.2 | 4.0 |
| Peak torque(N.m) | 7.17 | 7.96 | 11.46 |
| Peak current(A) | 13.5 | 15.6 | 13.8 |
| Voltage constant(V/1000r/min) | 32.8 | 32.5 | 50.8 |
| Torque coefficient(N.m/A) | 0.53 | 0.55 | 0.83 |
| Rotor inertia (Kg.m$^2$) | 1.5 x 10$^{-4}$ | 1.55 x 10$^{-4}$ | 2.2 x 10$^{-4}$ |
| Phase Resistance(Ω) | 1.2 | 1.17 | 2.3 |
| Phase Inductance(mH) | 4.2 | 3.9 | 9.6 |
| Mechanical time-constant (Ms) | 3.5 | 3.33 | 4.2 |
| Weight(Kg) | 2.05 | 2.15 | 2.75 |
| Encoder line number(PPR) | 2500 / 17 Bit incremental / 17 Bit absolute encoder | | |
| Insulation class | Class F | | |
| Safety class | IP65 | | |

### Appearance and Installation Dimensions (Unit: mm)



## Integrated Stepper Motor

### Electrical Performance Parameters

3Phase

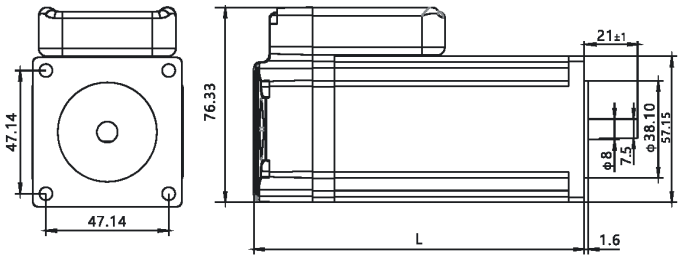
- Adopt advanced alternating current technology, effectively reduce heat generation of the Motor and driver
- Integrated motor and driver, save wiring labor and installation space;
- Over-voltage, under-voltage, over-current and out of error protection functions;
- Stable speed, small overshoot and tracking error, low heat generation of motor and driver;
- Single/double pulse mode, pulse effective edge is available;
- Pulse, direction and enable signal input port levels: 3.6~24V compatible;
- Serial port RS232 debugging function;
- Optical coupler isolation error signal input, strong anti-interference capacity;
- Pulse number of each round can be set through debugging software or dial (subdivision);
- Built-in microstep subdivision algorithm, realize low subdivision control order and high subdivision operation effects

### Technical Data

| Series | Step Angle (°) | Motor Length(mm) | Holding Torque(N.m) | Rated Current(A) | Rotor Inertia (g.cm$^2$) | Motor Weight (Kg) | Encoder Resolution(PPR) |
|---|---|---|---|---|---|---|---|
| TSS57-36V-10 | 1.8 | 90 | 1.0 | 3.0 | 300 | 1.2 | 1000 |
| TSS57-36V-20 | 1.8 | 110 | 2.0 | 3.5 | 500 | 1.6 | 1000 |
| TSS57-36V-30 | 1.8 | 130 | 3.0 | 4.0 | 720 | 2.0 | 1000 |
| TSM57-36V-10 | 1.8 | 90 | 1.0 | 3.0 | 300 | 1.2 | None |
| TSM57-36V-20 | 1.8 | 110 | 2.0 | 3.5 | 500 | 1.6 | None |
| TSM57-36V-30 | 1.8 | 130 | 3.0 | 4.0 | 720 | 2.0 | None |

Above are representative products. Products can be customized!

### Shape and installation size (unit:mm)




### Shaft Mode of Motor

| Model | Shaft Diameter(mm) | Shaft Extension(mm) | Shaft Length(mm) |
|---|---|---|---|
| TSS57-36V-10 | φ8 | D-cut 0.5 X 15 | 21 |
| TSS57-36V-20 | φ8 | D-cut 0.5 X 15 | 21 |
| TSS57-36V-30 | φ8 | D-cut 0.5 X 15 | 21 |
| TSM57-36V-10 | φ8 | D-cut 0.5 X 15 | 21 |
| TSM57-36V-20 | φ8 | D-cut 0.5 X 15 | 21 |
| TSM57-36V-30 | φ8 | D-cut 0.5 X 15 | 21 |

### Microstep Subdivision Settings

| Step/Turn | SW1 | SW2 | SW3 | SW4 |
|---|---|---|---|---|
| Default | on | on | on | on |
| 800 | off | on | on | on |
| 1600 | on | off | on | on |
| 3200 | off | off | on | on |
| 6400 | on | on | off | on |
| 12800 | off | on | off | on |
| 25600 | on | off | off | on |
| 51200 | off | off | off | on |
| 1000 | on | on | on | off |
| 2000 | off | on | on | off |
| 4000 | on | off | on | off |
| 5000 | off | off | on | off |
| 8000 | on | on | off | off |
| 10000 | off | on | off | off |
| 20000 | on | off | off | off |
| 40000 | off | off | off | off |

### Electric Parameters

| Class | TSS57/ TSM57 | | | |
|---|---|---|---|---|
| | Min | Type | Max | Unit |
| Input voltage | 24 | 36 | 40 | VDC |
| Drive current | 1 | - | 8 | A |
| Input Pulse Frequency | 1 | - | 200K | HZ |
| Input signal voltage | 3.6 | 5 | 24 (connect resistance) | VDC |
| Continuous on current | 4.5A20KHz PWM | | | |
| Default Communication Speed | 57.61Kbps | | | |
| Protection Function | 1. Over - current action peak value: 8A±10%<br>2. Over - voltage Action Value 60V DC<br>3. Out of Error Alarm Threshold | | | |

## Introduction of Planetary Reducer Series

### PLE Series Reducer (PLE060 PLE090 PLE120 P LE160 PLE190)

| | |
|---|---|
| 4 Sizes Available | 60mm, 90mm, 120mm, 160mm |
| Rated Output Torque | 8.5N.m ~ 680N.m |
| Deceleration Ratio Single Grade | 3, 4, 5, 7, 10 |
| Double Stage | 12, 16, 20, 25, 28, 35, 40, 50, 70, 100 |
| Class 3 | 80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000 |
| Feedback Back Lash Single Grade | Precision Back Lash < 3 arc-min Standard Back Lash < 8 arc-min |
| Double Stage | Precision Back Lash < 5 arc-min Standard Back Lash < 10 arc-min |
| Class 3 | Precision Back Lash < 8 arc-min Standard Back Lash < 12 arc-min |

### PLF Series Reducer (PLF060 PLF090 PLF120 PLF160 PLF190)

| | |
|---|---|
| 4 Sizes Available | 60mm, 90mm, 120mm, 160mm |
| Rated Output Torque | 8.5N.m ~ 680N.m |
| Deceleration Ratio Single Grade | 3, 4, 5, 7, 10 |
| Double Stage | 12, 16, 20, 25, 28, 35, 40, 50, 70, 100 |
| Class 3 | 80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000 |
| Feedback Back Lash Single Grade | Precision Back Lash < 3 arc-min Standard Back Lash < 8 arc-min |
| Double Stage | Precision Back Lash < 5 arc-min Standard Back Lash < 10 arc-min |
| Class 3 | Precision Back Lash < 8 arc-min Standard Back Lash < 12 arc-min |

### ZPLE Series Reducer (ZPLE060 ZPLE090 ZPLE120 ZPLE160)

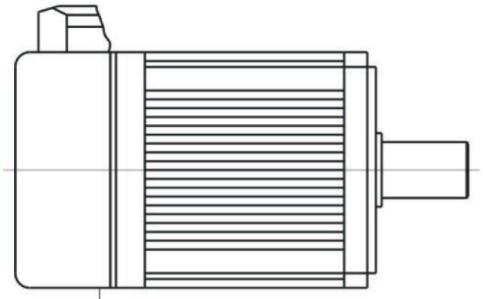
| | |
|---|---|
| 4 Sizes Available | 60mm, 90mm, 120mm, 160mm |
| Rated Output Torque | 8.5N.m ~ 680N.m |
| Deceleration Ratio Single Grade | 3, 4, 5, 7, 10 |
| Double Stage | 12, 16, 20, 25, 28, 35, 40, 50, 70, 100 |
| Class 3 | 80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000 |
| Feedback Back Lash Single Grade | Precision Back Lash < 3 arc-min Standard Back Lash < 8 arc-min |
| Double Stage | Precision Back Lash < 5 arc-min Standard Back Lash < 10 arc-min |
| Class 3 | Precision Back Lash < 8 arc-min Standard Back Lash < 12 arc-min |

### ZPLF Series Reduce r (ZPLF060 ZPLF090 ZPLF120 ZPLF160)

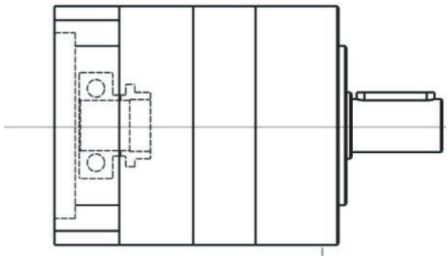
| | |
|---|---|
| 4 Sizes Available | 60mm, 90mm, 120mm, 160mm |
| Rated Output Torque | 8.5N.m ~ 680N.m |
| Deceleration Ratio Single Grade | 3, 4, 5, 7, 10 |
| Double Stage | 12, 16, 20, 25, 28, 35, 40, 50, 70, 100 |
| Class 3 | 80, 100, 125, 140, 175, 200, 250, 350, 400, 500, 700, 1000 |
| Feedback Back Lash Single Grade | Precision Back Lash < 3 arc-min Standard Back Lash < 8 arc-min |
| Double Stage | Precision Back Lash < 5 arc-min Standard Back Lash < 10 arc-min |
| Class 3 | Precision Back Lash < 8 arc-min Standard Back Lash < 12 arc-min |

## Introduction of Planetary Reducer Series

### PLE Series Reducer (PLE060 PLE090 PLE120 P LE160 PLE190)

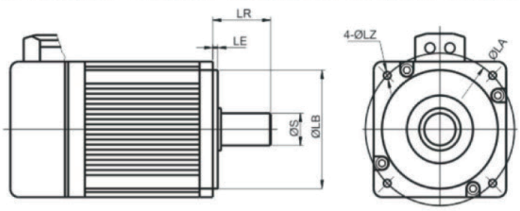


Motor Information



Reducer Information

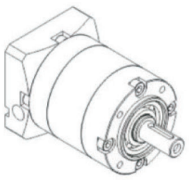
While matching reducer, motor installation dimensions shall be provided ΦS*LR/Φ LB*LE/4-ΦLZ-ΦLA While calibrating the reasonableness of matching of motor and reducer, more detailed parameters shall be provided (such as rated speed, rated torque, max torque and etc.)



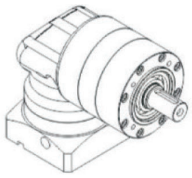

PLE060 - L1 - 5 - S2 - P2 - T/Motor Size or Drawing

| Specification of reducer | STAGE(S) | Speed ratio | Output Shaft Form | Accuracy class | Special Non-standard | Motor Size |
|---|---|---|---|---|---|---|
| Select from Introduction of Product Series | L1: Level 1<br>L2: Level 2<br>L3: Level 3 | Select from Table of Parameters of Reducer Models | S2: Single-key Shaft<br>S1: Optical Shaft<br>K: Hallow Single-key Shaft | P2: Standard<br>P1: Precision<br>P0: High-precision | | |

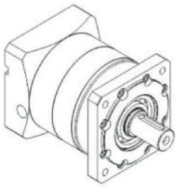
### PLE Series Reducer (PLE060 PLE090 PLE120 P LE160 PLE190)



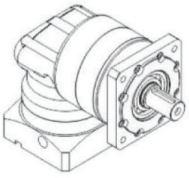
PLE060-L1-5-S2-P2/ϕ14*30/ϕ50*3/4-ϕ4.5-ϕ70



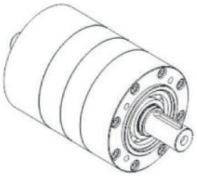
ZPLE090-L1-5-S2-P2/ϕ19*40/ϕ70*3/4-ϕ6.5-ϕ90



PLF090-L2-50-S1-P1/ϕ19*40/ϕ70*3/4-ϕ6.5-ϕ90



ZPLF090-L1-5-S1-P/ϕ19*40/ϕ70*3/4-ϕ6.5-ϕ90



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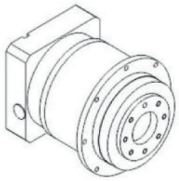

PLH120-L2-50-S2-P1/ϕ22*55/ϕ110*3/4-ϕ9-ϕ145

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