

Bergerda AC servo system catalogue v2.6



- AC servo
- Stepping drive motor
- Induction asynchronous servo
- Linear motor drive
- Industry-specific servo
- Control product integration customization

Serving customers and adding value to customers

Company Profile

Hangzhou Bergerda Automation Technology Co., Ltd. is located in a beautiful paradise on earth - Hangzhou, China. It is a high-tech enterprise that provides global customers with servo, stepping, frequency conversion, brushless motor drive control products, and industrial drive control solutions. Excellence in product development, efficient and high-quality production, enthusiastic and caring service. Always take the customer's needs as its responsibility.

Bergerda's motor control products include AC servo drives and servo motors, stepping drives and stepping motors, inductive asynchronous servo drives and motors, Brushless motor and drive, and custom control solutions for all types of industries. Widely used in textile packaging, CNC machine tools, printing, embroidery, sculpture, advertising, laser, electronics and other automated machinery. At present, there are twelve types of stepping systems, including B D E F four series, nearly 30 kinds of specifications servo systems, NS digital series and LS closed loop series. S series induction asynchronous servo, Brushless motor and drive (B L D C), T-series CNC turret-dedicated servos and P-series plastic machinery-specific servos and so on which include control and control integrated industrial solutions. We have become a professional company with a complete product line in Chinese motion control industry. Perfect pre-sale, sales, after-sales service, from customer design machine selection, equipment debugging, post-maintenance, always with patience, enthusiasm, professional service to return customers.

The company fully implements the concept of "professional, quality, and service". With high-tech products, excellent quality, and high-quality services, customers can be assured of their ease of use, adding value to customers and realizing the long-term development of the company.

Based in the domestic market, Bergerda has established sales and service networks in Zhejiang, Jiangsu, Guangdong, Fujian, Shandong, Hunan and Guangxi. In foreign markets, products are exported to the United States, Brazil, Colombia, Russia and other countries and regions.





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Drive Model

SD D 08 N K8 X
1 2 3 4 5 6

- 1、 AC servo driver
- 2、 Series code
C:EtherCAT Bus Type
D:Universal AC servo
F:absolute encoder AC servo
- 3、 Output power
08:0.8 KW
13:1.3KW
20:2KW
30:3KW
50:5KW
- 4、 Input voltage
N : 220v
H : 380V
- 5、 Shape code : KW、 K7、 K8、 K9、 K5 、K12
- 6、 Version identification code : D、X

Motor Model

80 F —B 02 30 G C L (A)—Z
1 2 3 4 5 6 7 8 9 10

- 1、 Motor mounting flange : 40、 60、 80、 110、 130、 180
- 2、 Series Code
- 3、 Socket type: A: Plastic amp 9PIN socket
B: Plug-in coded power line
C: Seven-hole small aviation plug XS16...7ZP
D: Seven-hole aviation plug YD28
- 4、 Torque : 02-2.39NM 03-3.18NM
- 5、 Speed : 30-3000RPM25-2500RPM
- 6、 Version number : G W、
- 7、 encoder : B: 17-bit multi-turn magnetic code
C: 17-bit single-turn magnetic code
D: 17-bit single-turn optical code
E: 17-bit multi-turn optical code
M: 23-bit multi-turn optical code
- 8、 Voltage : L : 220V
H : 380V
- 9、 Special properties
- 10、 Additional functions: Z-brake

D Series universal AC servo



Series features

- ◇ International leading control platform and algorithm
- ◇ Matches a variety of incremental, line-saving encoders
- ◇ Equipped with RS485 communication interface for multiple serial control
- ◇ A variety of intelligent monitoring functions and operation panel for customer debugging and diagnosis
- ◇ Can be matched with 0.1KW-7.5KW full range of servo motor; international motor standard
- ◇ Input/output ports can be freely defined and have strong applicability Full series CE certification

Specification sheet for order

| Servo model | motor model | Power(KW) | Rated speed(r/min) | Rated torque(Nm) |
|----------------------|----------------|-----------|--------------------|------------------|
| SDD04NK7D | 40SM-M00230NAL | 0.05 | 3000 | 0.16 |
| | 40SM-M00330NAL | 0.1 | 3000 | 0.32 |
| | 60SM-M00630NAL | 0.2 | 3000 | 0.64 |
| | 60SM-M0130NAL | 0.4 | 3000 | 1.27 |
| SDD08NK8D | 60SM-M0230NAL | 0.6 | 3000 | 1.91 |
| | 80SM-M0230NAL | 0.75 | 3000 | 2.4 |
| | 80SM-M0425NAL | 1.0 | 2500 | 4.0 |
| SDD13NK5D | 110SM-M0430NAL | 1.2 | 3000 | 4.0 |
| | 110SM-M0530NAL | 1.5 | 3000 | 5.0 |
| SDD20NK5D | 110SM-M0630NAL | 1.8 | 3000 | 6.0 |
| SDD13NK5D | 130SM-M0425NAL | 1.0 | 2500 | 4.0 |
| | 130SM-M0525NAL | 1.3 | 2500 | 5.0 |
| SDD20NK5D | 130SM-M0625NAL | 1.5 | 2500 | 6.0 |
| | 130SM-M0825NAL | 2.0 | 2500 | 7.7 |
| | 130SM-M1025NAL | 2.6 | 2500 | 10.0 |
| SDD50NK5D | 130SM-M1525NAL | 3.8 | 2500 | 15.0 |
| | 180SM-M1915NAL | 3.0 | 1500 | 19.0 |
| | 180SM-M2220NAL | 4.5 | 2000 | 22.0 |
| | 180SM-M2715NAL | 4.3 | 1500 | 27.0 |
| SDD30HK5D (380V) | 130SM-M0825NAH | 2.0 | 2500 | 7.7 |
| | 130SM-M1025NAH | 2.5 | 2500 | 10.0 |
| | 130SM-M1525NAH | 3.8 | 2500 | 15.0 |
| SDD55HK12D (380V) | 180SM-M1915NAH | 3.0 | 1500 | 19.0 |
| | 180SM-M2220NAH | 4.5 | 2000 | 21.5 |
| | 180SM-M2715NAH | 4.1 | 1500 | 27.0 |
| | 180SM-M3515NAH | 5.5 | 1500 | 35.0 |
| SDD75HK12D (380V) | 180SM-M4815NAH | 7.5 | 1500 | 48.0 |

Applications

Suitable for the following occasions

Repeated positioning control occasions;
occasions with multiple input and output
requirements; Network Communication
Applications

Mature application industry

- ◆ Industrial robots
- ◆ semiconductor equipment
- ◆ engraving equipment
- ◆ measuring instrument equipment
- ◆ medical equipment
- ◆ robots.

Note: MODBUS-RTU position control version
standard model suffix D becomes R, such as:SDD08NK8R
Application direction: 4-16 axis servo point control
application

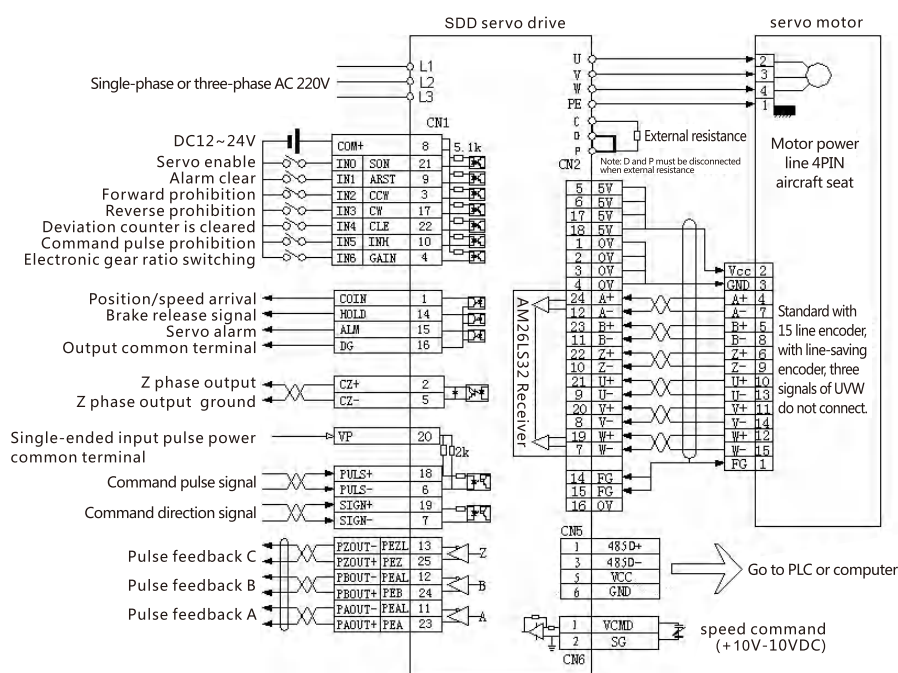
Working principle :The servo control internal design
of the relevant register, through 485 communication
to the relevant register set, write the start operation
command to the relevant register, the entire motion
control can be completed. Since the position control
uses absolute number programming, it has simple
control, accurate positioning, strong anti-interference
ability, and no external wiring. Only one communication
line is needed. For instructions, please refer to "SDD
Series Servo Modbus-RTU Motion Control Function
Detailed Explanation V1210 Edition"

D Series universal AC servo

Performance Specifications

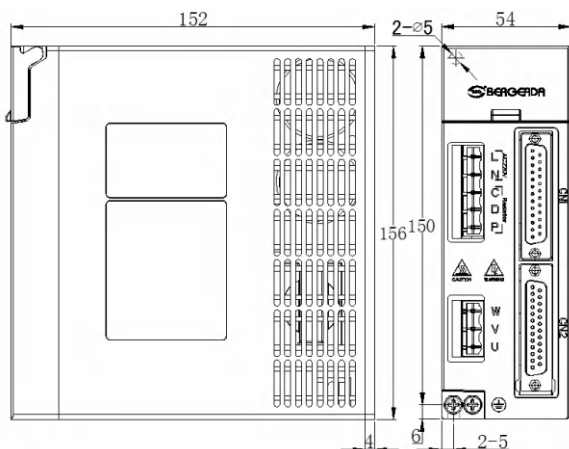
| | | | |
|-----------------------|------------------------------|---------------------------------------|--|
| External connection | Input power | | Single or Three phase AC170~253V Three phase 342V-418V |
| | | | 50/60Hz |
| | control type | | SVPWM control |
| Internal function | encoder | | 2500 line or 2500 saving-line |
| | Display and operation | | Six bits seven-segment display LED: Four function keys |
| | Control mode | | Position control/speed test run/jog run/internal positioning PLC function/RS485 communication |
| | Braking function | | built-in ,External optional |
| Position control mode | Protection function | | Undervoltage, overvoltage, overload, overcurrent, encoder abnormality, brake abnormal, position excess error, etc. |
| | Command control method | | External pulse |
| | External command pulse input | Form | pulse + direction ;CW/CCW pulse ;A/B quadrature |
| | | Maximum frequency | Differential: 1MHZ open collector: 200KHZ |
| Speed control mode | Electronic gear ratio | | 1~32767/1~32767 |
| | Internal speed control | | I/Oterminal control |
| Input/output signal | Position signal output | Output type | ABZ phase drive output / Z phase collector open circuit output |
| | | Frequency division ratio | 1/255/~1 |
| | input signal | 7points photoelectric isolation input | 1) Servo enable 2) Alarm clear 3) Forward drive prohibited 4) Reverse drive prohibited 5)Position deviation counter reset 6) Input pulse prohibited 7) No definition |
| | output signal | 4points open collector | 1) Servo ready output 2) Servo alarm output 3) Z signal output 4) Brake output |
| Use environment | temperature | | Working: 0°C~55°C Storage: -20°C~80°C |
| | humidity | | Less than 90% (without condensation) |

Typical application wiring diagram

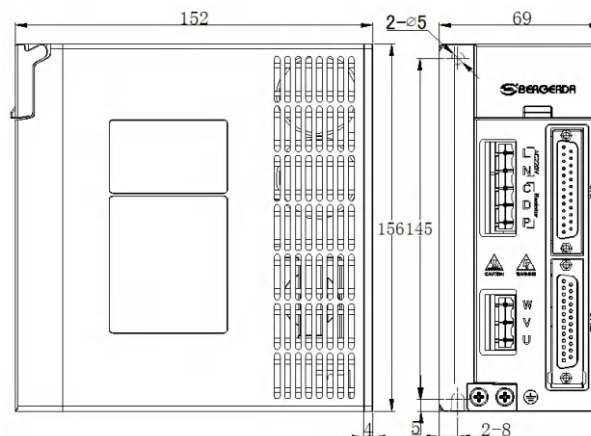


D Series universal AC servo

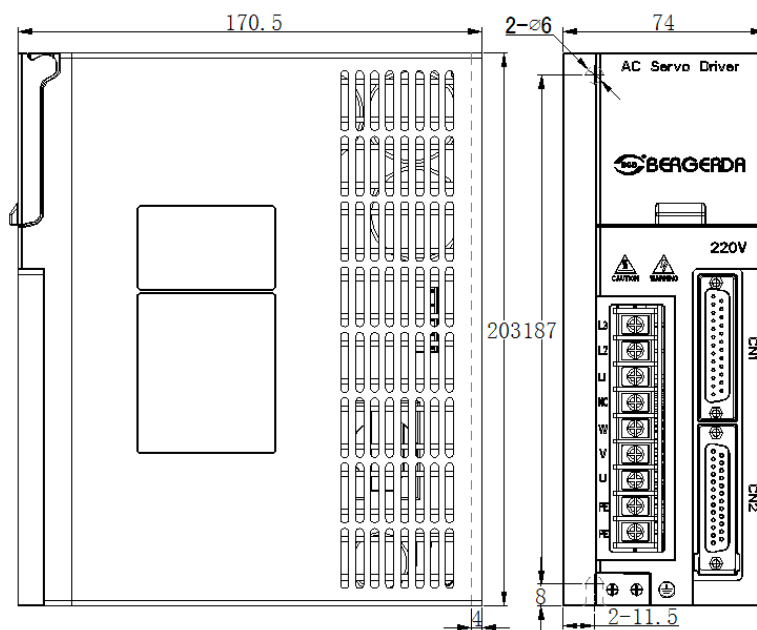
install dimensions



K7 install dimensions
Driver weight: 1.0kg



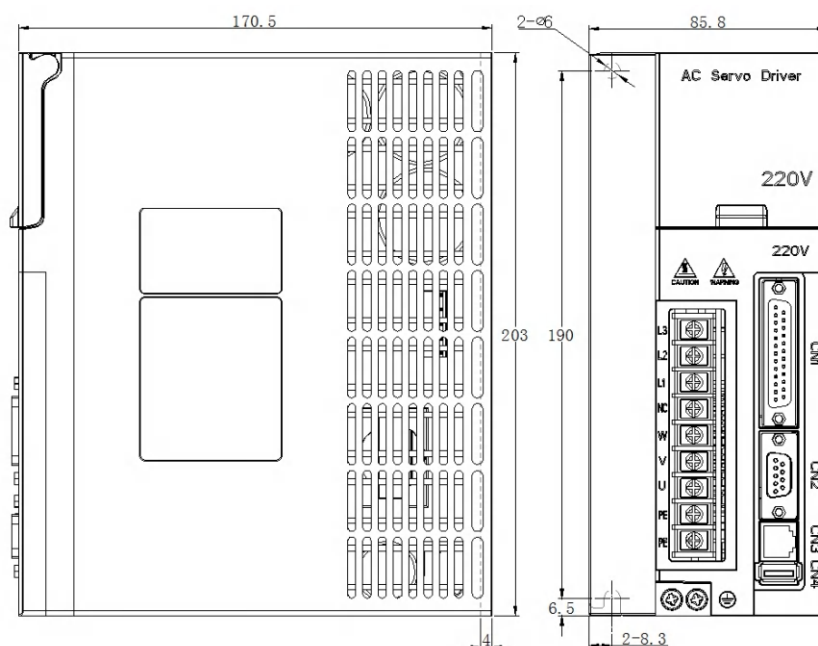
K8 install dimensions
Driver weight: 1.15kg



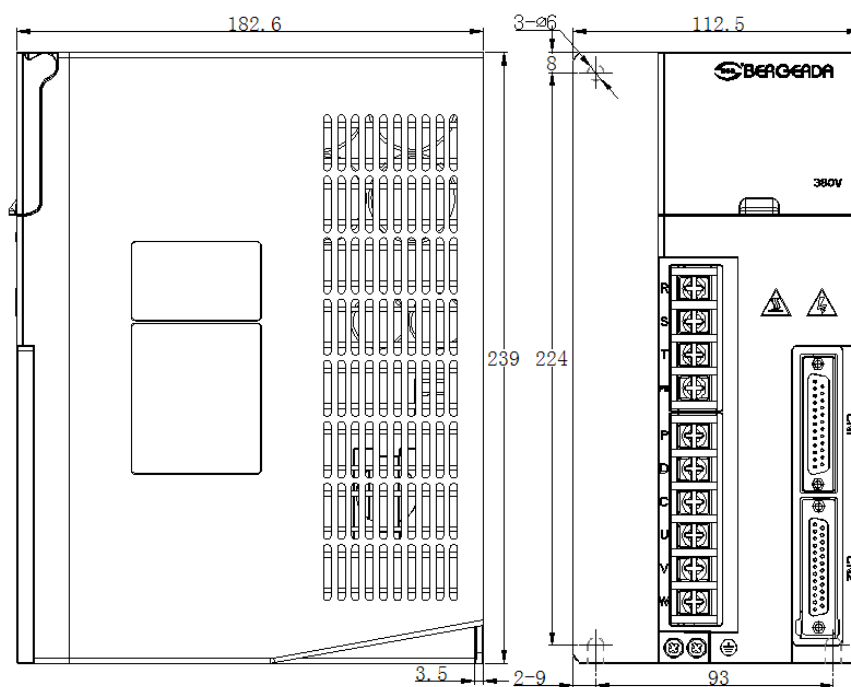
K9 install dimensions
Driver weight: 1.8kg

D Series universal AC servo

install dimensions



K5 install dimensions
Driver weight: 2.15kg



K12 install dimensions
Driver weight: 3.1kg

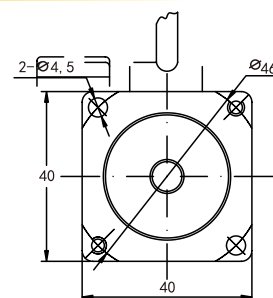
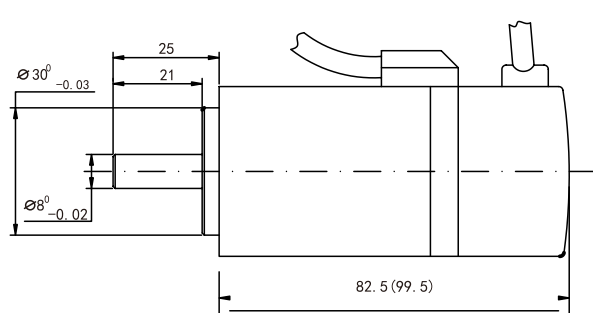
40,60 series AC servo motor

Specification model

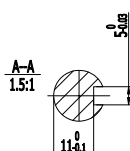


| motor model | 40SM-M00230NAL | 40SM-M00330NAL | 60SM-M00630NAL | 60SM-M0130NAL | 60SM-M0230NAL |
|------------------------------------|---|------------------------|-----------------------|-----------------------|-----------------------|
| rated power (KW) | 0.05 | 0.1 | 0.2 | 0.4 | 0.6 |
| Rated voltage (V) | 220 | 220 | 220 | 220 | 220 |
| Rated current (A) | 0.7 | 1.3 | 1.2 | 2.8 | 3.5 |
| Rated Speed (RPM) | 3000 | 3000 | 3000 | 3000 | 3000 |
| Rated torque (N.M) | 0.16 | 0.32 | 0.637 | 1.27 | 1.91 |
| Peak torque (N.M) | 0.48 | 0.96 | 1.91 | 3.9 | 5.73 |
| Back EMF (V/1000r/min) | 10 | 15 | 30.9 | 29.6 | 34 |
| Torque coefficient (N.M/A) | 0.23 | 0.25 | 0.53 | 0.45 | 0.55 |
| Rotor inertia (KG.M ²) | 0.025x10 ⁻⁴ | 0.046x10 ⁻⁴ | 0.17x10 ⁻⁴ | 0.29x10 ⁻⁴ | 0.39x10 ⁻⁴ |
| winding resistance (Ω) | 30.8 | 11.5 | 6.18 | 2.35 | 1.93 |
| Winding inductance (MH) | 24.5 | 10.9 | 29.3 | 14.5 | 10.7 |
| Electrical time constant (MS) | 0.8 | 0.95 | 4.74 | 6.17 | 5.5 |
| weight (KG) | 0.46 | 0.59 | 1.16 | 1.63 | 2.07 |
| Number of encoder lines(PPR) | 2500 | | | | |
| insulation class | Class B(130°C) | | | | |
| Safety class | IP65 | | | | |
| Use environment | Temperature : -20°C~+40°C ;humidity : relative humidity < 90% (No dewing) | | | | |
| Motor winding socket | Winding lead | U (black) | | V (blue) | W (Brown) |
| | Socket number | 1 | | 2 | 3 |
| Encoder socket | Signal leads | 5V | 0V | B+ | Z- |
| | Socket number | 2 | 3 | 4 | 5 |

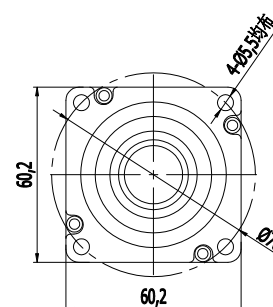
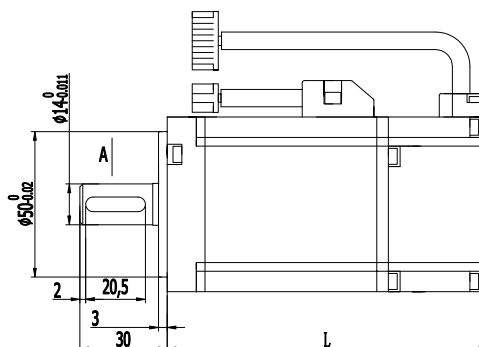
Installation dimension drawing



A-A
1:1



| Motor model | 0.6N.M | 1.3N.M | 1.9N.M |
|----------------------------------|--------|--------|--------|
| Without Brake L(mm) | 116 | 141 | 169 |
| With electromagnetic brake L(mm) | 148 | 173 | 201 |



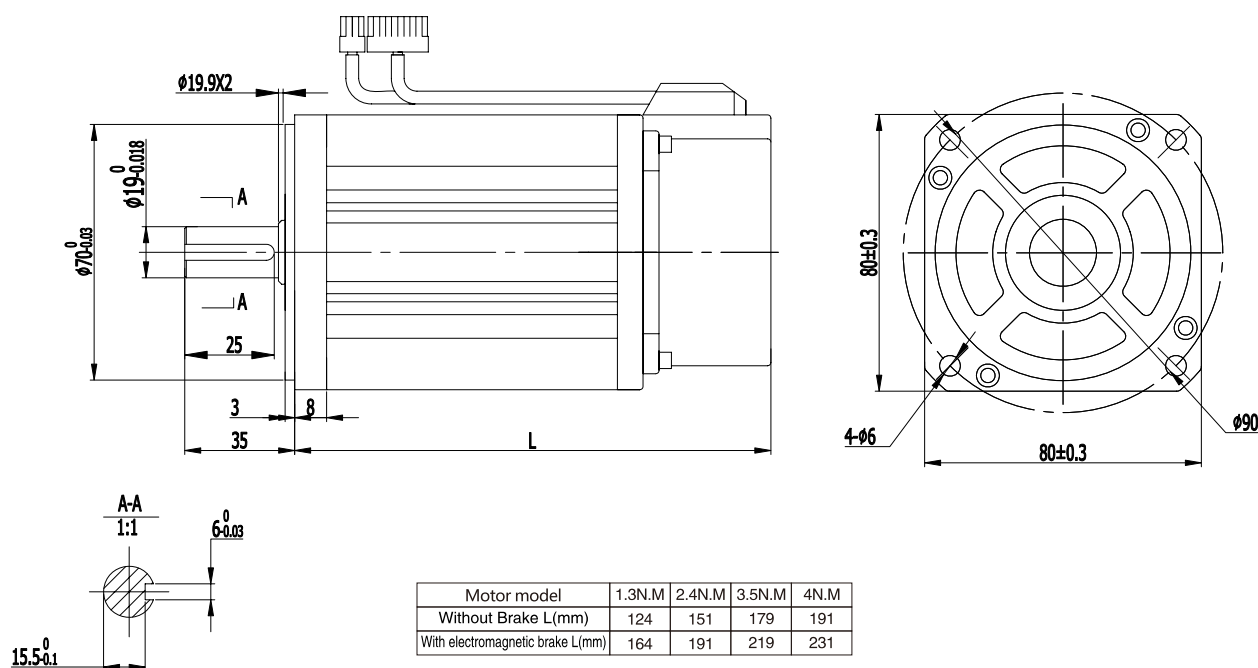
80 series AC servo motor

Specification model



| motor model | 80SM-M0130NAL | 80SM-M0230NAL | 80SM-M0320NAL | 80SM-M0425NAL | | | | | | | | | | | | |
|------------------------------|---|-----------------------|-----------------------|-----------------------|------------|----|----|-------------|----|----|------------------|----|----|----|----|----|
| rated power (KW) | 0.4 | 0.75 | 0.73 | 1.0 | | | | | | | | | | | | |
| Rated voltage (V) | 220 | 220 | 220 | 220 | | | | | | | | | | | | |
| Rated current (A) | 2 | 3 | 3 | 4.4 | | | | | | | | | | | | |
| Rated Speed (RPM) | 3000 | 3000 | 2000 | 2500 | | | | | | | | | | | | |
| Rated torque (N.M) | 1.27 | 2.39 | 3.5 | 4 | | | | | | | | | | | | |
| Peak torque (N.M) | 3.8 | 7.1 | 10.5 | 12 | | | | | | | | | | | | |
| Peak current (A) | 6 | 9 | 9 | 13.2 | | | | | | | | | | | | |
| Back EMF (V/1000r/min) | 40 | 48 | 71 | 56 | | | | | | | | | | | | |
| Torque coefficient (N.M/A) | 0.64 | 0.8 | 1.17 | 0.9 | | | | | | | | | | | | |
| Rotor inertia (KG.M²) | 1.05x10 ⁻⁴ | 1.82x10 ⁻⁴ | 2.63x10 ⁻⁴ | 2.97x10 ⁻⁴ | | | | | | | | | | | | |
| winding resistance (Ω) | 4.44 | 2.88 | 3.65 | 1.83 | | | | | | | | | | | | |
| Winding inductance (MH) | 7.93 | 6.4 | 8.8 | 4.72 | | | | | | | | | | | | |
| Electrical time constant(MS) | 1.66 | 2.22 | 2.4 | 2.58 | | | | | | | | | | | | |
| weight (KG) | 1.78 | 2.86 | 3.7 | 3.8 | | | | | | | | | | | | |
| Number of encoder lines(PPR) | 2500 | | | | | | | | | | | | | | | |
| insulation class | Class F(130℃) | | | | | | | | | | | | | | | |
| Safety class | IP65 | | | | | | | | | | | | | | | |
| Use environment | Temperature : -20℃~+40℃ ;humidity : relative humidity < 90% (No dewing) | | | | | | | | | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | | V (blue) | | | W (Brown) | | | PE(Yellow green) | | | | | |
| | Socket number | 1 | | | 2 | | | 3 | | | 4 | | | | | |
| Encoder socket | Signal leads | 5V | 0V | B+ | Z- | U+ | Z+ | U- | A+ | V+ | W+ | V- | A- | B- | W- | PE |
| | Socket number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 |

Installation dimension drawing



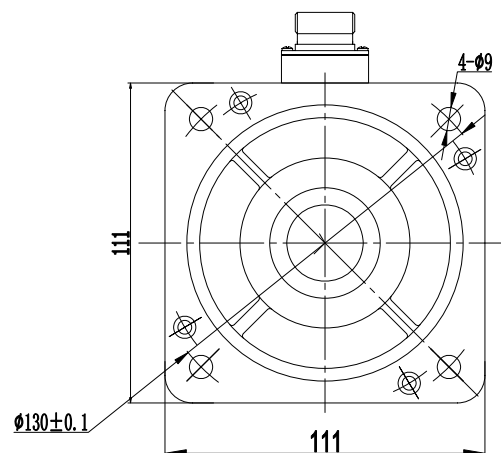
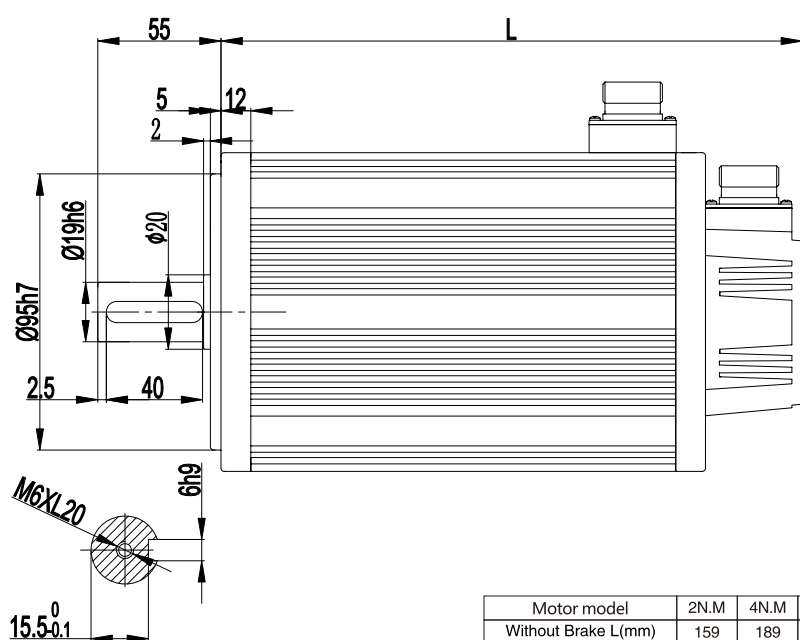
110 series AC servo motor

Specification model



| motor model | 110SM-M0230NAL | 110SM-M0420NAL | 110SM-M0430NAL | 110SM-M0530NAL | 110SM-M0620NAL | 110SM-M0630NAL |
|------------------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 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 | 4.5 | 6.0 |
| Rated Speed (RPM) | 3000 | 2000 | 3000 | 3000 | 2000 | 3000 |
| Rated torque (N.M) | 2 | 4 | 4 | 5 | 6 | 6 |
| Peak torque (N.M) | 6 | 12 | 12 | 15 | 12 | 18 |
| Peak current (A) | 7.5 | 10.5 | 15 | 18 | 13.5 | 18 |
| Back EMF (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) | 0.31x10 ⁻³ | 0.54x10 ⁻³ | 0.54x10 ⁻³ | 0.63x10 ⁻³ | 0.76x10 ⁻³ | 0.76x10 ⁻³ |
| winding resistance (Ω) | 3.6 | 2.41 | 1.09 | 1.03 | 1.46 | 0.81 |
| Winding inductance (MH) | 8.32 | 7.3 | 3.3 | 3.43 | 4.7 | 2.59 |
| Electrical time constant (MS) | 2.3 | 3 | 3.0 | 3.3 | 3.2 | 3.2 |
| weight (KG) | 4.5 | 5.5 | 5.5 | 6.1 | 6.7 | 6.7 |
| Number of encoder lines(PPR) | 2500 | | | | | |
| insulation class | Class F(130°C) | | | | | |
| Safety class | IP65 | | | | | |
| Use environment | Temperature : -20°C~+40°C ;humidity : relative humidity < 90% (No dewing) | | | | | |
| Motor winding socket | Winding lead | U (black) | | V (blue) | | W (Brown) |
| | Socket number | 2 | | 3 | | 4 |
| Encoder socket | Signal leads | 5V | 0V | A+ | B+ | Z+ |
| | Socket number | 2 | 3 | 4 | 5 | 6 |

Installation dimension drawing



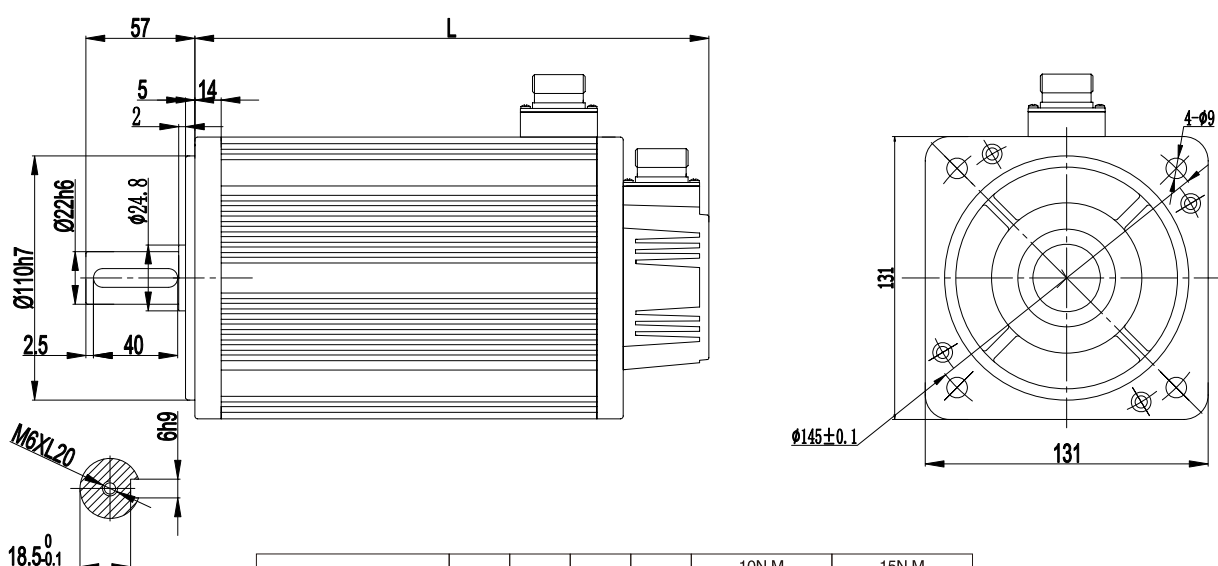
| Motor model | 2N.M | 4N.M | 5N.M | 6N.M |
|----------------------------------|------|------|------|------|
| Without Brake L(mm) | 159 | 189 | 204 | 219 |
| With electromagnetic brake L(mm) | 233 | 263 | 278 | 293 |

130 series AC servo motor

Specification model

| motor model | 130SM-M0425NAL | 130SM-M0525NAL | 130SM-M0625NAL | 130SM-M0825NAL | 130SM-M1010NAL | 130SM-M1015NAL | 130SM-M1025NAL | 130SM-M1525NAL | | | | | | | | |
|-------------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|-------------|----|----|------------------|----|----|----|
| rated power (KW) | 1.0 | 1.3 | 1.5 | 2.0 | 1.0 | 1.5 | 2.6 | 3.8 | | | | | | | | |
| Rated voltage (V) | 220 | 220 | 220 | 220 | 220 | 220 | 220 | 220 | | | | | | | | |
| Rated current (A) | 4.0 | 5.0 | 6.0 | 7.5 | 4.5 | 6.0 | 10 | 13.5 | | | | | | | | |
| Rated Speed (RPM) | 2500 | 2500 | 2500 | 2500 | 1000 | 1500 | 2500 | 2500 | | | | | | | | |
| Rated torque (N.M) | 4 | 5 | 6 | 7.7 | 10 | 10 | 10 | 15 | | | | | | | | |
| Peak torque (N.M) | 12 | 15 | 18 | 22 | 20 | 25 | 25 | 30 | | | | | | | | |
| Peak current (A) | 12 | 15 | 18 | 22.5 | 13.5 | 18 | 28 | 27 | | | | | | | | |
| Back EMF (V/1000r/min) | 72 | 68 | 65 | 68 | 140 | 103 | 70 | 67 | | | | | | | | |
| Torque coefficient(N.M/A) | 1.0 | 1.0 | 1.0 | 1.03 | 2.2 | 1.67 | 1.0 | 1.11 | | | | | | | | |
| Rotor inertia (KG.M²) | 0.85x10 ⁻³ | 1.06x10 ⁻³ | 1.26x10 ⁻³ | 1.53x10 ⁻³ | 1.94x10 ⁻³ | 1.94x10 ⁻³ | 1.94x10 ⁻³ | 2.77x10 ⁻³ | | | | | | | | |
| winding resistance (Ω) | 2.76 | 1.84 | 1.21 | 1.01 | 2.7 | 1.29 | 0.73 | 0.49 | | | | | | | | |
| Winding inductance(MH) | 6.42 | 4.9 | 3.87 | 2.94 | 8.8 | 5.07 | 2.45 | 1.68 | | | | | | | | |
| Electrical time constant (MS) | 2.32 | 2.66 | 3.26 | 3.8 | 3.26 | 3.93 | 3.36 | 3.43 | | | | | | | | |
| weight (KG) | 7.7 | 8.2 | 8.9 | 10 | 11.5 | 11.5 | 11.5 | 11.7 | | | | | | | | |
| Number of encoder lines(PPR) | 2500 | | | | | | | | | | | | | | | |
| insulation class | Class F(130℃) | | | | | | | | | | | | | | | |
| Safety class | IP65 | | | | | | | | | | | | | | | |
| Use environment | Temperature : -20℃~+40℃;humidity : relative humidity < 90% (No dewing) | | | | | | | | | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | | | V (blue) | | | | W (Brown) | | | PE(Yellow green) | | | |
| | Socket number | 2 | | | | 3 | | | | 4 | | | 1 | | | |
| Encoder socket | Signal leads | 5V | 0V | A+ | B+ | Z+ | A- | B- | Z- | U+ | V+ | W+ | U- | V- | W- | PE |
| | Socket number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 |

Installation dimension drawing



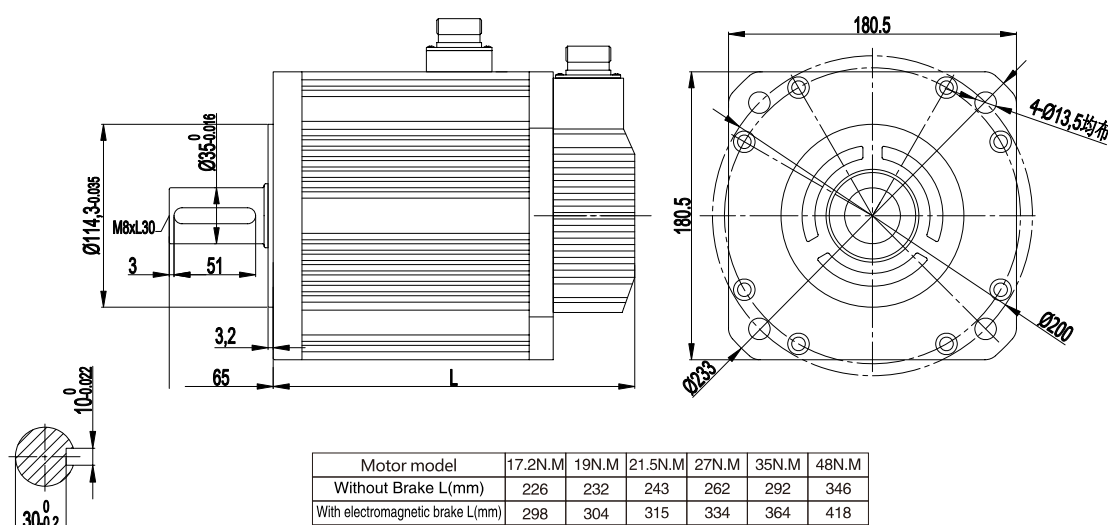
| Motor model | 4N.M | 5N.M | 6N.M | 7.7N.M | 10N.M | | 15N.M | |
|----------------------------------|------|------|------|--------|---------|---------|---------|---------|
| | | | | | 1500rpm | 2500rpm | 1500rpm | 2500rpm |
| Without Brake L(mm) | 166 | 171 | 179 | 192 | 213 | 209 | 241 | 231 |
| With electromagnetic brake L(mm) | 223 | 228 | 236 | 249 | 294 | 290 | 322 | 312 |

180 series AC servo motor

Specification model

| motor model | 180SM-M1915NAL | 180SM-M2220NAL | | | | 180SM-M2715NAL | | | | 180SM-M3515 NAL | | | | | | | |
|------------------------------------|--|----------------------|----|----|----|----------------------|----|----|----|----------------------|----|----|----|------------------|----|----|--|
| rated power (KW) | 3.0 | 4.5 | | | | 4.3 | | | | 5.5 | | | | | | | |
| Rated voltage (V) | 220 | 220 | | | | 220 | | | | 220 | | | | | | | |
| Rated current (A) | 12 | 16 | | | | 16 | | | | 24 | | | | | | | |
| Rated Speed (RPM) | 1500 | 2000 | | | | 1500 | | | | 1500 | | | | | | | |
| Rated torque (N.M) | 19 | 21.5 | | | | 27 | | | | 35 | | | | | | | |
| Peak torque (N.M) | 47 | 53 | | | | 67 | | | | 70 | | | | | | | |
| Back EMF (V/1000r/min) | 97 | 84 | | | | 103 | | | | 90 | | | | | | | |
| Torque coefficient (N.M/A) | 1.58 | 1.34 | | | | 1.69 | | | | 1.45 | | | | | | | |
| Rotor inertia (KG.M ²) | 3.8×10 ⁻³ | 4.7×10 ⁻³ | | | | 6.1×10 ⁻³ | | | | 8.6×10 ⁻³ | | | | | | | |
| winding resistance (Ω) | 0.4 | 0.24 | | | | 0.28 | | | | 0.14 | | | | | | | |
| Winding inductance (MH) | 2.42 | 1.45 | | | | 1.74 | | | | 1.0 | | | | | | | |
| Electrical time constant (MS) | 6 | 6 | | | | 6.2 | | | | 7.14 | | | | | | | |
| weight (KG) | 20.5 | 22.2 | | | | 25.5 | | | | 30.5 | | | | | | | |
| Number of encoder lines(PPR) | 2500 | | | | | | | | | | | | | | | | |
| insulation class | Class F(155℃) | | | | | | | | | | | | | | | | |
| Safety class | IP65 | | | | | | | | | | | | | | | | |
| Use environment | Temperature : -20℃~+40℃;humidity : relative humidity < 90% (No dewing) | | | | | | | | | | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | | | V (blue) | | | | W (Brown) | | | | PE(Yellow green) | | | |
| | Socket number | 2 | | | | 3 | | | | 4 | | | | 1 | | | |
| Encoder socket | Signal leads | 5V | 0V | A+ | B+ | Z+ | A- | B- | Z- | U+ | V+ | W+ | U- | V- | W- | PE | |
| | Socket number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 | |

Installation dimension drawing

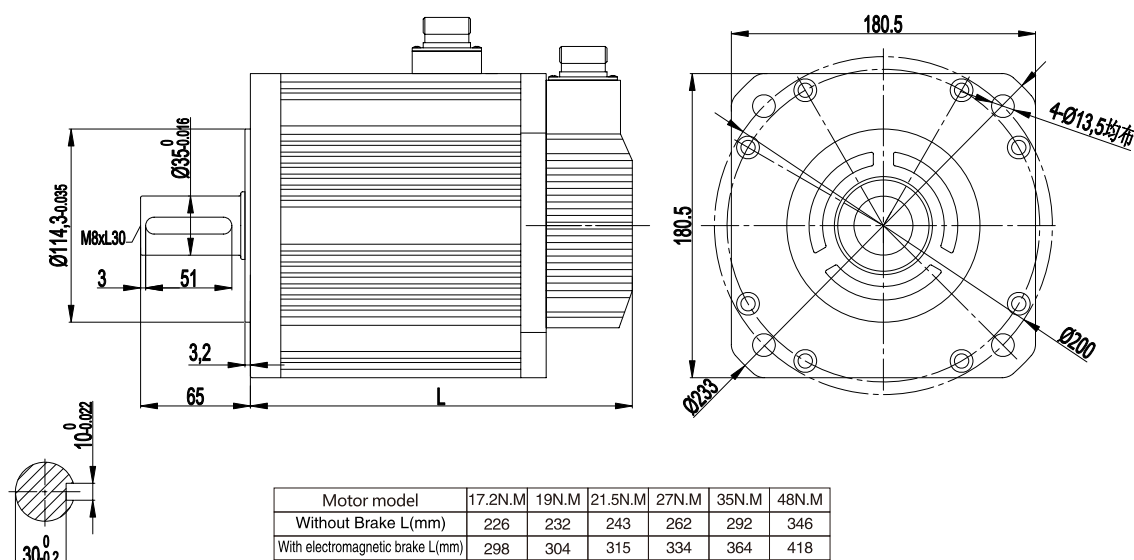


380 V series servo motor

Specification model

| motor model | 180SM-M1915NAH | 180SM-M2220NAH | | | | 180SM-M2715NAH | | | | 180SM-M3515NAH | | | | 180SM-M4815NAH | | | |
|------------------------------------|--|----------------------|----|----|----|----------------------|----|----|----|----------------------|----|----|----|----------------------|----|----|--|
| rated power (KW) | 3.0 | 4.5 | | | | 4.3 | | | | 5.5 | | | | 7.5 | | | |
| Rated voltage (V) | 380 | 380 | | | | 380 | | | | 380 | | | | 380 | | | |
| Rated current (A) | 7.5 | 9.5 | | | | 10 | | | | 12 | | | | 20 | | | |
| Rated Speed (RPM) | 1500 | 2000 | | | | 1500 | | | | 1500 | | | | 1500 | | | |
| Rated torque (N.M) | 19 | 21.5 | | | | 27 | | | | 35 | | | | 48 | | | |
| Peak torque (N.M) | 47 | 53 | | | | 67 | | | | 70 | | | | 96 | | | |
| Back EMF (V/1000r/min) | 158 | 140 | | | | 172 | | | | 181 | | | | 156 | | | |
| Torque coefficient (N.M/A) | 2.5 | 2.26 | | | | 2.7 | | | | 2.9 | | | | 2.4 | | | |
| Rotor inertia (KG.M ²) | 3.8X10 ⁻³ | 4.7X10 ⁻³ | | | | 6.1X10 ⁻³ | | | | 8.6X10 ⁻³ | | | | 9.5X10 ⁻³ | | | |
| winding resistance (Ω) | 1.15 | 0.71 | | | | 0.79 | | | | 0.62 | | | | 0.27 | | | |
| Winding inductance (MH) | 6.4 | 4.0 | | | | 4.83 | | | | 4.0 | | | | 2.14 | | | |
| Electrical time constant (MS) | 5.57 | 5.6 | | | | 6 | | | | 6.45 | | | | 7.8 | | | |
| weight (KG) | 20.5 | 22.2 | | | | 25.5 | | | | 30.5 | | | | 40 | | | |
| Number of encoder lines(PPR) | 2500 | | | | | | | | | | | | | | | | |
| insulation class | Class F(155℃) | | | | | | | | | | | | | | | | |
| Safety class | IP65 | | | | | | | | | | | | | | | | |
| Use environment | Temperature : -20℃~+40℃;humidity : relative humidity < 90% (No dewing) | | | | | | | | | | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | | | V (blue) | | | | W (Brown) | | | | PE(Yellow green) | | | |
| | Socket number | 2 | | | | 3 | | | | 4 | | | | 1 | | | |
| Encoder socket | Signal leads | 5V | 0V | A+ | B+ | Z+ | A- | B- | Z- | U+ | V+ | W+ | U- | V- | W- | PE | |
| | Socket number | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 1 | |

Installation dimension drawing



F series absolute encoder AC servo



Series features

- ◇ Suitable for C-type and M-type encoders, fewer cores than SDD series encoder cables, more reliable connection
- ◇ 5 pairs of magnetic circuit design, low speed is more stable, the body is 1/3 shorter than the NAL series motor, easy to install
- ◇ Dust-proof, oil-proof, anti-vibration, strong ability to carry interference, suitable for long-term output
- ◇ Standard RS485 communication function, realize upload and download network control
- ◇ Position control, speed control, torque control Modbus communication can be converted to each other to meet general applications
- ◇ Full range of CE certification

Applications

This product can be adapted to C-type and M-type encoders to meet multiple performance and environmental requirements. The powerful internal position mode can plan multi-path continuous operation for rich motion control functions.

Suitable for the following occasions

High precision
High response
Installation space is limited
Bad work environment

Mature application industry

Industrial robot
Semiconductor equipment
Engraving equipment
Measuring equipment
Medical equipment
robot

F series absolute encoder AC servo

SDF-X with C-type motor (17-bit single-turn magnetic encoder)
Specification sheet for order

| Servo model | motor model | Power (KW) | Rated /Maximum speed (RPM) | Rated torque (Nm) | Motor type | Supporting cable |
|-------------|------------------|------------|----------------------------|-------------------|---|------------------|
| SDF04NK7X | 40F-A00330GCL(A) | 0.1 | 3000/6000 | 0.32 | Large inertia | W3B-***-F |
| | 60F-B00630GCL(A) | 0.2 | 3000/6000 | 0.64 | | |
| | 60F-B0130GCL(A) | 0.4 | 3000/6000 | 1.27 | | |
| | 60F-B0230GCL(A) | 0.6 | 3000/6000 | 1.91 | | |
| SDF08NK8X | 80F-B0230GCL(A) | 0.75 | 3000/6000 | 2.39 | | |
| | 80F-B0330GCL(A) | 1.0 | 3000/6000 | 3.18 | | |
| SDF20NK5X | 110F-D0630WCL(A) | 1.8 | 3000/4000 | 5.4 | Small and medium inertia | W2D-***-X |
| | 130F-D0520WCL(A) | 1.0 | 2000/3000 | 4.77 | | |
| | 130F-D0820WCL(A) | 1.5 | 2000/3000 | 7.16 | | |
| | 130F-D1020WCL(A) | 2.0 | 2000/3000 | 9.55 | | |
| SDF50NK5X | 130F-D1520WCL(A) | 3.0 | 2000/3000 | 14.3 | | |
| SDF20NK5X | 130F-D0515WCL(A) | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed and high torque | |
| | 130F-D0815WCL(A) | 1.3 | 1500/2000 | 8.34 | | |
| | 130F-D1115WCL(A) | 1.8 | 1500/2000 | 11.5 | | |
| | 130F-D1515WCL(A) | 2.2 | 1500/2000 | 14.3 | | |
| SDF30HK5X | 130F-D0520WCH(A) | 1.0 | 2000/3000 | 4.77 | Small and medium inertia | |
| | 130F-D0820WCH(A) | 1.5 | 2000/3000 | 7.16 | | |
| | 130F-D1020WCH(A) | 2.0 | 2000/3000 | 9.55 | | |
| | 130F-D1520WCH(A) | 3.0 | 2000/3000 | 14.3 | | |
| | 130F-D0515WCH(A) | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed and high torque | |
| | 130F-D0815WCH(A) | 1.3 | 1500/2000 | 8.34 | | |
| | 130F-D1115WCH(A) | 1.8 | 1500/2000 | 11.5 | | |
| | 130F-D1515WCH(A) | 2.2 | 1500/2000 | 14.3 | | |

Note: 1. Multi-turn encoders must be customized
2. The suffix of the brake motor is "-Z", for example: 130F-D0520WCL(A)-Z

F series absolute encoder AC servo

SDF-X with M-type motor (23-bit multi-turn optical encoder)
Specification sheet for order

| Servo model | motor model | Power (KW) | Rated /Maximum speed (RPM) | Rated torque (Nm) | Motor type | Supporting cable | |
|-------------|---------------|------------|----------------------------|-------------------|---|---|---|
| SDF04NK7X | 40F-A00330WML | 0.1 | 3000/6000 | 0.32 | Large inertia | Single turn without battery W3B-***-F | |
| | 60F-B00630WML | 0.2 | 3000/6000 | 0.64 | | | |
| | 60F-B0130WML | 0.4 | 3000/6000 | 1.27 | | | |
| | 60F-B0230WML | 0.6 | 3000/6000 | 1.91 | | | |
| SDF08NK8X | 80F-B0230WML | 0.75 | 3000/6000 | 2.39 | | Multiple turns with battery W3B-***-F-EC | |
| | 80F-B0330WML | 1.0 | 3000/6000 | 3.18 | | | |
| SDF20NK5X | 110F-D0630WML | 1.8 | 3000/4000 | 5.4 | Small and medium inertia | Single turn without battery W2D-***-X | |
| | 130F-D0520WML | 1.0 | 2000/3000 | 4.77 | | | |
| | 130F-D0820WML | 1.5 | 2000/3000 | 7.16 | | | |
| | 130F-D1020WML | 2.0 | 2000/3000 | 9.55 | | | |
| SDF50NK5X | 130F-D1520WML | 3.0 | 2000/3000 | 14.3 | Medium inertia Low speed and high torque | | Multiple turns with battery W2D-***-X-EC |
| SDF20NK5X | 130F-D0515WML | 0.85 | 1500/2000 | 5.39 | | | |
| | 130F-D0815WML | 1.3 | 1500/2000 | 8.34 | | | |
| | 130F-D1115WML | 1.8 | 1500/2000 | 11.5 | | | |
| | 130F-D1515WML | 2.2 | 1500/2000 | 14.3 | | | |
| SDF30HK5X | 130F-D0520WMH | 1.0 | 2000/3000 | 4.77 | Small and medium inertia | | Single turn without battery W4D-***-X |
| | 130F-D0820WMH | 1.5 | 2000/3000 | 7.16 | | | |
| | 130F-D1020WMH | 2.0 | 2000/3000 | 9.55 | | | |
| | 130F-D1520WMH | 3.0 | 2000/3000 | 14.3 | | | |
| | 130F-D0515WMH | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed and high torque | | |
| | 130F-D0815WMH | 1.3 | 1500/2000 | 8.34 | | | |
| | 130F-D1115WMH | 1.8 | 1500/2000 | 11.5 | | | |
| | 130F-D1515WMH | 2.2 | 1500/2000 | 14.3 | | | |
| SDF55HK12X | 180F-D1915WMH | 2.9 | 1500/2000 | 18.6 | Large inertia | Multiple turns with battery W4D-***-X-EC | |
| | 180F-D2815WMH | 4.4 | 1500/2000 | 28.4 | | | |
| | 180F-D3515WMH | 5.5 | 1500/2000 | 35.0 | | | |
| SDF75HK12X | 180F-D4815WMH | 7.5 | 1500/2000 | 48.0 | | | |

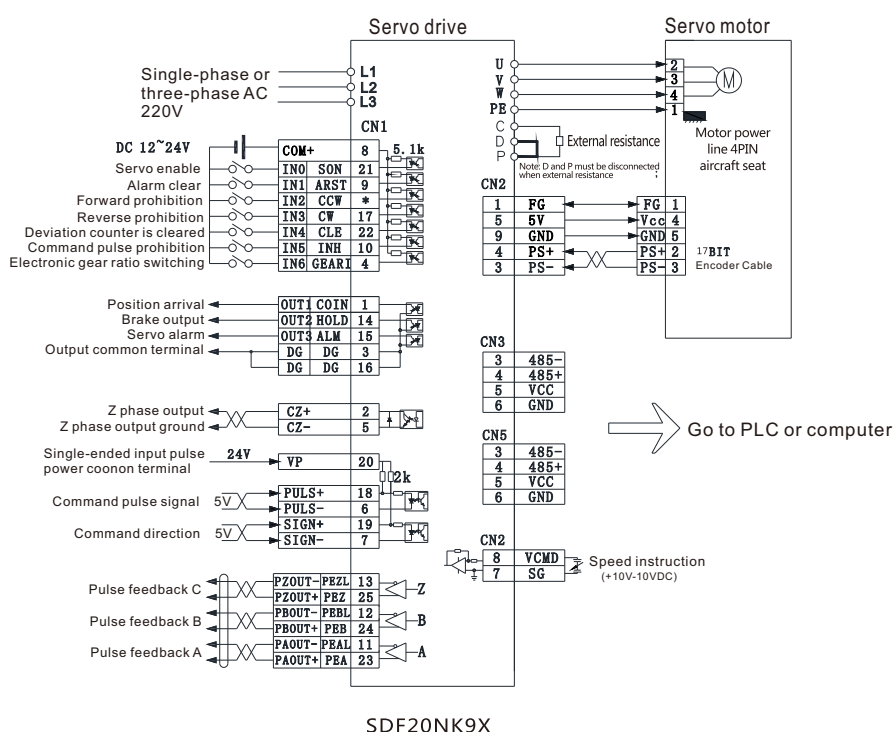
Note: The suffix of the brake motor is "-Z", for example: 130F-D0520WML-Z

F series absolute encoder AC servo

Performance Specifications

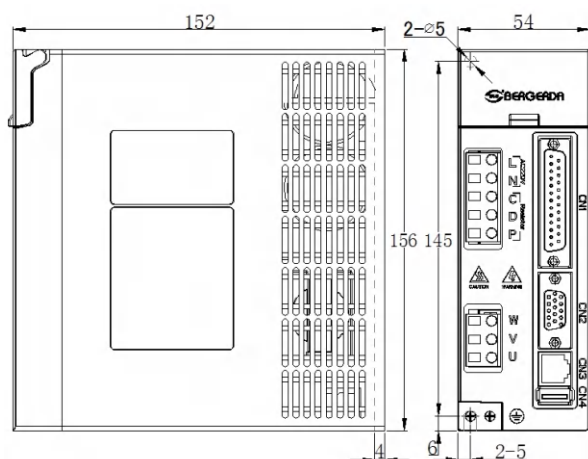
| | | | |
|-----------------------|------------------------|---------------------------------------|--|
| External connection | Input power | | Single or Three phase AC170~253V |
| | control type | | SVPWM control |
| | encoder | | 17-bit optical encoder, magnetic encoder, absolute encoder |
| Internal function | Display and operation | | Six bits seven-segment display LED: Four function keys |
| | Control mode | | Position control/speed test run/jog run/internal positioningPLC function/RS485 communication |
| | Braking function | | built-in, External optional |
| Position control mode | Protection function | | Undervoltage, overvoltage, overload, overcurrent, encoder abnormality, brake abnormal, position excess error, etc. |
| | Command control method | Form | pulse + direction ;CW/CCW pulse ;A/B quadrature |
| | | Maximum frequency | Differential: 2MHZ open collector: 200KHZ |
| Speed control mode | Electronic gear ratio | | 1~32767/1~32767 |
| | Internal speed control | | I/Oterminal control |
| Input/output signal | Position signal output | Output type | ABZ phase drive output / Z phase collector open circuit output |
| | | Output pulse | 1-65535 |
| | input signal | 7points photoelectric isolation input | 1) Servo enable 2) Alarm clear 3) Forward drive prohibited 4) Reverse drive prohibited 5)Position deviation counter reset 6) Input pulse prohibited 7) No definition |
| Use environment | output signal | | 4points open collector 1) Servo ready output 2) Servo alarm output 3) Z signal output 4) Brake output |
| | temperature | | Working: 0°C~55°C Storage: -20°C~80°C |
| | humidity | | Less than 90% (without condensation) |

Typical application wiring diagram

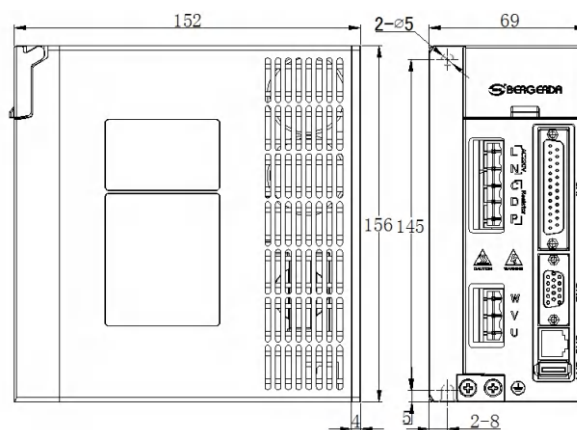


F series absolute encoder AC servo

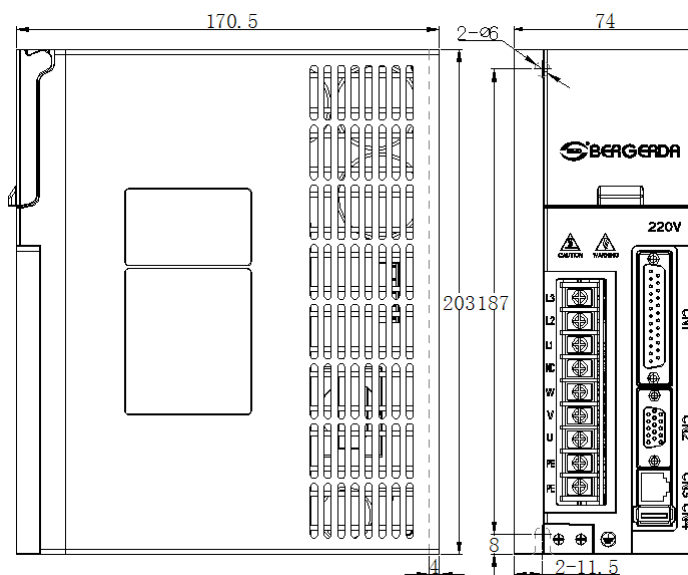
install dimensions



K7 install dimensions
Driver weight: 1.0kg



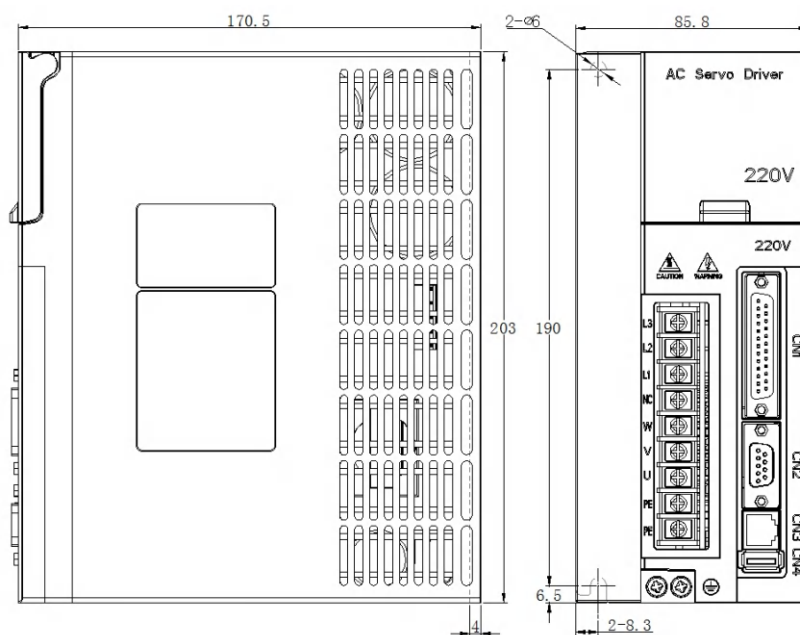
K8 install dimensions
Driver weight: 1.15kg



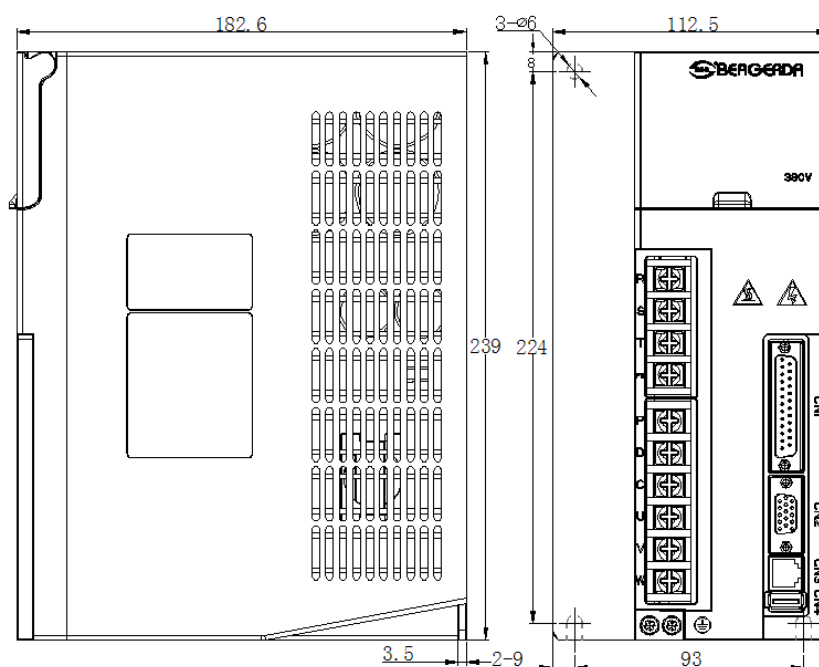
K9 install dimensions
Driver weight: 1.8kg

F series absolute encoder AC servo

install dimensions



K5 install dimensions
Driver weight: 2.15kg



K12 install dimensions
Driver weight: 3.1kg

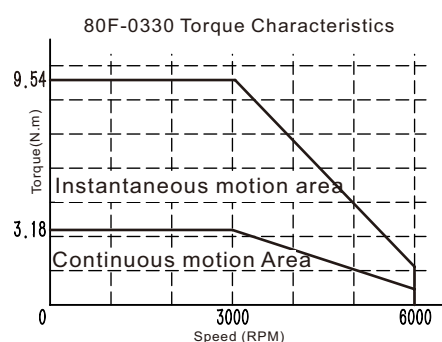
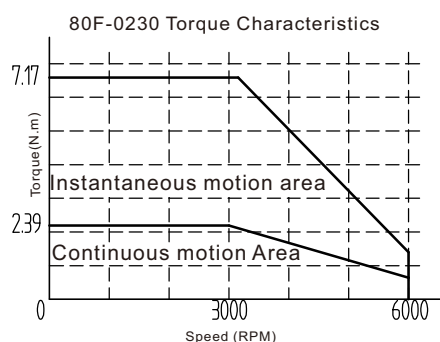
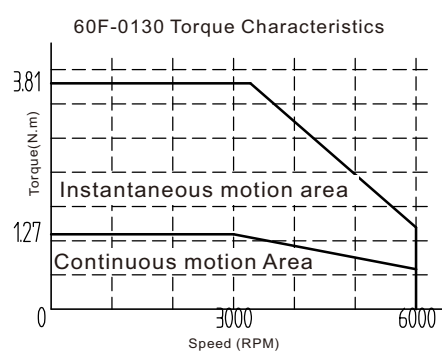
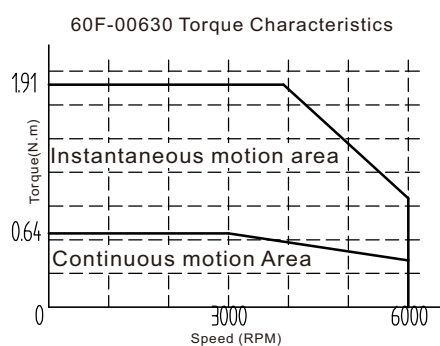
F series 60,80 servo motor

Specification model



| motor model | 40F-A00330GCL(A) | 60F-B00630GCL(A) | 60F-B0130GCL(A) | 80F-B0230GCL(A) | 80F-B0330GCL(A) | | | |
|-------------------------------|--|-----------------------|-----------------------|-----------------------|-----------------------|-----|-----|-----|
| rated power (KW) | 0.1 | 0.2 | 0.4 | 0.75 | 1.0 | | | |
| Rated voltage (V) | 220 | 220 | 220 | 220 | 220 | | | |
| Rated current (A) | 1.0 | 1.7 | 2.5 | 4.4 | 5.8 | | | |
| Rated Speed (RPM) | 3000 | 3000 | 3000 | 3000 | 3000 | | | |
| Rated torque (N.M) | 0.32 | 0.64 | 1.27 | 2.39 | 3.3 | | | |
| Peak torque (N.M) | 0.95 | 1.91 | 3.81 | 7.17 | 9.9 | | | |
| Peak current (A) | 3.0 | 5.1 | 7.5 | 14.1 | 17.4 | | | |
| Back EMF (V/1000r/min) | 22 | 23 | 32 | 34 | 34 | | | |
| Torque coefficient (N.M/A) | 0.32 | 0.38 | 0.51 | 0.51 | 0.56 | | | |
| Rotor inertia (KG.M²) | 0.066X10 ⁻⁴ | 0.28X10 ⁻⁴ | 0.52X10 ⁻⁴ | 1.48X10 ⁻⁴ | 2.27X10 ⁻⁴ | | | |
| winding resistance (Ω) | 18.8 | 4.55 | 3.8 | 1.08 | 0.73 | | | |
| Winding inductance(MH) | 10.3 | 3.7 | 7.2 | 2.7 | 3.4 | | | |
| Electrical time constant (MS) | 1.1 | 1.62 | 1.79 | 3.89 | 3.7 | | | |
| weight (KG) | 0.5 | 0.8 | 1.1 | 2.0 | 3.5 | | | |
| Encoder bit | 17 bit,5 pairs poles | | | | | | | |
| insulation class | Class F(130℃) | | | | | | | |
| Safety class | IP65 | | | | | | | |
| Use environment | Temperature：-20℃~-+40℃;humidity：relative humidity < 90 % (No dewing) | | | | | | | |
| Motor winding socket | Winding lead | U (black) | V (blue) | W (Brown) | PE(Yellow green) | | | |
| | Socket number | 1 | 3 | 2 | 4 | | | |
| Encoder socket | Signal leads | FG | VCC | GND | SD+ | SD- | VB+ | VB- |
| | Socket number | 9 | 7 | 8 | 1 | 4 | 5 | 6 |

Torque Characteristics

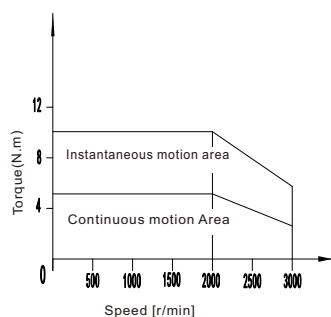


F series110,130 servo motor

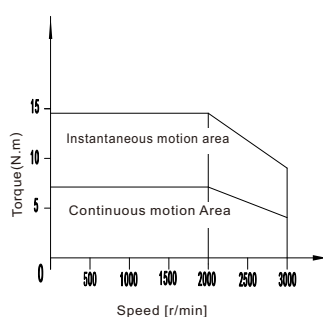
Specification model

| motor model | 110F-D0630WCL(A) | 130F-D0520WCL(A) | 130F-D0820WCL(A) | 130F-D1020WCL(A) | 130F-D1520WCL(A) | 130F-D0515WCL(A) | 130F-D0815WCL(A) | 130F-D1115WCL(A) | 130F-D1515WCL(A) |
|------------------------------------|---|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| rated power (KW) | 1.8 | 1.0 | 1.5 | 2.0 | 3.0 | 0.85 | 1.3 | 1.8 | 2.2 |
| Rated voltage (V) | 220 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 |
| Rated current (A) | 8.2 | 5.8 | 8.0 | 10.2 | 16.5 | 4 | 6 | 8.5 | 10.5 |
| Rated Speed (RPM) | 3000 | 2000 | 2000 | 2000 | 2000 | 1500 | 1500 | 1500 | 1500 |
| Rated torque (N.M) | 5.4 | 4.77 | 7.16 | 9.55 | 14.3 | 5.39 | 8.34 | 11.5 | 14.3 |
| Peak torque (N.M) | 16.2 | 9.54 | 14.32 | 19.1 | 28.6 | 16.17 | 25.02 | 32.2 | 40 |
| Peak current (A) | 24.6 | 11.6 | 16 | 20.4 | 33 | 12 | 18 | 25.5 | 40.6 |
| Back EMF (V/1000r/min) | 43 | 53 | 58 | 60 | 55 | 85 | 92 | 92 | 92 |
| Torque coefficient(N.M/A) | 0.66 | 0.82 | 0.9 | 0.93 | 0.87 | 1.35 | 1.39 | 1.35 | 1.36 |
| Rotor inertia (KG.M ²) | 0.718X10 ⁻³ | 0.618X10 ⁻³ | 0.916X10 ⁻³ | 1.21X10 ⁻³ | 1.86X10 ⁻³ | 1.09X10 ⁻³ | 1.69X10 ⁻³ | 2.14X10 ⁻³ | 2.71X10 ⁻³ |
| winding resistance (Ω) | 0.44 | 0.85 | 0.65 | 0.58 | 0.3 | 2.6 | 1.54 | 1.2 | 0.85 |
| Winding inductance (MH) | 2.8 | 12.5 | 9.5 | 7.5 | 3.17 | 16.2 | 10.5 | 8.3 | 5.6 |
| Electrical time constant(MS) | 6.4 | 14.7 | 14.6 | 12.9 | 10.56 | 6.2 | 6.8 | 6.9 | 5 |
| weight (KG) | 5.1 | 5.4 | 6.9 | 8.3 | 10.5 | 5.4 | 7.2 | 9.3 | 10.7 |
| Encoder bit | 17/23 | | | | | | | | |
| insulation class | Class F(130°C) | | | | | | | | |
| Safety class | IP65 | | | | | | | | |
| Use environment | Temperature : -20°C~+40°C;humidity : relative humidity < 90 % (No dewing) | | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | V (blue) | | W (Brown) | | PE(Yellow green) | |
| | Socket number | 2 | | 3 | | 4 | | 1 | |
| Encoder socket | Signal leads | FG | VCC | GND | VB+ | VB- | SD+ | SD- | |
| | Socket number | 1 | 4 | 5 | 6 | 7 | 2 | 3 | |

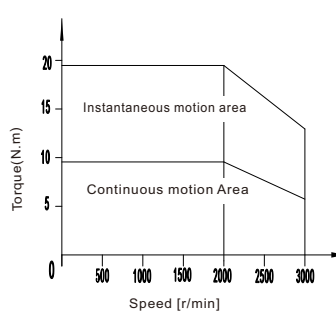
Torque Characteristics



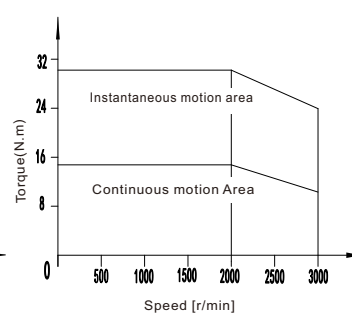
130F-0520Torque Characteristics



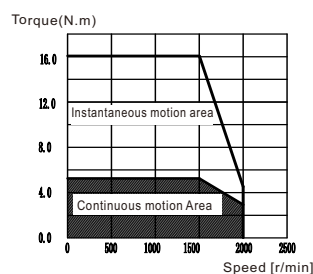
130F-0820Torque Characteristics



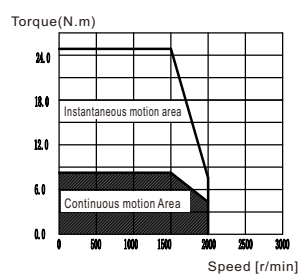
130F-1020Torque Characteristics



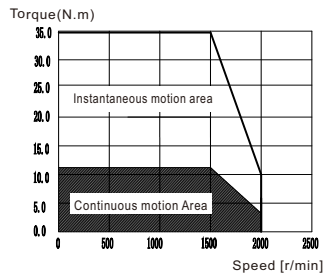
130F-1520Torque Characteristics



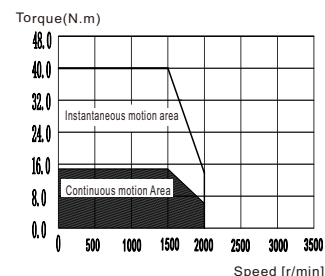
130F-0515Torque Characteristics



130F-0815Torque Characteristics

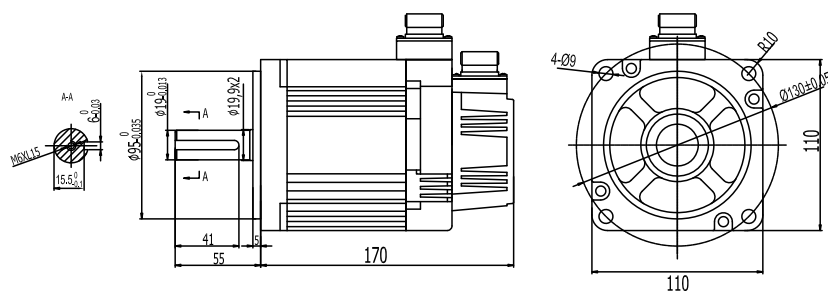


130F-1115Torque Characteristics



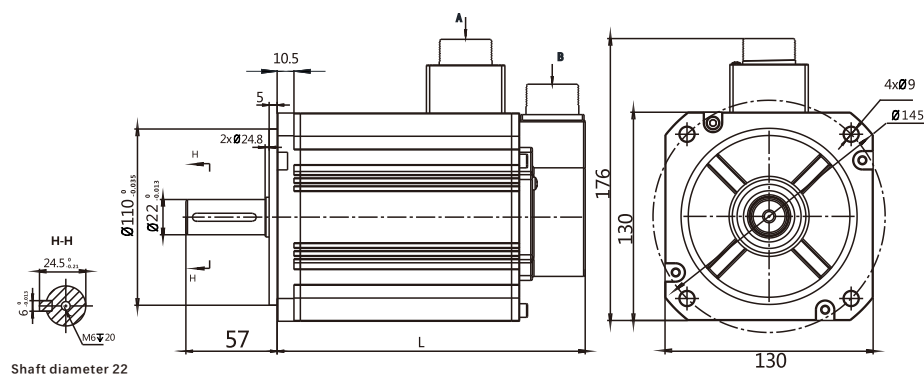
130F-1515Torque Characteristics

F series110,130 servo motor



WCL series 110 flange servo motor
installation outline and dimension drawing

| motor model | 110F-D0630WCL(A) | |
|-------------|------------------|------------|
| L(mm) | without brake | with brake |
| | 170 | 196 |



WCL series 130 flange servo motor
installation outline and dimension drawing

| motor model | 130F-D0520WCL(A) | 130F-D0820WCL(A) | 130F-D1020WCL(A) | 130F-D1520WCL(A) | 130F-D0515WCL(A) | 130F-D0815WCL(A) | 130F-D1115WCL(A) | 130F-D1515WCL(A) |
|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| L(mm) | without brake | with brake | without brake | with brake | without brake | with brake | without brake | with brake |
| | 135 | 185 | 152.5 | 202.5 | 170 | 220 | 200 | 250 |

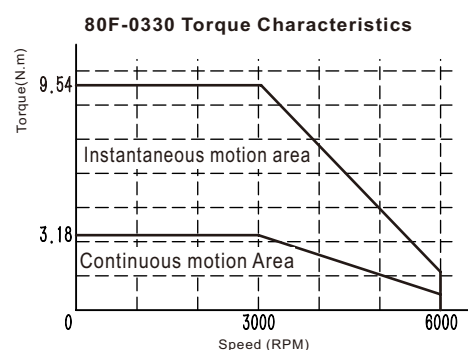
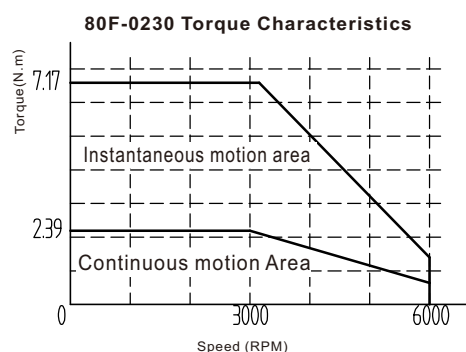
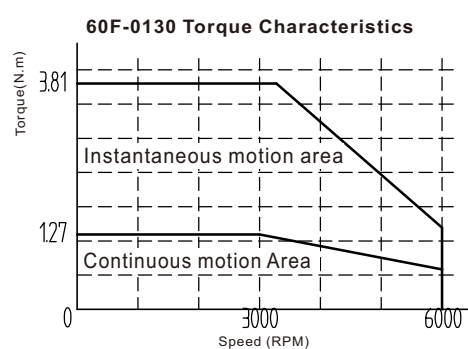
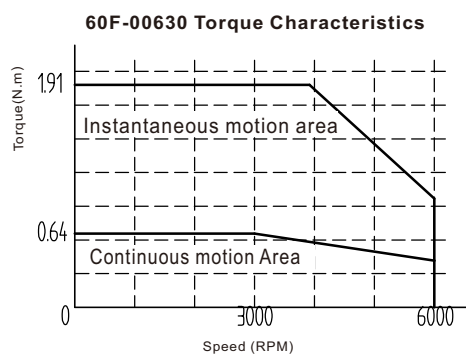
F series 60,80 servo motor

Specification model



| motor model | 40F-A00330WML | 60F-B00630WML | 60F-B0130WML | 80F-B0230WML | 80F-B0330WML | | | |
|-------------------------------|---|-----------------------|-----------------------|-----------------------|----------------------|------------------|-----|-----|
| rated power (KW) | 0.1 | 0.2 | 0.4 | 0.75 | 1.0 | | | |
| Rated voltage (V) | 220 | 220 | 220 | 220 | 220 | | | |
| Rated current (A) | 1.0 | 1.7 | 2.5 | 4.4 | 5.5 | | | |
| Rated Speed (RPM) | 3000 | 3000 | 3000 | 3000 | 3000 | | | |
| Rated torque (N.M) | 0.32 | 0.64 | 1.27 | 2.39 | 3.2 | | | |
| Peak torque (N.M) | 0.95 | 1.91 | 3.81 | 7.17 | 9.6 | | | |
| Peak current (A) | 3.0 | 5.7 | 8.4 | 13.8 | 16.5 | | | |
| Back EMF(V/1000r/min) | 22 | 23 | 31 | 34 | 38.5 | | | |
| Torque coefficient (N.M/A) | 0.32 | 0.38 | 0.51 | 0.54 | 0.6 | | | |
| Rotor inertia (KG.M²) | 0.066X10 ⁻⁴ | 0.28X10 ⁻⁴ | 0.52X10 ⁻⁴ | 1.48X10 ⁻⁴ | 2.1X10 ⁻⁴ | | | |
| winding resistance (Ω) | 18.8 | 4.57 | 3.24 | 1.08 | 1.1 | | | |
| Winding inductance(MH) | 10.3 | 3.7 | 2.9 | 2.1 | 4.8 | | | |
| Electrical time constant (MS) | 1.1 | 1.62 | 1.79 | 3.89 | 4.4 | | | |
| weight (KG) | 0.5 | 0.8 | 1.1 | 2.0 | 3.5 | | | |
| Encoder bit | 23 bit,5 pairs poles | | | | | | | |
| insulation class | Class F(130℃) | | | | | | | |
| Safety class | IP65 | | | | | | | |
| Use environment | Temperature : -20℃~+40℃;humidity : relative humidity < 90 | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | V (blue) | W (Brown) | PE(Yellow green) | | |
| | Socket number | 1 | | 3 | 2 | 4 | | |
| Encoder socket | Signal leads | FG | VCC | GND | SD+ | SD- | VB+ | VB- |
| | Socket number | 9 | 7 | 8 | 1 | 4 | 5 | 6 |

Torque Characteristics

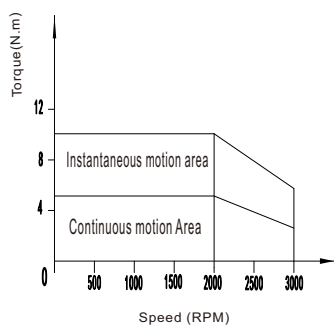


F series110,130 servo motor

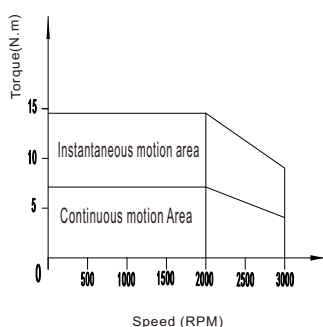
Specification model

| motor model | 110F-D0630WML | 130F-D0520WML | 130F-D0820WML | 130F-D1020WML | 130F-D1520WML | 130F-D0515WML | 130F-D0815WML | 130F-D1115WML | 130F-D1515WML |
|------------------------------------|---|------------------------|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| rated power (KW) | 1.8 | 1.0 | 1.5 | 2.0 | 3.0 | 0.85 | 1.3 | 1.8 | 2.2 |
| Rated voltage (V) | 220 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 | 220/380 |
| Rated current (A) | 8.2 | 5.8 | 8.0 | 10.2 | 16.5 | 4 | 6 | 8.5 | 10.5 |
| Rated Speed (RPM) | 3000 | 2000 | 2000 | 2000 | 2000 | 1500 | 1500 | 1500 | 1500 |
| Rated torque (N.M) | 5.4 | 4.77 | 7.16 | 9.55 | 14.3 | 5.39 | 8.34 | 11.5 | 14.3 |
| Peak torque (N.M) | 16.2 | 9.54 | 14.32 | 19.1 | 28.6 | 16.17 | 25.02 | 32.2 | 40 |
| Peak current (A) | 24.6 | 11.6 | 16 | 20.4 | 33 | 12 | 18 | 25.5 | 40.6 |
| Back EMF (V/1000r/min) | 43 | 53 | 58 | 60 | 55 | 85 | 92 | 92 | 92 |
| Torque coefficient (N.M/A) | 0.66 | 0.82 | 0.9 | 0.93 | 0.87 | 1.35 | 1.39 | 1.35 | 1.36 |
| Rotor inertia (KG.M ²) | 0.916X10 ⁻³ | 0.618X10 ⁻³ | 0.916X10 ⁻³ | 1.21X10 ⁻³ | 1.86X10 ⁻³ | 1.09X10 ⁻³ | 1.69X10 ⁻³ | 2.14X10 ⁻³ | 3.71X10 ⁻³ |
| winding resistance (Ω) | 0.44 | 0.85 | 0.65 | 0.58 | 0.3 | 2.6 | 1.54 | 1.2 | 0.85 |
| Winding inductance(MH) | 2.8 | 12.5 | 9.5 | 7.5 | 3.17 | 16.2 | 10.5 | 8.3 | 5.6 |
| Electrical time constant (MS) | 6.4 | 14.7 | 14.6 | 12.9 | 10.56 | 6.2 | 6.8 | 6.9 | 5 |
| weight (KG) | 5.6 | 5.4 | 7.1 | 8.3 | 10.7 | 5.4 | 7.2 | 8.7 | 10.5 |
| Encoder bit | 23 bit,5 pairs poles | | | | | | | | |
| insulation class | Class F (130°C) | | | | | | | | |
| Safety class | IP65 | | | | | | | | |
| Use environment | Temperature : -20°C~+40°C;humidity : relative humidity < 90 | | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | V (blue) | | W (Brown) | | PE(Yellow green) | |
| | Socket number | 2 | | 3 | | 4 | | 1 | |
| Encoder socket | Signal leads | FG | VCC | GND | VB+ | VB- | SD+ | SD- | |
| | Socket number | 1 | 4 | 5 | 6 | 7 | 2 | 3 | |

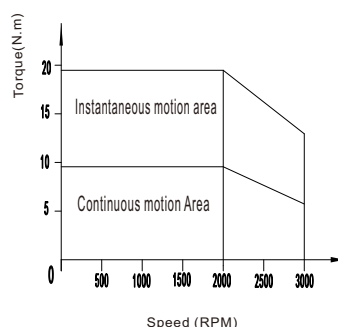
Torque Characteristics



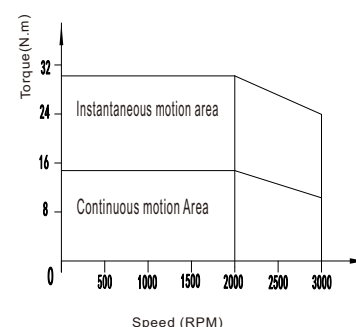
130F-0520 Torque Characteristics



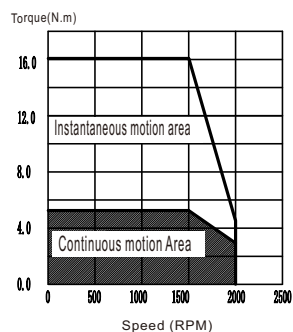
130F-0820 Torque Characteristics



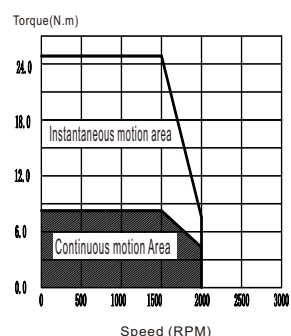
130F-1020 Torque Characteristics



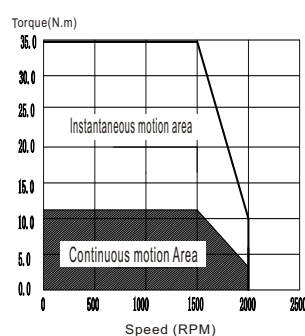
130F-0520 Torque Characteristics



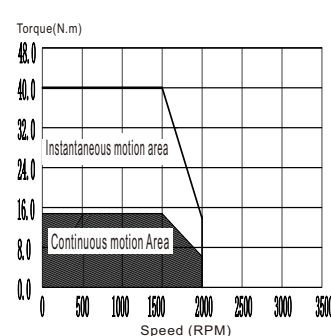
130F-0515 Torque Characteristics



130F-0815 Torque Characteristics



130F-1115 Torque Characteristics



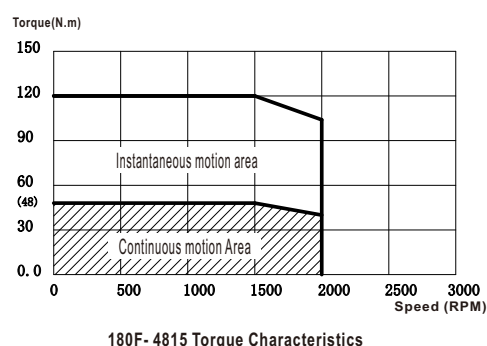
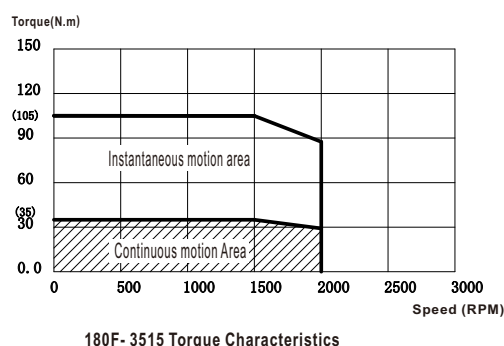
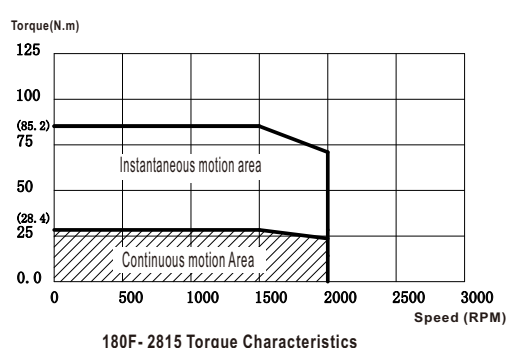
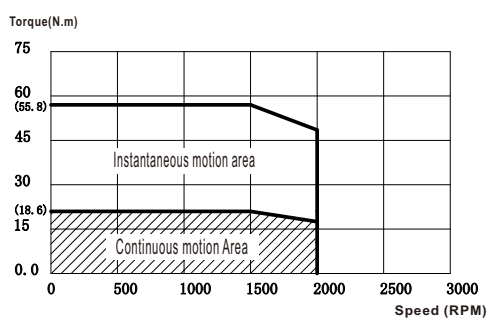
130F-0520 Torque Characteristics

F series180 servo motor

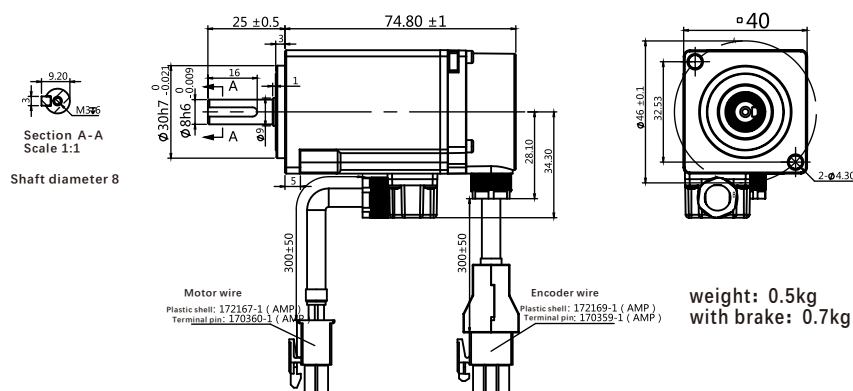
Specification model

| | | | | | | | | |
|-------------------------------|---|---------------|---------------|---------------|-----|-------------|-----|------------------|
| motor model | 180F-D1915WMH | 180F-D2815WMH | 180F-D3515WMH | 180F-D4815WMH | | | | |
| rated power (KW) | 2.9 | 4.4 | 5.5 | 7.5 | | | | |
| Rated voltage (V) | 380 | 380 | 380 | 380 | | | | |
| Rated current (A) | 7.5 | 10.5 | 13 | 18 | | | | |
| Rated Speed (RPM) | 1500 | 1500 | 1500 | 1500 | | | | |
| Rated torque (N.M) | 18.6 | 28.4 | 35 | 48 | | | | |
| Peak torque (N.M) | 55.8 | 85.2 | 105 | 120 | | | | |
| Peak current (A) | 22.5 | 31.5 | 39 | 43.8 | | | | |
| Back EMF (V/1000r/min) | 160 | 160 | 160 | 100 | | | | |
| Torque coefficient (N.M/A) | 2.48 | 2.7 | 2.7 | 2.67 | | | | |
| Rotor inertia (KG.M²) | 66.8 | 88.5 | 114.4 | 136.6 | | | | |
| winding resistance (Ω) | 0.9 | 0.73 | 0.64 | 0.43 | | | | |
| Winding inductance (MH) | 11.1 | 8.73 | 7.6 | 5.2 | | | | |
| Electrical time constant (MS) | 12.3 | 12 | 11.9 | 12.1 | | | | |
| weight (KG) | 16.7 | 21.1 | 25.6 | 30.8 | | | | |
| Encoder bit | 23 bit,5 pairs poles | | | | | | | |
| insulation class | Class F(130℃) | | | | | | | |
| Safety class | IP65 | | | | | | | |
| Use environment | Temperature : -20℃~ +40℃ ;humidity : relative humidity < 90 | | | | | | | |
| Motor winding socket | Winding lead | U (black) | | V (blue) | | W (Brown) | | PE(Yellow green) |
| | Socket number | 2 | | 3 | | 4 | | 1 |
| Encoder socket | Signal leads | FG | VCC | GND | SD+ | SD- | VB+ | VB- |
| | Socket number | 1 | 4 | 5 | 2 | 3 | 6 | 7 |

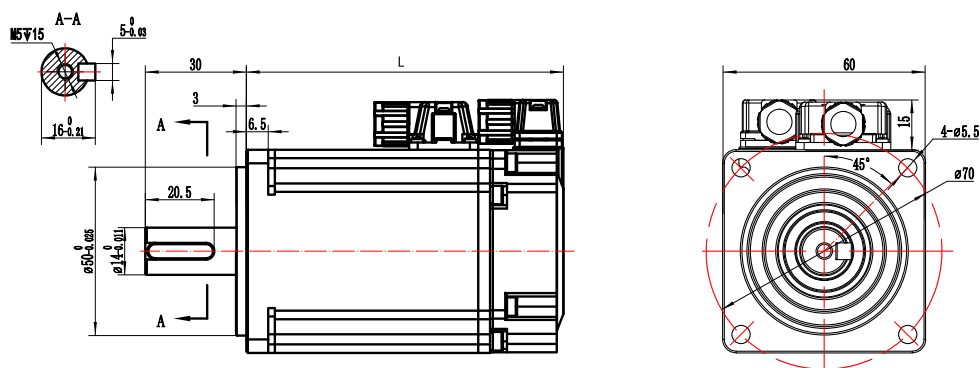
Torque Characteristics



F series 40,60 servo motor



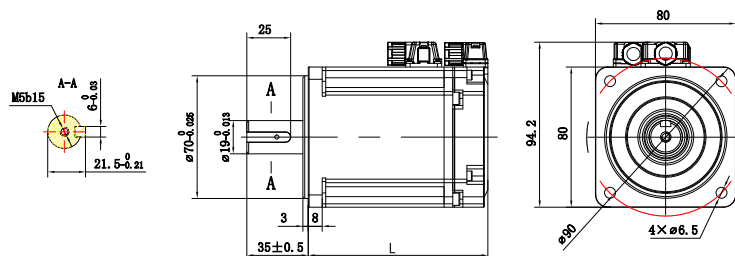
WML series 40 flange servo motor installation outline and dimension drawing



WML series 60 flange servo motor installation outline and dimension drawing

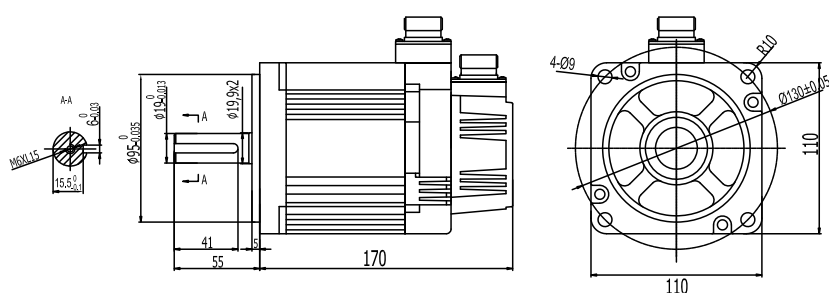
| motor model | 60F-B00630WML | | 60F-B0130WML | | 60F-B0230WML | |
|-------------|---------------|------------|---------------|------------|---------------|------------|
| L(mm) | without brake | with brake | without brake | with brake | without brake | with brake |
| | 77.2 | 109.2 | 93.7 | 125.7 | 113.2 | 145.2 |

F series 80,110 servo motor



WML series 80 flange servo motor installation outline and dimension drawing

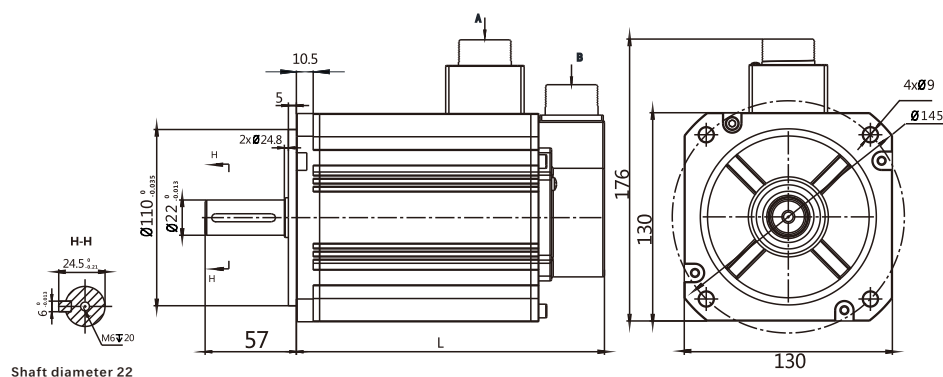
| motor model | 80F-B0230WML | | 80F-B0330WML | |
|-------------|---------------|------------|---------------|------------|
| L(mm) | without brake | with brake | without brake | with brake |
| | 102.5 | 139.5 | 116.5 | 153.5 |



WML series 110 flange servo motor installation outline and dimension drawing

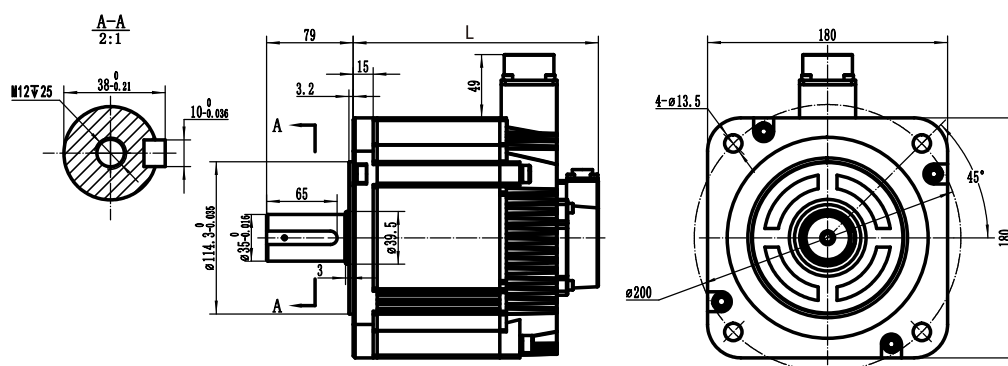
| motor model | 110F-D0630WML | |
|-------------|---------------|------------|
| L(mm) | without brake | with brake |
| | 170 | 196 |

F series130,180 servo motor



WML series 130 flange servo motor installation outline and dimension drawing

| motor model | 130F-D0520WML | 130F-D0820WML | 130F-D1020WML | 130F-D1520WML | 130F-D0515WML | 130F-D0815WML | 130F-D1115WML | 130F-D1515WML |
|-------------|----------------------|-------------------|------------------------|---------------------|----------------------|-------------------|----------------------|-------------------|
| L(mm) | without brake 135 | with brake 185 | without brake 152.5 | with brake 202.5 | without brake 170 | with brake 220 | without brake 200 | with brake 250 |



WML series 180 flange servo motor installation outline and dimension drawing

| motor model | 180F-D1915WMH | 180F-D2815WMH | 180F-D3515WMH | 180F-D4815WMH |
|-------------|----------------------|-------------------|----------------------|-------------------|
| L(mm) | without brake 205 | with brake 252 | without brake 232 | with brake 279 |

F-W series economical AC servo



Series Features

- ◇ Small size, new concept of appearance design, save space in electric cabinet
- ◇ Matching 5 pairs of 17bit optical/magnetic encoders, good high-speed performance and high cost performance
- ◇ With a variety of protection and alarm functions
- ◇ Standard Rs485 communication function, realize upload and download network control
- ◇ Position control, speed control, torque control Modbus communication can be converted to each other to meet general applications
- ◇ Full range of CE certification

Applications

This product is positioned in the field of automation equipment and instruments in various motion control fields of medium and small power. Adopt advanced control algorithm to realize high-precision control of servo motor, It is the first choice for users expecting space saving, superior high-speed performance and strong price-performance competition.

Suitable for the following occasions

- ◆ High precision
- ◆ Low power
- ◆ High response
- ◆ Installation space is limited

Mature application industry

- ◆ Industrial robot
- ◆ Semiconductor equipment
- ◆ Engraving equipment
- ◆ Measuring equipment
- ◆ Medical equipment
- ◆ Robot

Specification sheet for order

| Servo model | motor model | Power (KW) | Rated speed (r/min) | Max speed (r/min) | Rated torque (Nm) | Matching cable |
|-------------|------------------|------------|---------------------|-------------------|-------------------|---|
| SDF04NkW(A) | 40F-A00330GCL(A) | 0.1 | 3000 | 6000 | 0.32 | Single turn without battery W3B-***-W |
| | 60F-B00630GCL(A) | 0.2 | 3000 | 6000 | 0.64 | |
| | 60F-B0130GCL(A) | 0.4 | 3000 | 6000 | 1.27 | |
| SDF10NkW(A) | 80F-B0230GCL(A) | 0.75 | 3000 | 6000 | 2.39 | |
| | 80F-B0330GCL(A) | 1.0 | 3000 | 6000 | 3.18 | |
| SDF04NkW(A) | 40F-A00330WML | 0.1 | 3000 | 6000 | 0.32 | Multiple turns with battery W3B-***-W-EC |
| | 60F-B00630WML | 0.2 | 3000 | 6000 | 0.64 | |
| | 60F-B0130WML | 0.4 | 3000 | 6000 | 1.27 | |
| SDF10NkW(A) | 80F-B0230WML | 0.75 | 3000 | 6000 | 2.39 | |
| | 80F-B0330WML | 1.0 | 3000 | 6000 | 3.18 | |

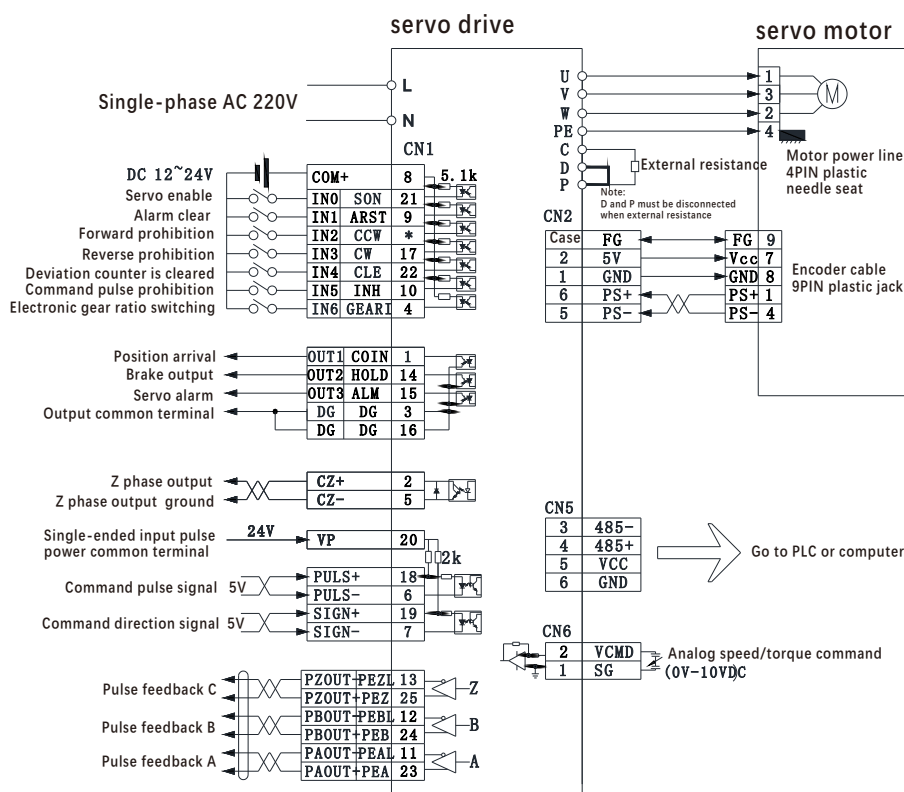
Note: The suffix of the brake motor is "-Z", for example: 80F-0230GCL-Z

F-W series economical AC servo

Performance Specifications

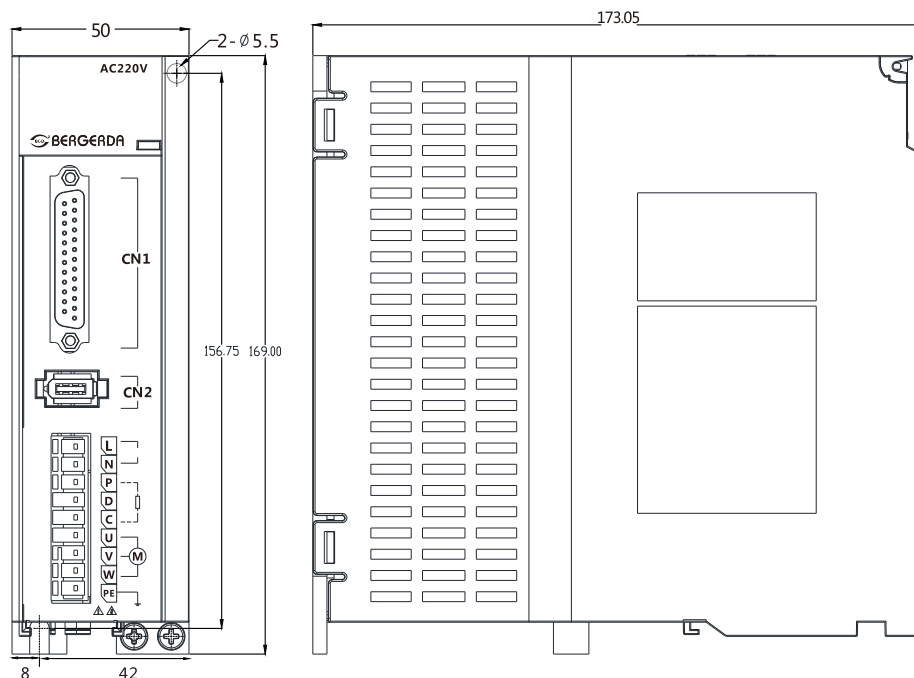
| | | | |
|-----------------------|------------------------------|---------------------------------------|--|
| External connection | Input power | | Single or Three phase AC170~253V |
| | | | 50/60Hz |
| | control type | | SVPWM control |
| Internal function | encoder | | 17bit magnetoelectric/photoelectric encoder |
| | Display and operation | | Six bits seven-segment display LED: Four function keys |
| | Control mode | | Position control/speed test run/jog run/internal positioningPLC function/RS485 communication |
| | Braking function | | built-in,External optional |
| Position control mode | Protection function | | Undervoltage, overvoltage, overload, overcurrent, encoder abnormality,brake abnormal, position excess error, etc. |
| | Command control method | | External pulse |
| | External command pulse input | Form | pulse + direction ;CW/CCW pulse ;A/B quadrature |
| | | Maximum frequency | Differential: 2MHZ open collector: 200KHZ |
| Speed control mode | Electronic gear ratio | | 1~32767/1~32767 |
| | Internal speed control | | I/Oterminal control |
| Input/output signal | Position signal output | Output type | ABZ phase drive output / Z phase collector open circuit output |
| | | Frequency division ratio | 1/255/~1 |
| | input signal | 7points photoelectric isolation input | 1) Servo enable 2) Alarm clear 3) Forward drive prohibited 4) Reverse drive prohibited 5)Position deviation counter reset 6) Input pulse prohibited 7) No definition |
| | output signal | 4points open collector | 1) Servo ready output 2) Servo alarm output 3) Z signal output 4) Brake output |
| Use environment | temperature | | Working: 0°C~55°C Storage: -20°C~80°C |
| | humidity | | Less than 90% (without condensation) |

Typical application wiring diagram



F-W series economical AC servo

Driver installation dimension drawing



SDF04NKW/SDF10NKW(A)
Weight: 0.8kg

Motor installation dimension drawing

Motor dimension drawing reference P18

C series Ethercat bus servo



Series Features

- ◇ Standard Ether CAT high-speed bus supports COE (CIA402 protocol)
- ◇ Operating voltage range single/three-phase AC180-240V
- ◇ Support control modes such as CSP PP PV HM
- ◇ Compatible with mainstream Ether CAT masters on the market, the bus transfer rate can reach 100MB/S

Applications

The bus type servo driver adds the Ether CAT bus communication function on the basis of the digital servo driver. Compared with ordinary pulse servo drives, bus-type servo drives can truly achieve isochronous synchronization, because the speed of bus communication is faster, and the speed or position setting value can be sent directly. The bus-type driver can also save wiring costs, reduce wiring time, and reduce the probability of errors. One bus communication port of the host computer can be connected to multiple servos, and a simple RJ45 port can be used to plug in between the servos, shortening the construction period.

SDC series magnetic motor ordering specification table

| Servo model | motor model | Power (KW) | Rated /Maximum speed (RPM) | Rated torque (Nm) | Motor type | Supporting cables |
|-------------|------------------|------------|----------------------------|-------------------|--|-------------------|
| SDC04NK7 | 40F-A00330GCL(A) | 0.1 | 3000/6000 | 0.32 | Medium inertia | W3B-***-F |
| | 60F-B00630GCL(A) | 0.2 | 3000/6000 | 0.64 | | |
| | 60F-B0130GCL(A) | 0.4 | 3000/6000 | 1.27 | | |
| | 60F-B0230GCL(A) | 0.6 | 3000/6000 | 1.91 | | |
| SDC08NK8 | 80F-B0230GCL(A) | 0.75 | 3000/6000 | 2.39 | | |
| | 80F-B0330GCL(A) | 1.0 | 3000/6000 | 3.18 | | |
| SDC20NK5 | 110F-D0630WCL(A) | 1.8 | 3000/4000 | 5.4 | Small and medium inertia | |
| | 130F-D0520WCL(A) | 1.0 | 2000/3000 | 4.77 | | |
| | 130F-D0820WCL(A) | 1.5 | 2000/3000 | 7.16 | | |
| | 130F-D1020WCL(A) | 2.0 | 2000/3000 | 9.55 | | |
| SDC50NK5 | 130F-D1520WCL(A) | 3.0 | 2000/3000 | 14.3 | | |
| SDC20NK5 | 130F-D0515WCL(A) | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed, high torque | W2D-***-X |
| | 130F-D0815WCL(A) | 1.3 | 1500/2000 | 8.34 | | |
| | 130F-D1115WCL(A) | 1.8 | 1500/2000 | 11.5 | | |
| | 130F-D1515WCL(A) | 2.2 | 1500/2000 | 14.3 | | |
| SDC30HK5 | 130F-D0520WCH(A) | 1.0 | 2000/3000 | 4.77 | Small and medium inertia | |
| | 130F-D0820WCH(A) | 1.5 | 2000/3000 | 7.16 | | |
| | 130F-D1020WCH(A) | 2.0 | 2000/3000 | 9.55 | | |
| | 130F-D1520WCH(A) | 3.0 | 2000/3000 | 14.3 | | |
| | 130F-D0515WCH(A) | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed, high torque | |
| | 130F-D0815WCH(A) | 1.3 | 1500/2000 | 8.34 | | |
| | 130F-D1115WCH(A) | 1.8 | 1500/2000 | 11.5 | | |
| | 130F-D1515WCH(A) | 2.2 | 1500/2000 | 14.3 | | |

Suitable for the following occasions

High precision
High response
EtherCAT bus
Strong magnetic interferencer

Mature application industry

Industrial robot
Semiconductor equipment
Engraving equipment
Measuring equipment
Medical equipment
robot

Note: 1. Multi-turn encoders must be customized
2. The suffix of the brake motor is "-Z", for example: 130F-D0520WCL(A)-Z

C series Ethercat bus servo

SDC series with optical encoder motor ordering specification table

| Servo model | motor model | Power (KW) | Rated /maximum speed (RPM) | Rated torque (Nm) | Motor type | Supporting cables | |
|-------------|---------------|------------|----------------------------|-------------------|--|---|---|
| SDC04NK7 | 40F-A00330WML | 0.1 | 3000/6000 | 0.32 | Large inertia | Single turn without battery W3B-***-F | |
| | 60F-B00630WML | 0.2 | 3000/6000 | 0.64 | | | |
| | 60F-B0130WML | 0.4 | 3000/6000 | 1.27 | | | |
| | 60F-B0230WML | 0.6 | 3000/6000 | 1.91 | | | |
| SDC08NK8 | 80F-B0230WML | 0.75 | 3000/6000 | 2.39 | | Multiple turns with battery W3B-***-F-EC | |
| | 80F-B0330WML | 1.0 | 3000/6000 | 3.18 | | | |
| SDC20NK5 | 110F-D0630WML | 1.8 | 3000/4000 | 5.4 | Small and medium inertia | Single turn without battery W2D-***-X | |
| | 130F-D0520WML | 1.0 | 2000/3000 | 4.77 | | | |
| | 130F-D0820WML | 1.5 | 2000/3000 | 7.16 | | | |
| | 130F-D1020WML | 2.0 | 2000/3000 | 9.55 | | | |
| SDC50NK5 | 130F-D1520WML | 3.0 | 2000/3000 | 14.3 | | | |
| SDC20NK5 | 130F-D0515WML | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed, high torque | | Multiple turns with battery W2D-***-X-EC |
| | 130F-D0815WML | 1.3 | 1500/2000 | 8.34 | | | |
| | 130F-D1115WML | 1.8 | 1500/2000 | 11.5 | | | |
| | 130F-D1515WML | 2.2 | 1500/2000 | 14.3 | | | |
| SDC30HK5 | 130F-D0520WMH | 1.0 | 2000/3000 | 4.77 | Small and medium inertia | | |
| | 130F-D0820WMH | 1.5 | 2000/3000 | 7.16 | | | |
| | 130F-D1020WMH | 2.0 | 2000/3000 | 9.55 | | | |
| | 130F-D1520WMH | 3.0 | 2000/3000 | 14.3 | | | |
| | 130F-D0515WMH | 0.85 | 1500/2000 | 5.39 | Medium inertia Low speed, high torque | | |
| | 130F-D0815WMH | 1.3 | 1500/2000 | 8.34 | | | |
| | 130F-D1115WMH | 1.8 | 1500/2000 | 11.5 | | | |
| | 130F-D1515WMH | 2.2 | 1500/2000 | 14.3 | | | |
| SDC55HK12 | 180F-D1915WMH | 2.9 | 1500/2000 | 18.6 | Large inertia | Single turn without battery W4D-***-X | |
| | 180F-D2815WMH | 4.4 | 1500/2000 | 28.4 | | | |
| | 180F-D3515WMH | 5.5 | 1500/2000 | 35.0 | | | |
| SDC75HK12 | 180F-D4815WMH | 7.5 | 1500/2000 | 48.0 | | | Multiple turns with battery W4D-***-X-EC |

Note: The suffix of the brake motor is "-Z", for example: 130F-D0520WML-Z

Motor installation dimension drawing

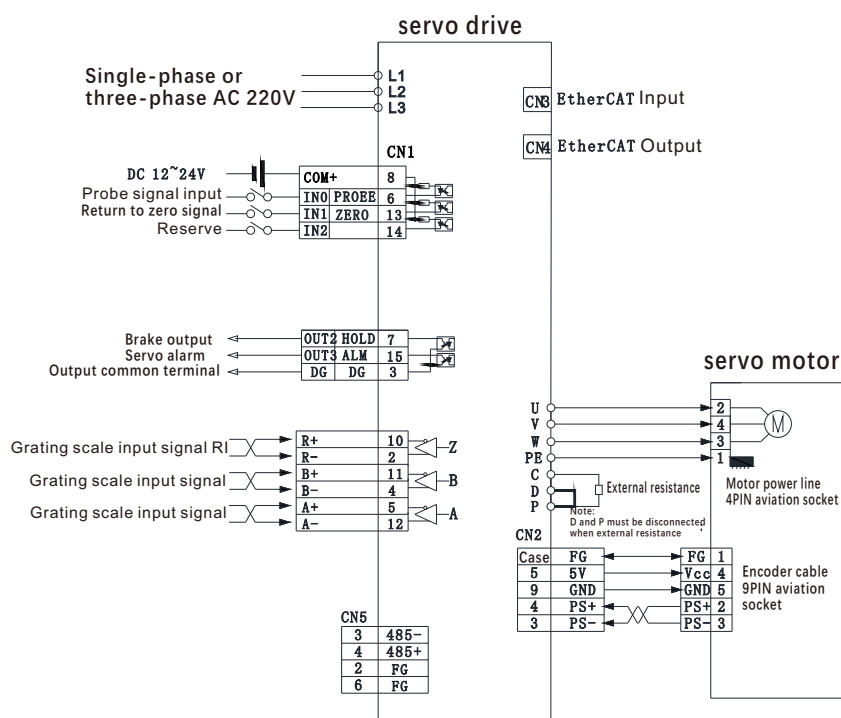
motor specifications and dimensions, please refer to F series motor P18-P27.
Please consult separately for matching cables.

C series Ethercat bus servo

Performance Specification Sheet

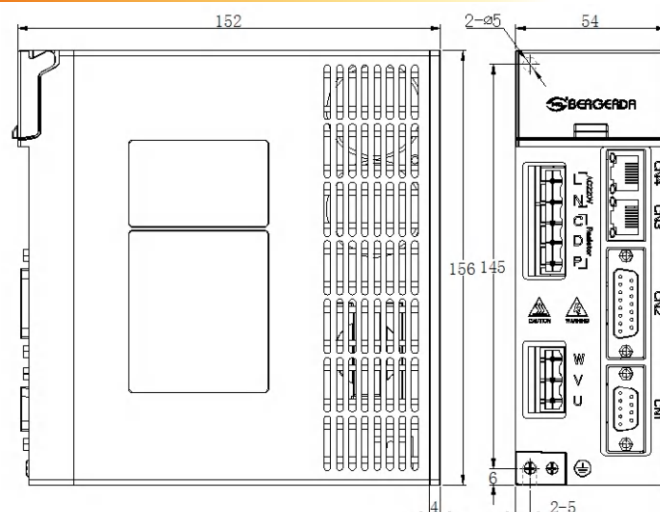
| | | |
|----------------------|--|--|
| External connection | input power | single/three phase180V/-240V 50/60Hz |
| | control way | PWM sine wave vector control |
| | encoder | 17BIT Optical/Magnetic |
| Internal function | display and operation | Six-digit seven-segment display LED: four function operation keys |
| | control mode | Position/speed/torque/homing |
| | Brake function | Built-in or external optional |
| | protection function | Overspeed/overvoltage/overcurrent/overload/brake abnormality/encoder abnormality/position out of tolerance, etc. |
| Protection class | Ip20 | |
| Fieldbus | EtherCAT bus csp,pp,pv,cs,cs modes | |
| control input | Three point inputs: configured for probing, zeroing, etc. | |
| control output | brake, alarm and other functions | |
| Position | Command ac /deceleration | parameter settings |
| | command source | Internal position command,bus command |
| Speed | Command ac /deceleration | parameter settings |
| | command source | Internal speed command,bus command |
| Torque | speed limit | parameter settings |
| | command source | Internal torque command,bus command |
| Special functions | return to origin, Gain switching, Mechanical Resonant Notch Filters | |
| Monitoring functions | Speed, current position, position deviation, motor torque, motor current, etc. | |

Typical application wiring diagram

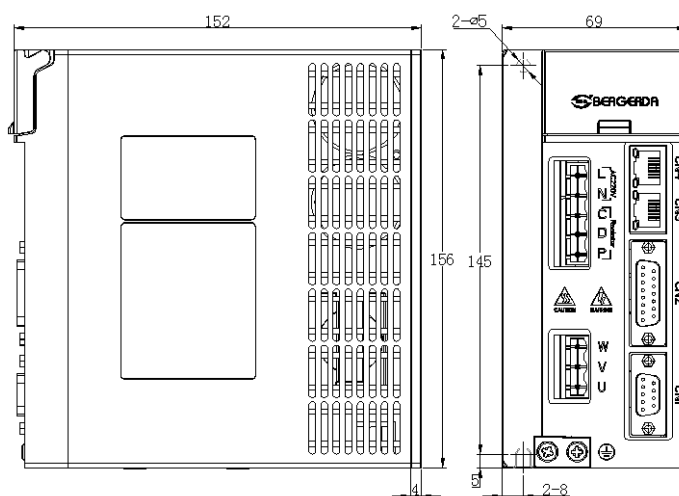


C series Ethercat bus servo

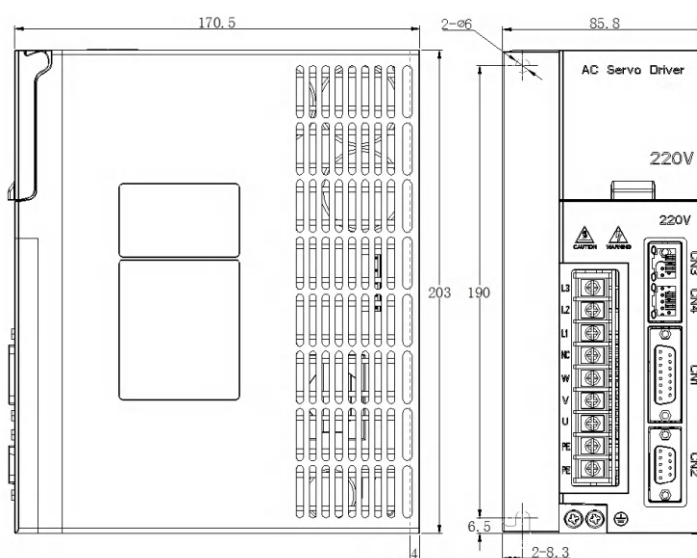
Install dimensions



SDC04NK7
Weight 1.0kg



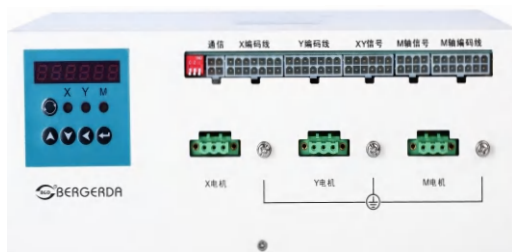
SDC08NK8
Weight 1.15kg



SDC20NK5
Weight 1.8kg

V series Embroidery machine servo

Series features



- ◇ Advanced control algorithm for high-precision positioning
- ◇ Can be adapted to Dahao, Shanlong, Tianhong, Jialichuang and other kinds of embroidery electronic control
- ◇ Fast parking response and stable speed
- ◇ Stable performance and simple operation
- ◇ Complete product line, spindle servo, XY frame servo, towel embroidery servo
- ◇ Supply whole set of servo motor and drive

Specification sheet for order

| Servo model | Servo model | | motor model | Power(KW) | Rated speed(RPM) | Rated torque(Nm) |
|--------------------------------|-------------|---------|-----------------|-----------|------------------|------------------|
| Quilting machine configuration | SDV-303 | Spindle | 130SM-M1520NAL | 3.0 | 2000 | 15.0 |
| | | X-axis | 130SM-M1015NAL | 1.5 | 1500 | 10.0 |
| | | Y-axis | 130SM-M1015NAL | 1.5 | 1500 | 10.0 |
| Spindle servo | SDD10NK5D | | 130SM-M0425NAL | 1.0 | 2500 | 4.0 |
| | SDD13NK5D | | 130SM-M0525NAL | 1.3 | 2500 | 5.0 |
| | SDD20NK5D | | 130SM-M0825NALF | 2.0 | 2500 | 7.7 |
| | SDD26NK5D | | 130SM-M1025NALF | 2.6 | 2500 | 10.0 |
| | SDD30NK5D | | 130SM-M1520NALF | 3.0 | 2000 | 15.0 |
| High-voltage spindle servo | SDD30HK5D | | 130SM-M1520NAHF | 3.0 | 2000 | 15 |
| | SDD55HK12D | | 130SM-M1820NAHF | 3.6 | 2000 | 18 |
| | SDD55HK12D | | 180SM-M2220NAHF | 4.5 | 2000 | 22 |
| XY frame servo | SDD20NK5D | | 110SM-M1020NAL | 2.0 | 2000 | 10 |

Application product



V series two-axis synchronous servo



Series features

- ◇ One drive to drive two motors
- ◇ Load changes, power outages, keep synchronization
- ◇ Two-axis deviation, arbitrary setting and alarm prompt
- ◇ Two axes in one, space saving, high power, total 4KW
- ◇ Electrical wiring is super simple, supports RS485 communication,
- ◇ two-axis data can be exchanged at any time

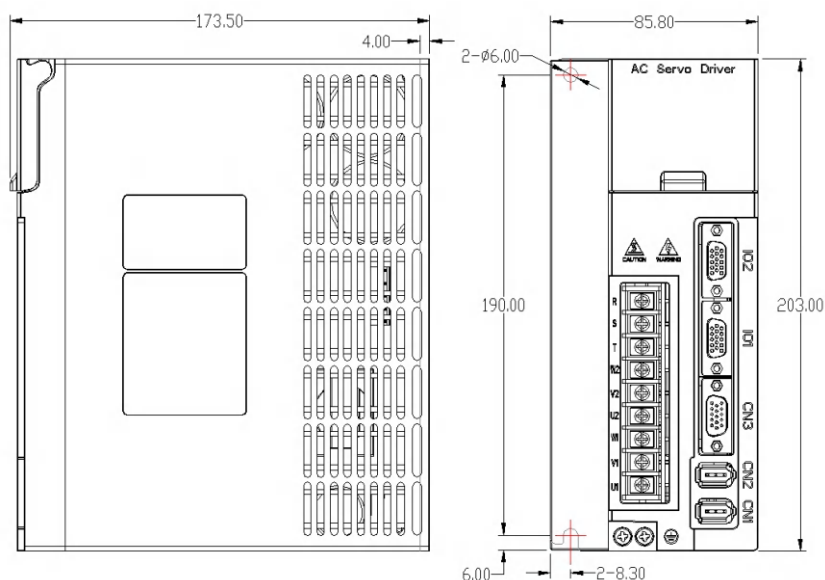
Help you solve

- ◇ One pulse controls two motors, load changes, two-axis synchronization deteriorates
- ◇ Master-slave following, complicated wiring, inherent lag
- ◇ Unexpected power outage, two axes one fast and one slow
- ◇ Gantry structure synchronization problem
- ◇ Replace mechanical synchronization occasions and simplify mechanical design

Specification sheet for order

| Servo model | Function | motor model |
|--------------|---------------------------------|--|
| SDV102NK5 | Gantry synchronous type | Total power of two axes <2KW (60, 80, 110, 130 series 5 pairs poles) |
| SDV202NK5 | Gantry synchronous type | Total power of two axes <4KW (60, 80, 110, 130 series 5 pairs poles) |
| SDV102NK5-XY | Two-axis independent pulse type | Total power of two axes <2KW (60, 80, 110, 130 series 5 pairs poles) |
| SDV202NK5-XY | Two-axis independent pulse type | Total power of two axes <4KW (60, 80, 110, 130 series 5 pairs poles) |
| SDV102NK5-HF | Industry-specific machine | |

Installation dimension drawing



Weight: 2.0kg

COMMITTED TO MACHINE INTELLIGENCE, FOCUS MOTOR CONTROL



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