StellarSpace

# Energy-Efficient Servo Drive System

## QD series

# About StellarSpace

Since its inception, StellarSpace focus on general industrial areas, including automation, digitalization, and intelligence in the industrial sector.

We have variable cutting edge technologies covering hundreds of hardware products and software products, as well as multiple industrial solutions. We built leading level R&D capability for industrial automation products, including Program mable Logic Controllers (PLC), Drives, Motors, etc. We also produce other general industrial products. These solutions are extensively applied across light industry, heavy industry, high-end equipment manufacturing, and other applications. Our customer can be benifit from our smart, precise, and high efficiency industrail solutions, driving intelligent manufacturing while empowering industrial digital and intelligent transformation.

# Key benefits

## ENERGY EFFICIENT

Permanent magnet motors ensure high efficiency across a broad operating range

## PRECISE POSITIONING

Fast response with 16 kHz position loop; high-resolution encoders available

## EASY TO USE

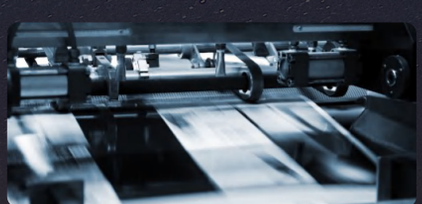
Streamlined startup, intuitive operation, and built-in practical functions

## FLEXIBLE INTEGRATION

Supports EtherCAT, Profinet, multiple encoder types, and optional brakes

# Typical industries and applications

Food & beverage



Packaging & printing

Automotive

Healthcare

Semiconductors

Laser cutting

Industrial robots

Textile

# Overview

## QD20-G Servo Drive

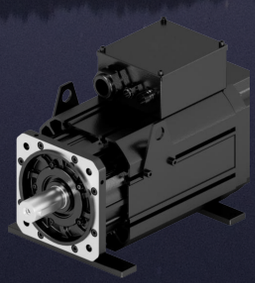
The QD20-G is a high-performance general-purpose servo drive, featuring 16kHz carrier frequency, 320kHz current loop sampling, 16kHz speed and position loop rates, and a 3kHz speed loop bandwidth. With positioning resolution up to 8,388,608 P/R, it ensures precise motion control. It supports full closed-loop control, multi-stage positioning, gain switching, fixed-length interrupts, electronic cam, and more. An integrated PLC enables simple user programming for customized applications.

## QD20-E PROFINET Servo Drive

The QD20-E series supports PROFINET RT/IRT communication with standard telegrams 1, 3, 7, 9 and Siemens telegrams 102, 105, 110, 111, 750. With a minimum sync cycle of 500 µs and power range from 0.1 to 110 kW, it accommodates a wide range of encoder options to suit various applications.

## QD25-E EtherCAT Servo Drive

The QD25-E is a next-generation EtherCAT-based servo drive with a dual-core CPU architecture. It supports high-speed, multi-axis synchronization over standard RJ45 interfaces. Power range: 0.1–110 kW.



## General Purpose Servo Motors

Compact and lightweight motors covering 0.1–10 kW. Available with various encoder types and optional built-in brake.

## Mid-to-High Power Servo Motors

Air-cooled motors with power range from 10–122 kW. Energy-efficient, standard with thermal protection. Multiple encoder options available; selected models support integrated brakes.

# QD20-G Servo Drive

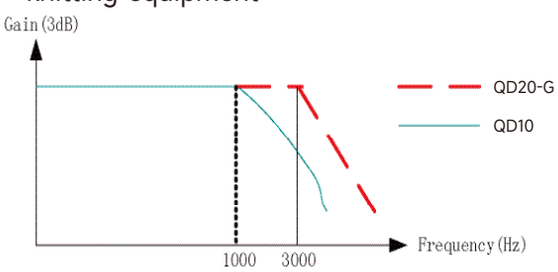

## 【Overiew】

The QD20-G is a high-performance general-purpose servo drive, featuring 16kHz carrier frequency, 320kHz current loop sampling, 16kHz speed and position loop rates, and a 3kHz speed loop bandwidth. With positioning resolution up to 8,388,608 P/R, it ensures precise motion control. It supports full closed-loop control, multi-stage positioning, gain switching, fixed-length interrupts, electronic cam, and more. An integrated PLC enables simple user programming for customized applications. Certified for compliance with CE and RoHS standards.

## 【Features】

### Faster Motion

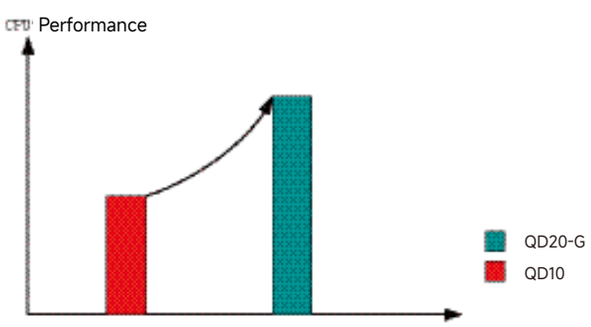
- Industry-leading performance for demanding path control applications such as engraving-milling machines, CNC machining centers, grinders, and welding systems
- High-speed and accurate positioning for pick-and-place machines, stamping feeders, and warp knitting equipment




#### 3.0 kHz Response Frequency

Designed for robotics, CNC machines, and engraving-milling systems

- Torque feedforward control ensures ultra-fast response and reduced tuning time




#### Dual-Core Processing Architecture

Ideal for robotics and machine tools

- Parallel processing boosts execution efficiency

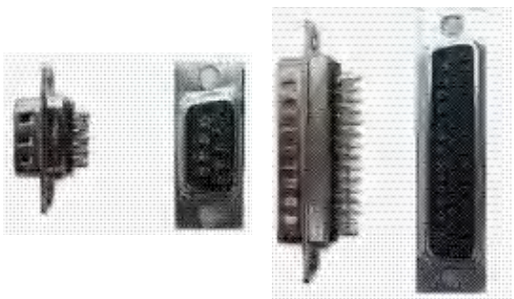
# QD20-G Servo Drive

## Ease of Use

■ Intuitive operation with simplified commissioning and practical functionality for daily use.

### Clear and Intuitive Menu

■ The main menu uses clear, easy-to-remember alphanumeric codes for improved user accessibility. Fault codes are shown when alarms occur to help with fast troubleshooting.



### User-Friendly DB Connectors

■ Encoder and control signals use DB connectors —easy to wire and quick to install.

## Intelligent

■ Auto-tuning via inertia identification and notch filter configuration enables optimal performance with minimal effort

■ Flexible command source switching adapts easily to various application needs and streamlines setup

## Powerful Versatility

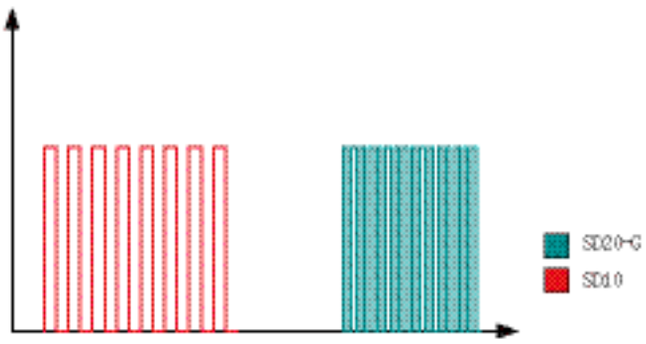
■ Extensive feature set supports a wide range of scenarios

■ Fast and straightforward configuration accelerates deployment and improves user experience

### Integrated Simple PLC and Electronic Cam Functions

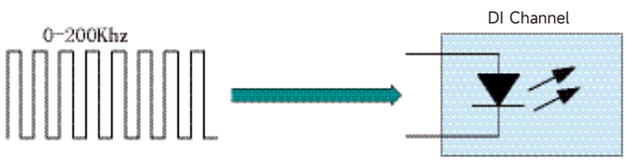
■ Integrated simple PLC and electronic cam functions. Paired with dedicated software for easier setup and operation.

# QD20-G Servo Drive




## High Pulse Frequency — Up to 4 MHz

- Enables higher resolution motion control with pulse command frequency up to 4 MHz.




## Built-in High-Speed DI Channel

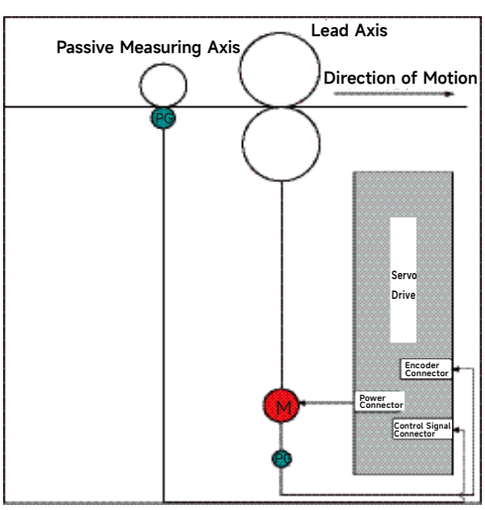
- Includes one high-speed digital input for flexible application needs.

## Supports Multiple Encoder Types

- QD20-G series supports absolute, incremental, resolver, magnetic, and Hiperface encoders — adaptable for various applications.

## More Versatile Applications

- The QD20-G series supports full closed-loop control and gantry synchronization, making it suitable for a broader range of automation tasks.




## Full Closed-Loop Control

### Description

An external encoder mounted on the load provides real-time position feedback. The servo drive uses this feedback for precise closed-loop control, ensuring accurate positioning and smooth motion. This effectively prevents belt slippage and backlash.

The function is achieved via the drive's internal algorithm, as shown in the diagram.

# QD20-G Servo Drive

## Gantry Synchronization

■ Two drives receive pulse commands at the same time.They exchange encoder feedback and adjust motor speed through cross-control to keep both axes synchronized. If the position error exceeds the set limit,ban alarm is triggered and the system stops.

## Interrupt-Based Position Control

■ In external pulse mode, the drive can interrupt current motion and execute a preset move length.

## Gain Switching

■ The drive supports switching between two gain sets based on user-defined conditions. This helps maintain stable performance when the load or mechanism changes.

## Multi-Step Position Control

■ Up to 8 internal position commands can be selected via input signals, simplifying host control and user operation.

## 【Ordering Information】

**QD20 - G 102 T2 M2 F0 D70 B3**
1 2 3 4 5 6 7 8

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Code: Series | Code: Intended use | Code: Power | Code: Power supply | Code: Dimensions |
| QD20：20 Series | G：Generic | 050：50W 101：100W | S2: 1-phase 22V | M0：48×165×155 M1：48×175×195 |
| | | 201：200W 751：750W | T2: 3-phase 220 V | M2：76×175×195 M3：100×203×218 |
| | | 102：1kW …, … | T3: 3-phase 380 V | ML3：275×118×223 M4：185×380×215 |
| | | | | M5：210×420×234 M6：268.4×498×234 |
| | | | | M7：310×576×234 M8：355×555×290 |
| | | | | …, … |

| 6 | 7 | | 8 |
|---|---|---|---|
| Code: Comm | Code: Feedback | | Code: Brake |
| F0/blank:<br>Modbus, via USB | D20：<br>Differential rotatory resolver | D50：<br>14 pin 2500 line incremental enc | B1/blank:<br>Internal resistor braking |
| | D51：<br>8 pin 2500 line incremental enc | D52：<br>4 pin 23 bit incremental enc | B3:<br>Dynamic braking + Resistor braking |
| | D70：<br>4 pin 17 bit absolute enc | D71：<br>4 pin 23 bit absolute enc | B6：<br>External resistor braking |
| | D72：<br>4 pin 23 bit absolute enc | D80：<br>4 pin 17 bit magnetic enc | |
| | D10：<br>16 bit Hiperface enc | D30：<br>BiSS enc | |
| | D16：<br>128 bit Hiperface enc | D17：<br>1024 bit Hiperface enc | |

* Dimensions are defined as (W × H × D).

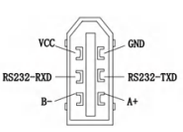
Models with M0 structure support only D70, D71, D72, D52, and D80.

# QD20-G Servo Drive

| Technical specifications | | | |
|---|---|---|---|
| Voltage/Frequency | | S2/T2 series | 220VAC -15 ~ +10% 50/60Hz |
| | | T3 series | 3-phase 380…440 VAC, -15…+10%, 50/60Hz |
| Control mode | | Pt: position pulse mode Pr: internal register position mode Sz: analog speed mode<br>Sr: internal register speed mode Tz: analog torque mode Tr: internal register torque mode | |
| Resistor braking | | Built-in or external brake resistor (external resistor sold separately)<br>The M0 and M1 models do not include a built-in brake resistor. ML3, M4, M5, M6, M7 models are metal-housed drives without built-in brake resistors. All other models come with a built-in brake resistor. | |
| Control characteristics | Control method | Permanent magnet synchronous motor | |
| | Speed response frequency | 3.0kHz | |
| | Speed fluctuation rate | ± 0.01% (load 0 - 100%) | |
| | Speed fluctuation | Permanent magnet synchronous motor ± 0.01% (VC, Load 0 - 100%) | |
| | Speed control ratio | 1: 10000 | |
| | Input pulse frequency | 1. 500kHz (differential) ; 200kHz (open collector)<br>2. High-speed pulse circuit accepts 4 MHz (differential) | |
| Input signal | Control inputs | Servo enable, alarm reset, command pulse clear, command pulse disable, forward rotation prohibited, reverse rotation prohibited, forward torque limit, reverse torque limit, internal speed selection, internal position trigger, home/mechanical home position retrieval trigger, zero speed clamping and others | |
| | Encoder | 1. Absolute encoder, 17 bit / 23 bit 2. Incremental encoder, 23 bit, 2500 line 3. Rotatory resolver<br>4. Magnetic encoder, 17 bit 5. Hiperface encoder 6. BiSS encoder | |
| Output signal | Control outputs | Servo ready, servo alarm, position reached, speed reached, electromagnetic brake output, rotation detection, speed limitation active, home position found, torque limitation active and others | |
| | Encoder signal frequency division output | 1. Encoder Z-phase open collector output<br>2. Encoder A and B-phase frequency division differential output (non-isolated), with arbitrary division; Z-phase output without division<br>3. Z pulse time extension function | |
| Input options | | 2-phase quadrature pulse, forward pulse + reverse pulse, pulse + direction, internal registers | |
| Electronic gear ratio | | 1. 0.01≤ B / A ≤100<br>2. Supports two electronic gears: users can select or switch based on their needs | |
| Analog speed control | | Analog speed signal input: -10V to +10V range, adjustable via function code;<br>Selectable command source | |
| Analog torque control | | Analog torque signal input: -10V to +10V range, adjustable via function code;<br>Selectable command source | |
| Acceleration/Deceleration | | Acceleration/deceleration time setting: 1 to 30,000 ms from 0 to rated speed, with adjustable time | |
| Communications | | RS485/RS232 interface for connecting to a PC to set and monitor servo control parameters | |
| Parameter configuration | Keyboard | Parameter adjustment via four buttons, with settings displayed on a 5-digit LED | |
| | Master station | Via RS485 serial port | |
| Monitoring | | Output current, bus voltage, motor speed, motor feedback pulses, motor feedback revolutions, command pulses, command pulse error, command speed, command torque, analog speed command, analog torque command and others | |
| Warnings | | Over voltage trip, under voltage trip, drive I.T exceeded limit, over current trip, encoder fault, fatal velocity error exceeded, pulse control command error, emergency stops, controller over-temperature, supply phase loss detected, regenerative braking fault, excessive position deviation, encoder battery dead and others | |
| Load inertia | | Less than 5 times the servo motor's inertia | |

## Terminal details

CN1 terminal definition



(Solder side)

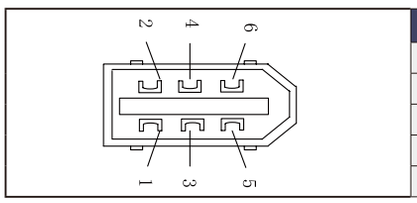
Notes:

1. CN1 provides 100mA. Use external power for higher loads.
2. CN1's VCC is 5V. Use with caution.

Diagram: CN1 terminal definition (viewed from the solder side towards the drive side)

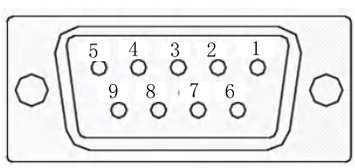
# QD20-G Servo Drive

CN2 terminal definition



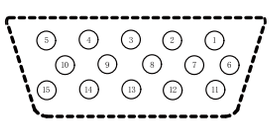

| Terminal No. | Abbreviation | Definition |
|---|---|---|
| CN2- 6 | VCC | +5V power input |
| CN2- 2 | PS | PG serial signal |
| CN2- 1 | /PS | |
| CN2- 5 | GND | Power ground |
| Housing | HOUSING | Shielding layer |

For CN2 encoder cables with M0 structure only




| Terminal No. | Abbreviation | Definition |
|---|---|---|
| CN2-1 | NC | Do not wire |
| CN2-2 | VCC | +5V power input |
| CN2-3 | PS | PG serial signal |
| CN2-4 | /PS | |
| CN2-5 | GND | Power ground |
| CN2-6 | NC | Do not wire |
| CN2-7 | | |
| CN2-8 | | |
| CN2-9 | | |
| Housing | Shielding layer | |

Diagram: CN2 terminal definition (viewed from the solder side towards the drive side)



| Terminal No. | Abbreviation | Definition |
|---|---|---|
| CN2- 1 | V | Encoder V-phase input |
| CN2- 2 | U | Encoder U-phase input |
| CN2- 3 | Z | Encoder Z-phase input |
| CN2- 4 | B | Encoder B-phase input |
| CN2- 5 | A | Encoder A-phase input |
| CN2- 6 | /V | Encoder /V-phase input |
| CN2- 7 | /U | Encoder /U-phase input |
| CN2- 8 | /Z | Encoder /Z-phase input |
| CN2- 9 | /B | Encoder /B-phase input |
| CN2-10 | /A | Encoder /A-phase input |
| CN2-11 | /W | Encoder W-phase input |
| CN2-12 | W | Encoder W-phase input |
| CN2-13 | VCC | +5V power input |
| CN2-14 | GND | Power ground |
| CN2-15 | NC | Do not wire |
| | HOUSING | Shielding layer |

Diagram: 1. CN2 terminal definition (viewed from the solder side towards the drive side)
2. For 8-core incremental encoder wiring, remove U, /U, V, /V, W, /W

CN3 terminal definition

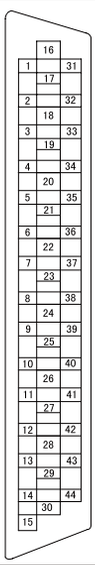
1. Input signal

| Signal type | Terminal No. | Abbreviation | Name | Input method | Description |
|---|---|---|---|---|---|
| Position | CN3-28 | PL1 | Pulse direction input (24V) | Differential signal or open collector | 1.Pulse + Direction<br>2.A and B-phase quadrature pulse<br>3.Pulse + Pulse |
| | CN3-43 | PL2 | Pulse command input (24V) | | |
| | CN3-4<br>CN3-3 | HPULS+<br>HPULS- | High-speed pulse command input | Differential signal | These four channels accept only 5V differential pulse signals, and the reference terminal must be connected to CN3-24 |
| | CN3-5<br>CN3-6 | HSIGN+<br>HSIGN- | High-speed pulse direction command | | |

# QD20-G Servo Drive

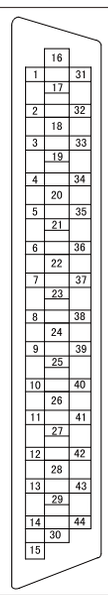
CN3 terminal definition

2. Input signal



| Signal type | Terminal No. | Abbreviation | Name | Input method | Description |
|---|---|---|---|---|---|
| Programmable input terminal | CN3-18 | DI1 | Digital input 1 | Switching signal | Note: When DI8 is used as a high-speed optocoupler, the pulse frequency range is 0–200kHz, with a minimum duty cycle of 20%. |
| | CN3-19 | DI2 | Digital input 2 | | |
| | CN3-20 | DI3 | Digital input 3 | | |
| | CN3-21 | DI4 | Digital input 4 | | |
| | CN3-22 | DI5 | Digital input 5 | | |
| | CN3-38 | DI6 | Digital input 6 | | |
| | CN3-39 | DI7 | Digital input 7 | | |
| | High-speed DI counting port | | | | |
| | CN3-13 | DI8+ | High-speed DI input | Switching signal | |
| | CN3-14 | DI8- | High-speed DI input | | |
| Analog input | CN3-23 | AS1+ | Analog speed command input | Analog signal | Analog speed command input, with GND as power ground |
| | CN3-25 | AS2+ | Analog torque command input | | |
| | CN3-24 | GND | Signal reference terminal | | |
| Position | CN3-44<br>CN3-15 | PULS<br>/PULS | Pulse command input (5V) | Differential signal or open collector | Command input types:<br>1.Differential<br>2.Open collector outputs |
| | CN3-12<br>CN3-27 | SIGN<br>/SIGN | Pulse direction input (5V) | | |

3. Output signal



| Signal type | Terminal No. | Abbreviation | Name | Input method | Description |
|---|---|---|---|---|---|
| Programmable output terminal | CN3-9<br>CN3-10 | D01+<br>D01- | Digital input 1 | Switching signal | Maximum allowable voltage and current capacity of the servo drive internal optocoupler output circuit<br>Voltage: DC 30V (maximum)<br>Current: DC 50mA (maximum) |
| | CN3-26<br>CN3-11 | D02+<br>D02- | Digital input 2 | | |
| | CN3-41<br>CN3-42 | D03+<br>D03- | Digital input 3 | | |
| | CN3-32<br>CN3-31 | D04+<br>D04- | Digital input 4 | | |
| | CN3-7<br>CN3-8 | ALM+<br>ALM- | Servo alarm output | | Action when a servo drive detects an alarm |
| General output terminal | CN3-37 | OZ+ | Encoder Z-phase pulse open collector output | Open collector signal | Encoder Z-phase pulse output as open collector signal |
| | CN3-30 | CM | | | |
| | CN3-34<br>CN3-33 | PB0+<br>PB0- | Encoder B-phase pulse frequency division output | Differential signal | Encoder B-phase pulse frequency division output |
| | CN3-36<br>CN3-35 | PA0+<br>PA0- | Encoder A-phase pulse frequency division output | | Encoder A-phase pulse frequency division output |
| | CN3-16<br>CN3-17 | PZ0+<br>PZ0- | Encoder Z-phase pulse frequency division output | | Encoder Z-phase pulse output |

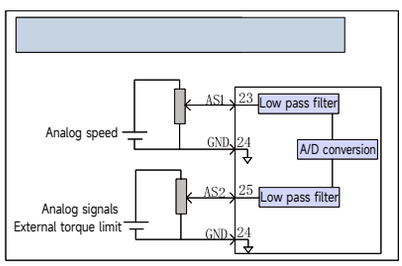
4. Other signals

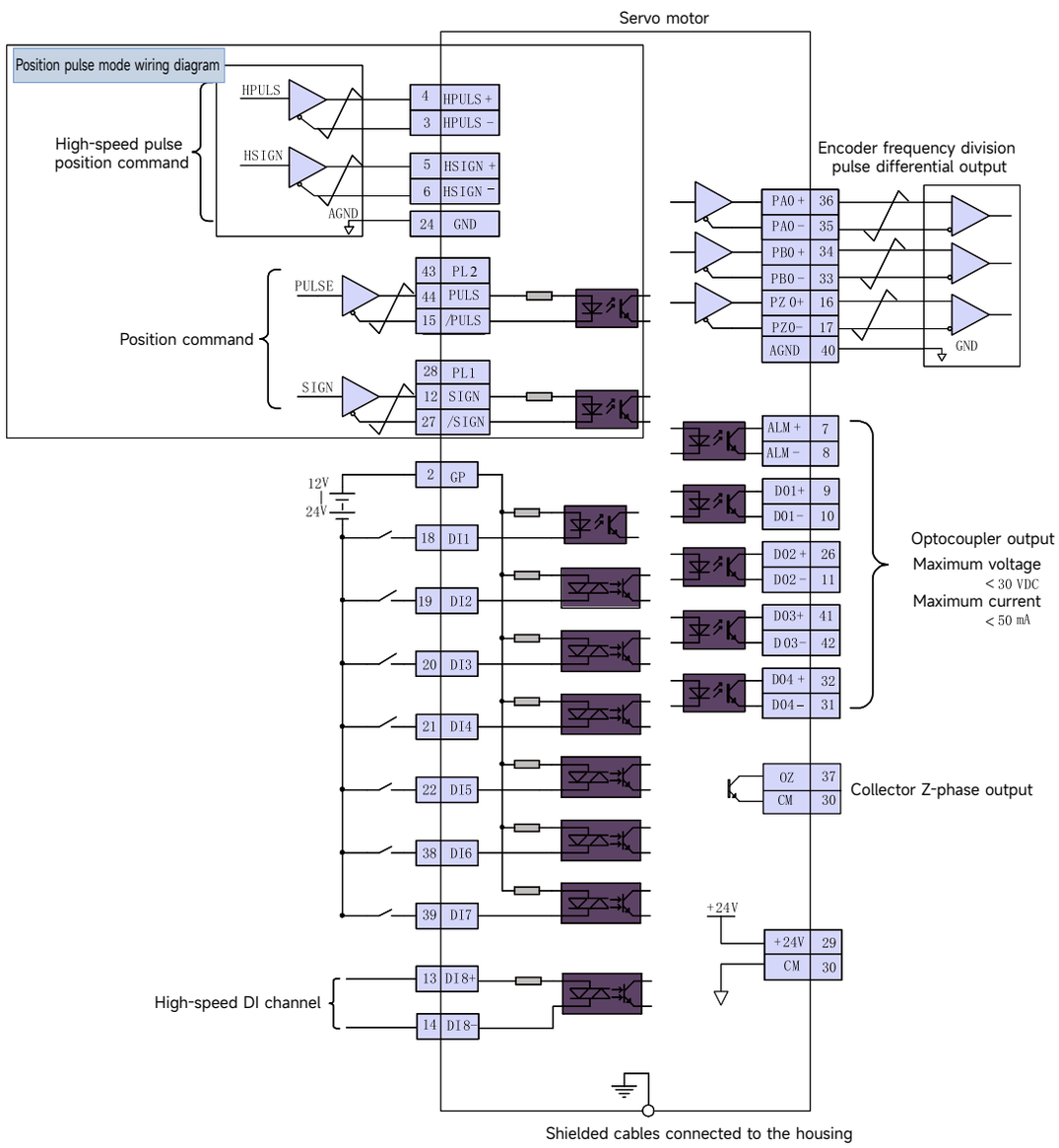
| Signal type | Terminal No. | Abbreviation | Name | Input method | Description |
|---|---|---|---|---|---|
| Power supply | CN3-29 | +24V | Internal 24V power ground | Power supply | Voltage range: 24V–30V, max current: 100mA |
| Analog outputs | CN3-1 | AO | AO output | Analog outputs | Can monitor speed, current, and torque, with AGND as power ground |
| Power ground | CN3-30 | CM | Internal +24V power supply | Power ground | Internal 24V power ground |
| Common terminal | CN3-2 | GP | Common terminal | Common terminal | Common terminal for 24V programmable input terminals |
| Power ground | CN3-24<br>CN3-40 | AGND | Analog power ground, internal +5V power ground | Analog power ground | Ground for analog speed command, analog torque command, and analog monitoring outputs |

# QD20-G Servo Drive

## 【Control functions】

### Connection diagram

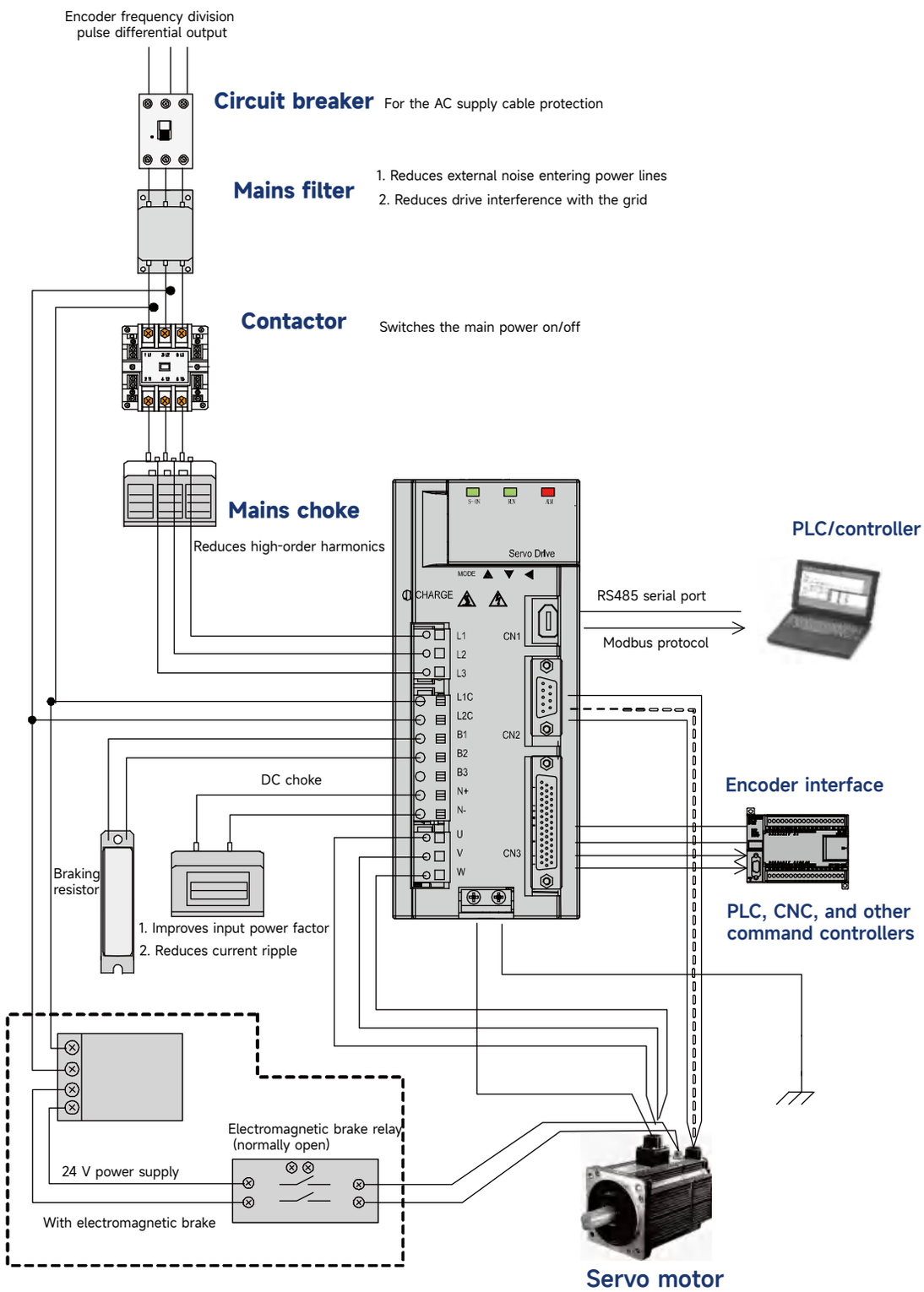



Note: Maximum 100mA output current for 24V internal driver.

# QD20-G Servo Drive

## 【Connection diagram】

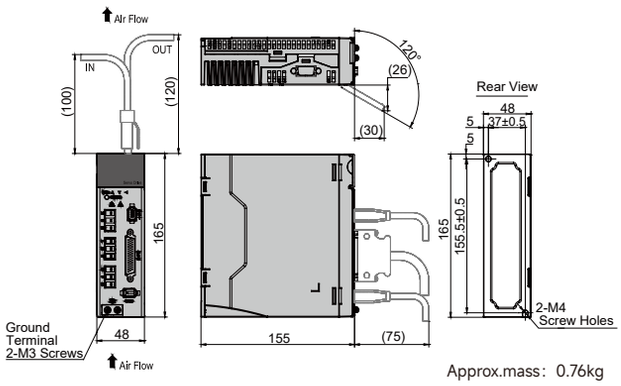



* Taking a 3-phase 220V AC power supply as an example.

# QD20-G Servo Drive

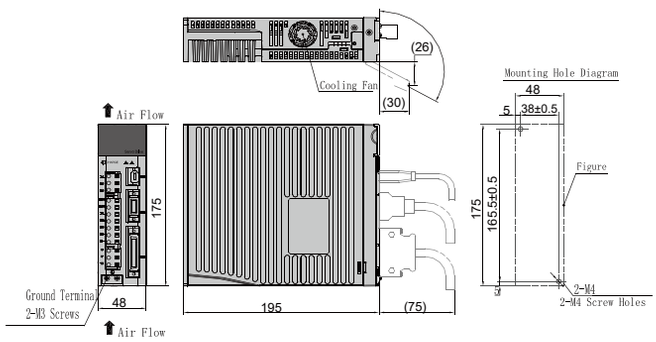
## 【Servo drive dimensions】

### M0 dimensions



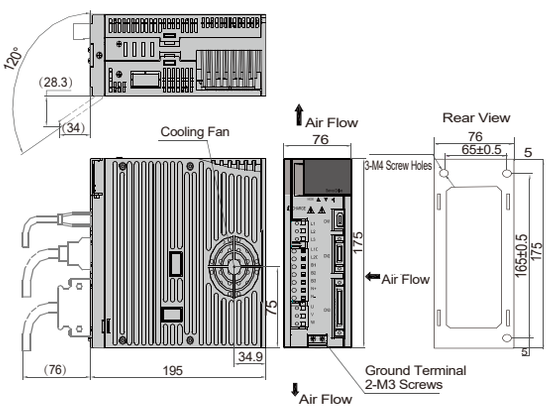

Approx.mass：0.76kg

### M1 dimensions



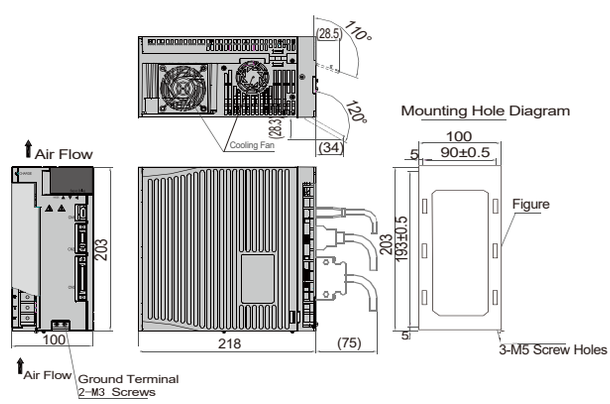

Approx.mass：1.275kg

### M2 dimensions



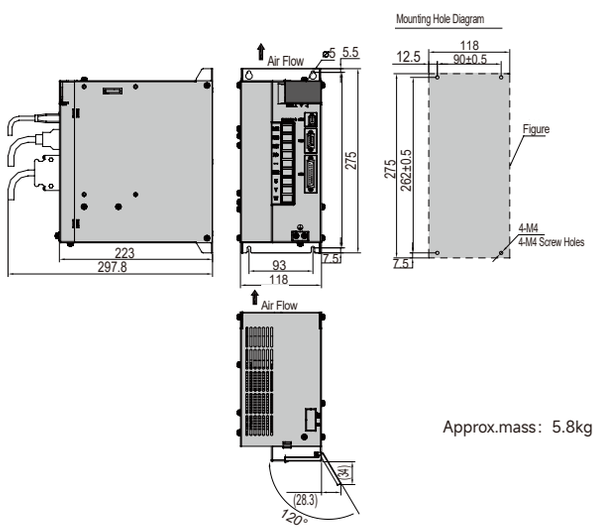

Approx.mass：1.835kg

### M3 dimensions



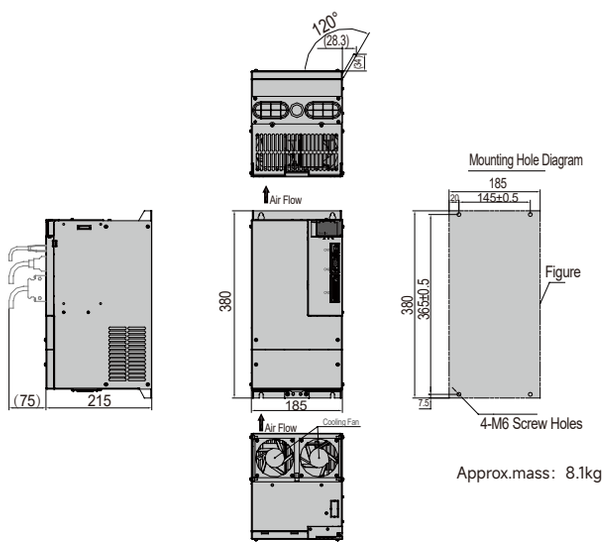

Approx.mass：3.395kg

### ML3 dimensions




Approx.mass：5.8kg

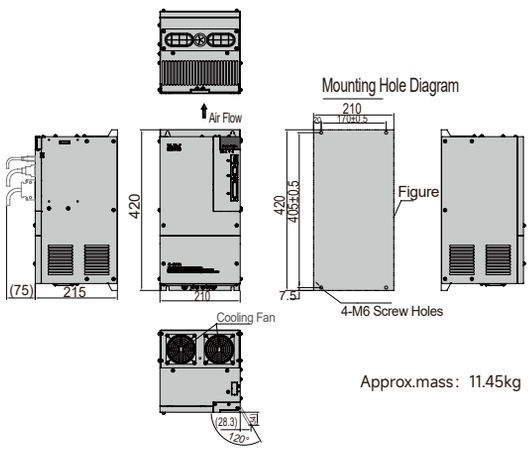
### M4 dimensions




Approx.mass：8.1kg

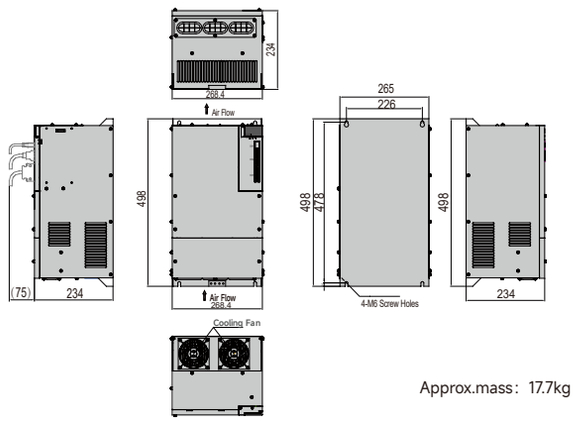
# QD20-G Servo Drive

## M5 dimensions



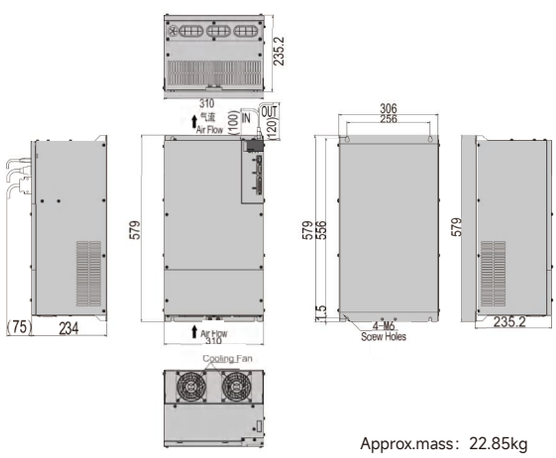

Approx.mass：11.45kg

## M6 dimensions



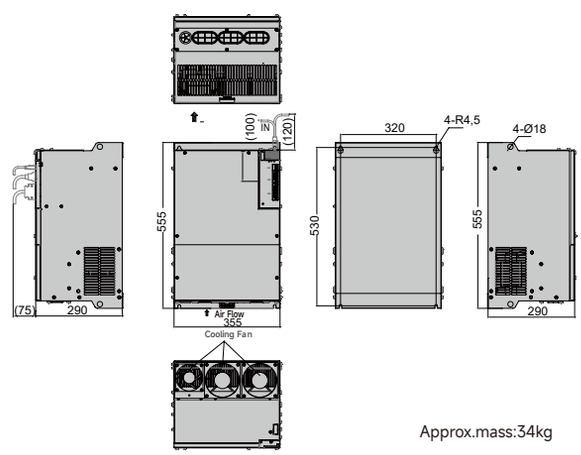

Approx.mass：17.7kg

## M7 dimensions



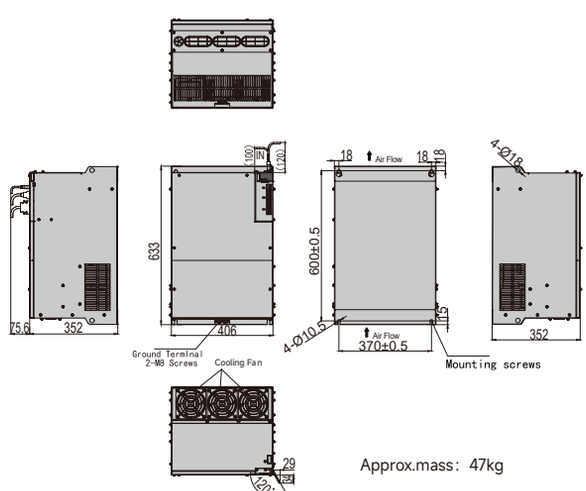

Approx.mass：22.85kg

## M8 dimensions




Approx.mass:34kg

## M9 dimensions




Approx.mass：47kg

Unit: mm

# QD20-E PROFINET Servo Drive


## 【Overview】

The QD20-E series supports PROFINET RT/IRT communication with standard telegrams 1, 3, 7, 9 and Siemens telegrams 102, 105, 110, 111, 750. With a minimum sync cycle of 500 μs and power range from 0.1 to 110 kW, it accommodates a wide range of encoder options to suit various applications.

## 【Features】

- Response frequency up to 3 kHz
- Supports both online and offline inertia identification with automatic parameter and gain tuning
- Compatible with incremental, absolute, resolver, and magnetic encoders, with resolution up to 23-bit
- Integrated notch filters and vibration suppression for enhanced system stability
- PC-based software enables serial communication, parameter configuration, and real-time debugging

## 【Ordering information】

**QD20 - E 102 T2 M2 U1 F6 D71 B1 R3**
1 2 3 4 5 6 7 8 9 10

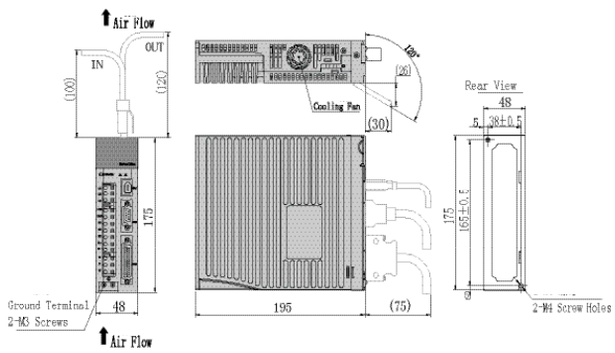
| 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|
| Code: Series | Code: Intended use | Code: Power | Code: Power supply | Code: Dimensions | |
| QD20: 20 Series | E: Bus-type | 101：100W | S2：1-phase 220V | M1:48×175×195 | M2:75×175×195 |
| | | 210：200W | T2：3-phase 360V | M3:100×203×218 | ML3: 275×118×223 |
| | | 102：1kW | T3：3-phase 380V | M4:185×380×215 | M5:210×420×234 |
| | | | | M6:268.4×498×234 | M7:310×576×234 |
| | | | | M8:355×555×290 | M9:406×633×352 |

| 6 | 7 | 8 | | 9 |
|---|---|---|---|---|
| Code: Certification | Code: Comm | Code: Feedback | | Code: Brake |
| U1：CE | F6：PROFINET | D20：Differential rotatory resolver | D50: 14 pin 2500 line incremental enc | B1/blank: Internal resistor braking |
| | | D51：8 pin 2500 line incremental enc | D52: 4 pin 23 bit incremental enc | B3:Dynamic braking + Resistor braking |
| | | D70：4 pin 17 bit absolute enc | D71: 4 pin 23 bit absolute enc | B6:External resistor braking |
| | | D72：4 pin 23 bit single-turn absolute enc | D80: 4 pin 17 bit magnetic enc | |

# QD20-E PROFINET Servo Drive

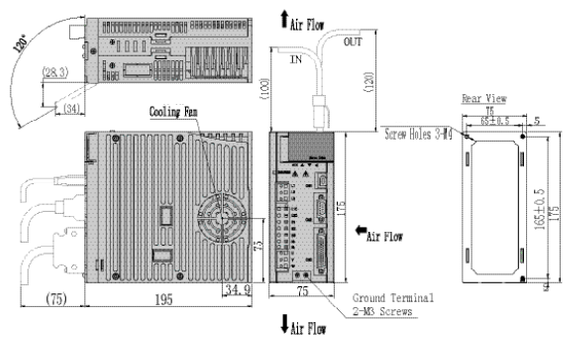
## 【Dimensions】

### M1 dimensions



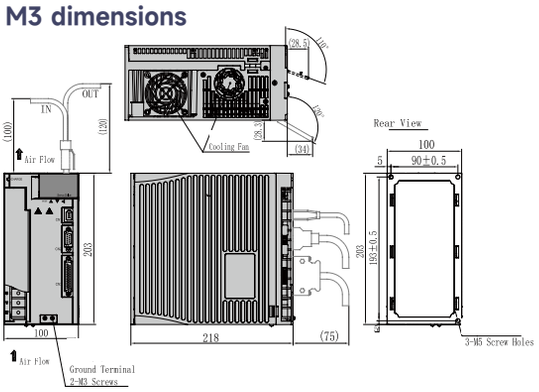

Approx.mass：1.275kg

### M2 dimensions



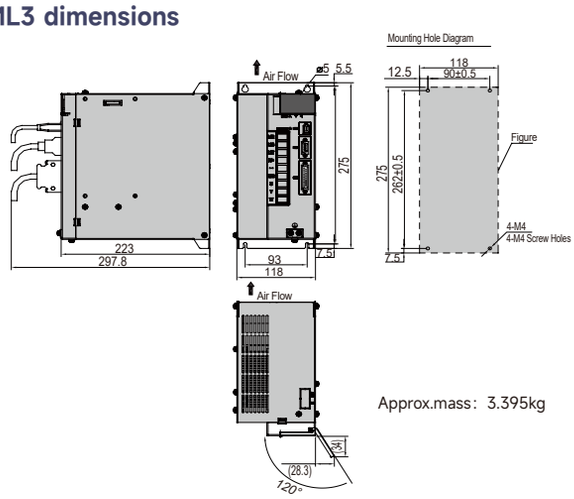

Approx.mass：1.835kg

### M3 dimensions



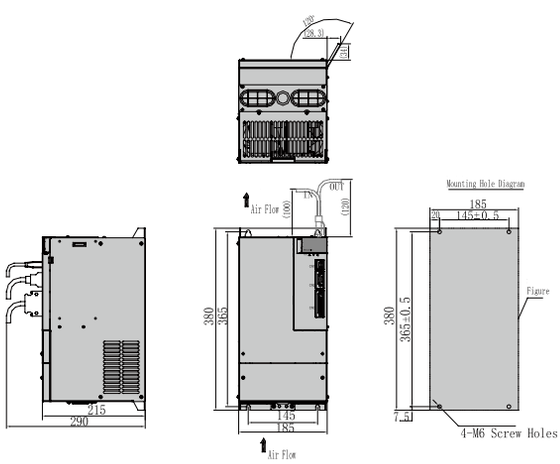

Approx.mass：5.8kg

### ML3 dimensions



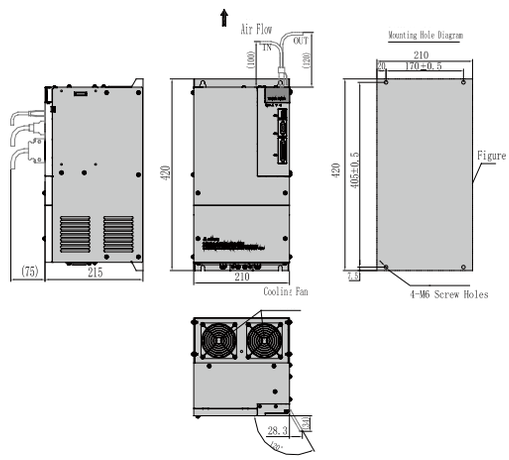

Approx.mass：3.395kg

### M4 dimensions




Approx.mass: 8.1kg

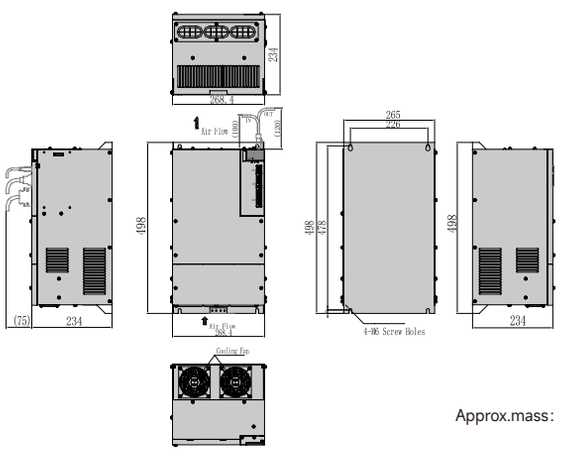
### M5 dimensions




Approx.mass：11.45kg

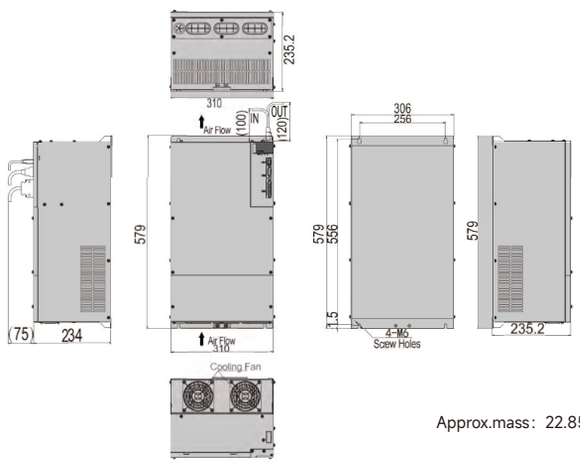
# QD20-E PROFINET Servo Drive

### M6 dimensions



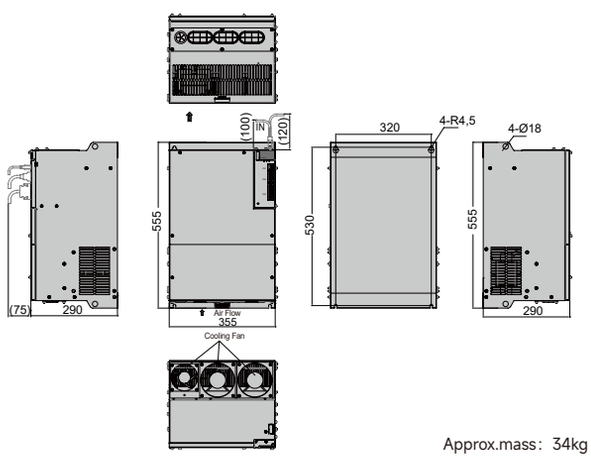

Approx.mass：17.7kg

### M7 dimensions



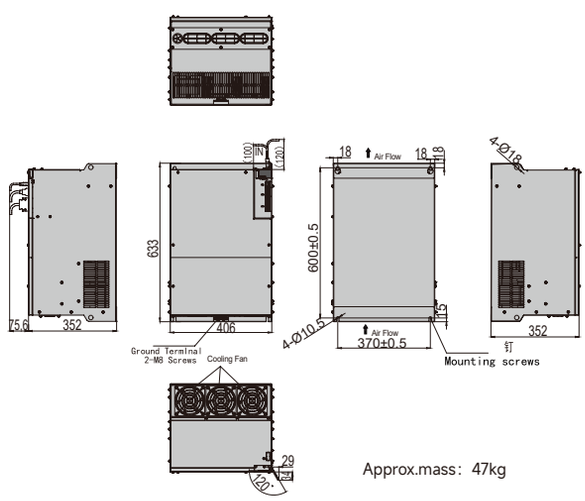

Approx.mass：22.85kg

### M8 dimensions




Approx.mass：34kg

### M9 dimensions




Approx.mass：47kg

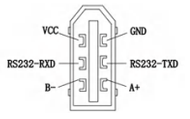
Unit: mm

# QD20-G Servo Drive

| Technical specifications | | | |
|---|---|---|---|
| Voltage/Frequency | | S2/T2 series | 220VAC -15 ~ +10% 50/60Hz |
| | | T3 series | 3-phase 380...440 VAC, -15...+10%, 50/60Hz |
| Control mode | | Pt: position pulse mode Pr: internal register position mode Sz: analog speed mode<br>Sr: internal register speed mode Tz: analog torque mode Tr: internal register torque mode | |
| Resistor braking | | Built-in or external brake resistor (external resistor sold separately)<br>The M0 and M1 models do not include a built-in brake resistor. ML3, M4, M5, M6, M7 models are metal-housed drives without built-in brake resistors. All other models come with a built-in brake resistor. | |
| Control characteristics | Control method | Permanent magnet synchronous motor | |
| | Speed response frequency | 3.0kHz | |
| | Speed fluctuation rate | ± 0.01% (load 0 - 100%) | |
| | Speed fluctuation | Permanent magnet synchronous motor ± 0.01% (VC, Load 0 - 100%) | |
| | Speed control ratio | 1: 10000 | |
| | Input pulse frequency | 1. 500kHz (differential) ; 200kHz (open collector)<br>2. High-speed pulse circuit accepts 4 MHz (differential) | |
| Input signal | Control inputs | Servo enable, alarm reset, command pulse clear, command pulse disable, forward rotation prohibited, reverse rotation prohibited, forward torque limit, reverse torque limit, internal speed selection, internal position trigger, home/mechanical home position retrieval trigger, zero speed clamping and others | |
| | Encoder | 1. Absolute encoder, 17 bit / 23 bit 2. Incremental encoder, 23 bit, 2500 line 3. Rotatory resolver<br>4. Magnetic encoder, 17 bit 5. Hiperface encoder 6. BiSS encoder | |
| Output signal | Control outputs | Servo ready, servo alarm, position reached, speed reached, electromagnetic brake output, rotation detection, speed limitation active, home position found, torque limitation active and others | |
| | Encoder signal frequency division output | 1. Encoder Z-phase open collector output<br>2. Encoder A and B-phase frequency division differential output (non-isolated), with arbitrary division; Z-phase output without division<br>3. Z pulse time extension function | |
| Input options | | 2-phase quadrature pulse, forward pulse + reverse pulse, pulse + direction, internal registers | |
| Electronic gear ratio | | 1. 0.01≤ B / A ≤100<br>2. Supports two electronic gears: users can select or switch based on their needs | |
| Analog speed control | | Analog speed signal input: -10V to +10V range, adjustable via function code;<br>Selectable command source | |
| Analog torque control | | Analog torque signal input: -10V to +10V range, adjustable via function code;<br>Selectable command source | |
| Acceleration/Deceleration | | Acceleration/deceleration time setting: 1 to 30,000 ms from 0 to rated speed, with adjustable time | |
| Communications | | RS485/RS232 interface for connecting to a PC to set and monitor servo control parameters | |
| Parameter configuration | Keyboard | Parameter adjustment via four buttons, with settings displayed on a 5-digit LED | |
| | Master station | Via RS485 serial port | |
| Monitoring | | Output current, bus voltage, motor speed, motor feedback pulses, motor feedback revolutions, command pulses, command pulse error, command speed, command torque, analog speed command, analog torque command and others | |
| Warnings | | Over voltage trip, under voltage trip, drive I.T exceeded limit, over current trip, encoder fault, fatal velocity error exceeded, pulse control command error, emergency stops, controller over-temperature, supply phase loss detected, regenerative braking fault, excessive position deviation, encoder battery dead and others | |
| Load inertia | | Less than 5 times the servo motor's inertia | |

## Terminal details

CN1 terminal definition



(Solder side)

Notes:

1. CN1 provides 100mA. Use external power for higher loads.
2. CN1's VCC is 5V. Use with caution.

Diagram: CN1 terminal definition (viewed from the solder side towards the drive side)

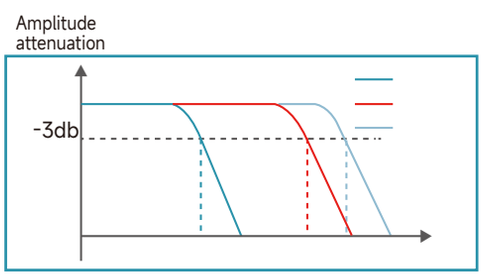
# QD25-E PROFINET Servo Drive


## 【Overview】

The QD25-E is a next-generation EtherCAT-based servo drive with a dual-core CPU architecture. It supports high-speed, multi-axis synchronization over standard RJ45 interfaces. Power range: 0.1–110 kW.

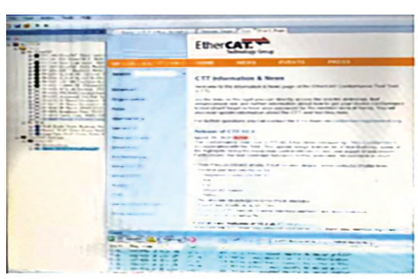
## 【Features】

### New Dual-Core CPU for Better Performance




The QD25-E series features a dual-core CPU, offering improved performance with hardware current and position loops at 16kHz, doubling the execution frequency from the previous generation for better control.

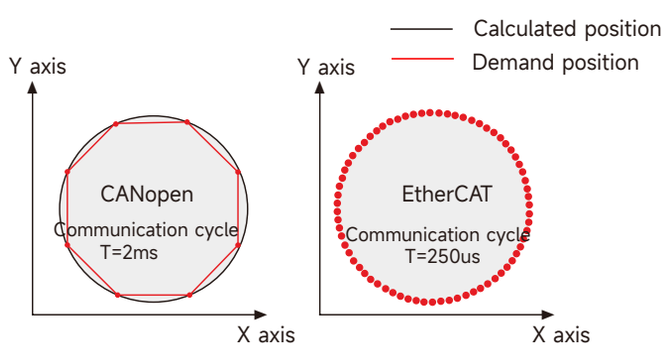
### Passed ETG Conformance Testing*



The QD25-E series has passed the CTT conformance test,ensuring compatibility with all major master stations. It provides stronger adaptability.

*Based on CTT version 2.3 software

### Accurate Positioning




With bidirectional data transfer at 100Mbps and microsecond-level* communication cycles, positioning is smoother and more precise.
EtherCAT communication supports a minimum cycle of 250μs.

*Cycle time depends on the specific master station

### Automatic Gain Tuning Supported

The QD25-E supports automatic gain tuning and model feedforward functions, allowing gain adjustment with or without master station commands. This simplifies setup, improves efficiency, and makes it easier to configure.

# QD25-E PROFINET Servo Drive

## 【Ordering Information】

**QD25 - E 102 T2 M2 U1 F0 D50 B3 R3**
1 2 3 4 5 6 7 8 9 10

| 1 | 2 | 3 | 4 | 5 | |
|---|---|---|---|---|---|
| Code: Series | Code: Intended use | Code: Power | Code: Power supply | Code: Dimensions | |
| QD25：25 Series | E：Bus-type | 101: 100W | S2: 1-phase 220V | MO: 48×165×155 | M1: 48×175×195 |
| | G：Generic | 201: 200W | T2: 3-phase 220V | M2:75×175×195 | M3: 100×203×218 |
| | | 102: 1kW | T3: 3-phase 380V | ML3: 275×118×223 | M4: 185×380×215 |
| | | ...， ... | | M5:210×420×234 | M6:268.4×498×234 |
| | | | | M7: 310×576×234 | M8:355×555×290 |

| 6 | 7 | 8 | | 9 |
|---|---|---|---|---|
| Code: Certification | Code: Communications | Code: Feedback | | Code: Brake |
| U1：CE | F4: CANopen | D20:Differential rotatory resolver | D50:14 pin 2500 line incremental encoder | B1/blank: Internal resistor braking |
| | F5:EtherCAT | D51:8 pin 2500 line incremental encoder | D52:4 pin 23 bit incremental encoder | B3:Dynamic braking + Resistor braking |
| | | D70:4 pin 17 bit absolute encoder | D71:4 pin 23 bit absolute encoder | B6:External resistor braking |
| | | D72:4 pin 23 bit single-turn absolute encoder | D80:4 pin 17 bit magnetic encoder | |

## Technical specifications

| | | |
|---|---|---|
| Voltage/ Frequency | S2/T2 series | 220VAC -15...+10% 50/60Hz |
| | T3 series | 380V...440V -15...+10% 50/60Hz |
| Control mode | | 1. Profile position control (PP)<br>2. Profile velocity mode (PV)<br>3. Profile torque mode (PT)<br>4. Homing mode (HM)<br>5. Cyclic synchronous position mode (CSP)<br>6. Cyclic synchronous velocity mode (CSV)<br>7. Cyclic synchronous torque mode (CST) |
| Resistor braking | | Built-in or External Brake Resistor (External Resistor Sold Separately)<br>The M1 model does not include a built-in brake resistor.<br>Drives with a power rating of 7.5kW or above do not include a built-in brake resistor.<br>All other models come with a built-in brake resistor. |

# QD25-E PROFINET Servo Drive

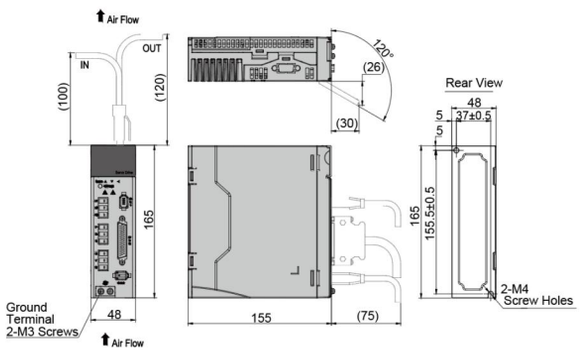
| Technical specifications | | |
|---|---|---|
| Control characteristics | Control method | Permanent magnet synchronous motor |
| | Speed response frequency | Permanent magnet synchronous servo: 3.0kHz |
| | Speed fluctuation rate | ±0.01%（load 0...100%） |
| | Speed fluctuation | Permanent magnet synchronous motor ± 0.01% (VC, Load 0 - 100%) |
| | Speed control ratio | 1：10000 |
| EtherCAT | Protocol | EtherCAT |
| | Supported services | CoE （PDO、SDO） |
| | Synchronization | DC distributed clock |
| | Physical layer | 100BASE-TX |
| | Communication speed | 100 Mbit/s (100Base-TX) |
| | Duplex mode | Full duplex |
| | Transmission medium | Shielded CAT5E or higher network cable |
| | Transmission distance | Less than 100 meters between two nodes (in good environmental and cable conditions) |
| | Number of slaves | Max. 65,535* |
| | Synchronization jitter between two slaves | < 1 μs |
| | Minimum communication cycle | 250 μs |
| Input signal | Control inputs | Servo enable, alarm reset, command pulse clear, command pulse disable, forward rotation prohibited, reverse rotation prohibited, forward torque limit, reverse torque limit, internal speed selection, internal position trigger, home/mechanical home position retrieval trigger, zero speed clamping, probe and others |
| | Encoder | 1. Absolute encoder 2. Incremental encoder 3. Rotatory resolver 4. Magnetic encoder |
| Output signal | Control outputs | Servo ready, Servo alarm, Position reached, Speed reached, Electromagnetic brake output, Rotation detection, Speed limitation active, Home position found, Torque limitation active and others |
| | Encoder signal frequency division output | Three output options: 1. Encoder Z-phase open collector output<br>2. Encoder A and B-phase frequency division differential output (non-isolated), with arbitrary division; Z-phase output without division<br>3. Z pulse time extension function |
| Position control | Input options | Provided via EtherCAT, internal registers, or high-speed pulse input |
| | Electronic gear ratio | 1. 0.01≤ B / A ≤100<br>2. Supports two electronic gears: users can select or switch based on their needs |
| Acceleration/Deceleration | | Acceleration/deceleration time setting: 1 to 32,000 ms from 0 to rated speed, with adjustable time |
| Communications | | 1. RS485/RS232 interface for connecting to a PC to set and monitor servo control parameters<br>2. Supports EtherCAT bus |
| Parameter configuration | Keyboard | Parameter adjustment via four buttons, with settings displayed on a 5-digit LED |
| | Master station | Via RS485, RS232 serial port |
| Monitoring | | Output current, bus voltage, motor speed, motor feedback pulses, command pulses, command pulse error, command speed, command torque and others |
| Warnings | | Type 1: over voltage trip, over current trip, encoder fault, emergency stops, torque imbalance and others<br>Type 2: under voltage trip, drive I.T exceeded limit, fatal velocity error exceeded, controller over-temperature, supply phase loss detected, pulse control command error, regenerative braking fault, excessive position deviation, encoder battery dead and others |
| Load inertia | | Less than 5 times the servo motor's inertia |

* Note: Maximum of 100 units in use.

# QD25-E PROFINET Servo Drive

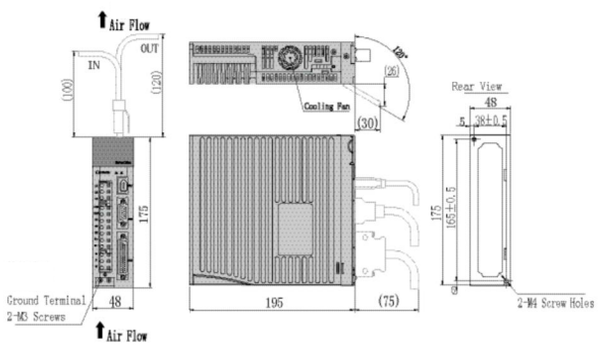
## 【Dimensions】

### M0 dimensions



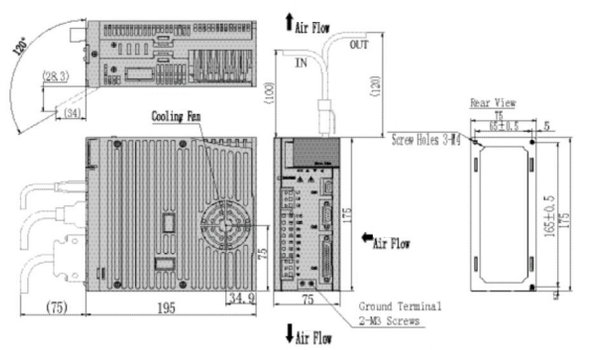

Approx.mass：0.76kg

### M1 dimensions



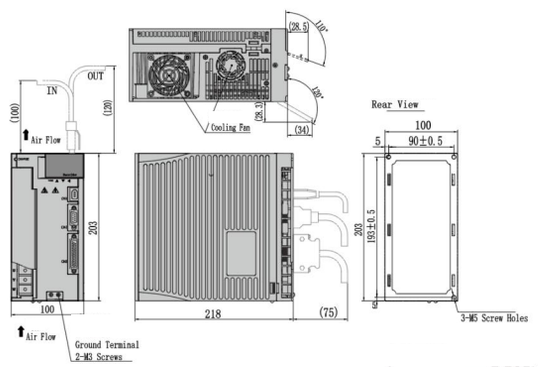

Approx.mass：1.275kg

### M2 dimensions



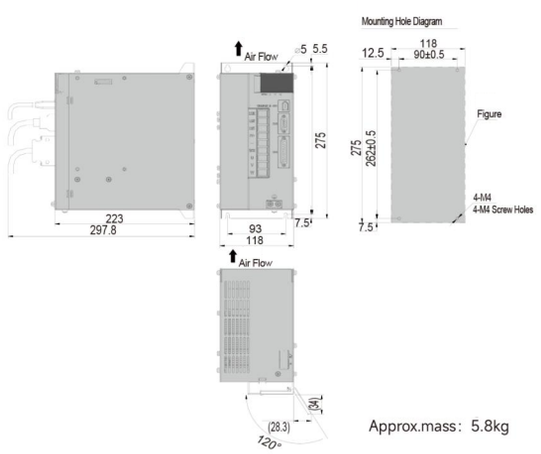

Approx.mass：1.835kg

### M3 dimensions



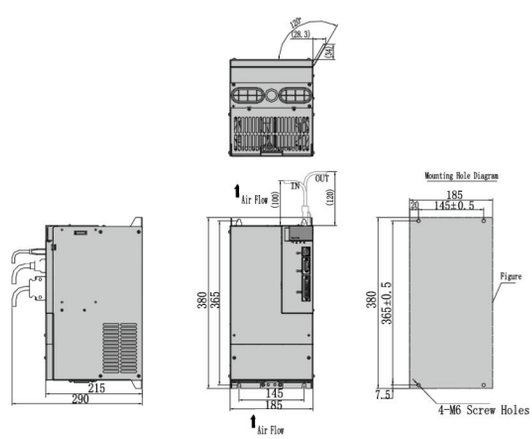

Approx.mass：3.395kg

### ML3 dimensions




Approx.mass：5.8kg

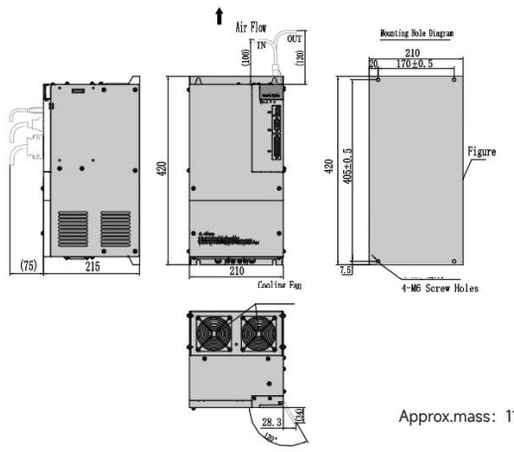
### M4 dimensions




Approx.mass:8.1kg

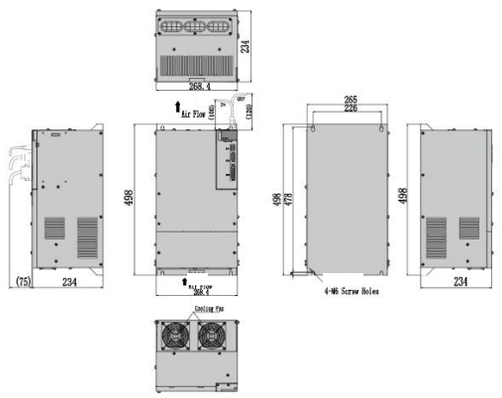
# QD25-E PROFINET Servo Drive

## M5 dimensions



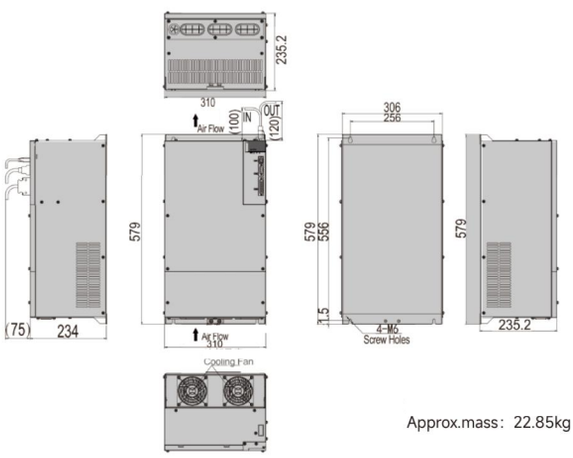

Approx.mass: 11.45kg

## M6 dimensions



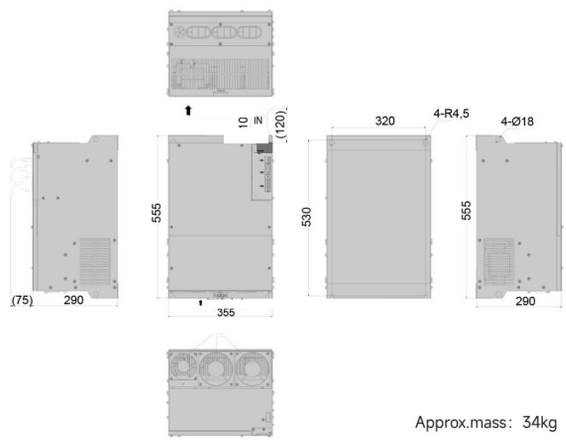

Approx.mass: 17.7kg

## M7 dimensions



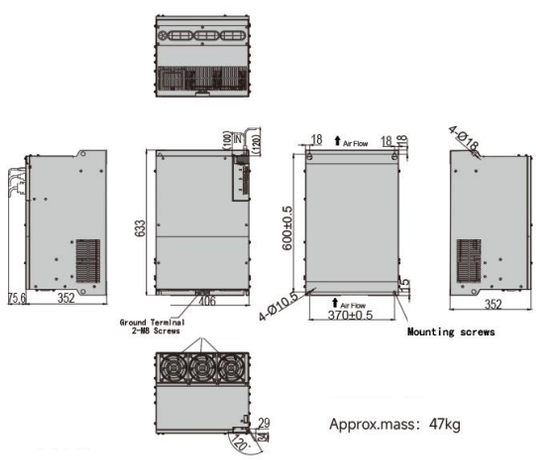

Approx.mass: 22.85kg

## M8 dimensions




Approx.mass: 34kg

## M9 dimensions



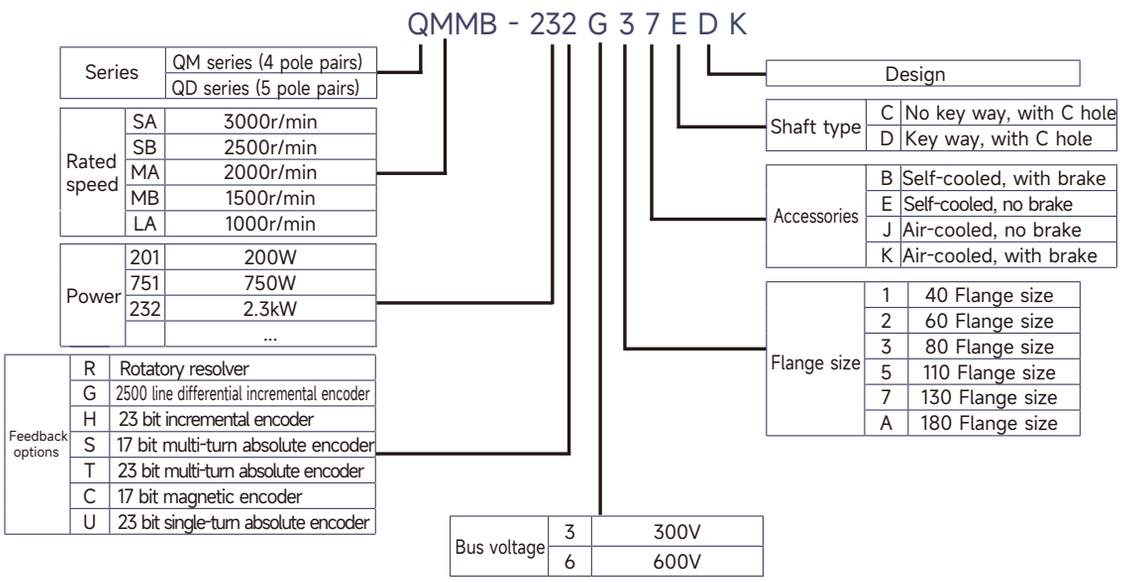

Approx.mass: 47kg

Unit: mm

# General Purpose Servo Motors

## 【Ordering Information】

Servo motors with flange ≤ 180 mm




# General Purpose Servo Motors - Technical specifications

(1) 220 V AC servo motor

| Type designation | | Rated power | Rated torque | Rated Amps | Motor inertia | Rated speed |
|---|---|---|---|---|---|---|
| | | W | N • m | A | $10^{-4}$Kg • $m^2$ | r/min |
| QMS series | QMSA-101*31*** | 100 | 0.32 | 0.6 | 0.051 | 3000 |
| | QMSA-201*32*** | 200 | 0.64 | 1.2 | 0.175 | 3000 |
| | QMSA-401*32*** | 400 | 1.27 | 2.8 | 0.29 | 3000 |
| | QMSA-751*33*** | 750 | 2.39 | 3.5 | 1.82 | 3000 |
| | QMSA-102*33*** | 1000 | 3.5 | 4.5 | 2.63 | 3000 |
| | QMSA-122*35*** | 1200 | 4 | 5 | 5.4 | 3000 |
| | QMSA-152*37*** | 1500 | 5 | 7.5 | 10.6 | 3000 |
| | QMSA-182*35*** | 1800 | 6 | 8 | 7.6 | 3000 |

# General Purpose Servo Motors - Technical specifications

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| Type designation | | Rated power | Rated torque | Rated Amps | Motor inertia | Rated speed |
|---|---|---|---|---|---|---|
| | | W | N • m | A | $10^{-4}$Kg • $m^2$ | r/min |
| QMS series | QMSA-232*37*** | 2300 | 7.7 | 10.6 | 15.3 | 3000 |
| | QMSA-302*37*** | 3000 | 10 | 15.5 | 19.4 | 3000 |
| | QMSB-102*33*** | 1000 | 3.82 | 4 | 2.97 | 2500 |
| | QMSB-152*37*** | 1500 | 6 | 7 | 13.77 | 2500 |
| | QMSB-202*37*** | 2000 | 7.7 | 9.9 | 15.3 | 2500 |
| | QMSB-262*37*** | 2600 | 10 | 11.8 | 22 | 2500 |
| QMM series | QMMA-801*35*** | 800 | 4 | 3.5 | 5.4 | 2000 |
| | QMMA-851*37*** | 850 | 4 | 4 | 8.5 | 2000 |
| | QMMA-102*37*** | 1000 | 5 | 5 | 10.6 | 2000 |
| | QMMA-122*35*** | 1200 | 6 | 5.2 | 7.6 | 2000 |
| | QMMA-132*37*** | 1300 | 6 | 6 | 12.6 | 2000 |
| | QMMA-152*37*** | 1500 | 7.7 | 7.5 | 15.2 | 2000 |
| | QMMA-202*37*** | 2000 | 10 | 10 | 19.4 | 2000 |
| | QMMA-312*37*** | 3100 | 15 | 14 | 27.7 | 2000 |
| | QMMA-352**3A*** | 3500 | 17.2 | 16 | 65 | 2000 |
| | QMMA-452*3A*** | 4500 | 21.5 | 19 | 79.6 | 2000 |
| QMM series | QMMB-122*37*** | 1200 | 7.7 | 5.5 | 15.3 | 1500 |
| | QMMB-152*37*** | 1500 | 10 | 6.6 | 19.4 | 1500 |
| | QMMB-232*37*** | 2300 | 14.6 | 10 | 27.7 | 1500 |
| | QMMB-302*3A*** | 3000 | 19 | 12 | 70 | 1500 |
| | QMMB-432*3A*** | 4300 | 27 | 16 | 96.4 | 1500 |
| | QMMB-552*3A*** | 5500 | 35 | 24 | 122.5 | 1500 |
| QML series | QMLA-102*37*** | 1000 | 10 | 4.5 | 19.4 | 1000 |
| | QMLA-152*37*** | 1500 | 14.3 | 7 | 27.7 | 1000 |
| | QMLA-292*3A*** | 2900 | 27 | 12 | 96.4 | 1000 |
| | QMLA-372*3A*** | 3700 | 35 | 16 | 122.5 | 1000 |

(2) 380 V AC servo motor

| Type designation | | Rated power | Rated torque | Rated Amps | Motor inertia | Rated speed |
|---|---|---|---|---|---|---|
| | | W | N • m | A | $10^{-4}$Kg • $m^2$ | r/min |
| QMS series | QMSA-751*63*** | 750 | 2.39 | 2 | 1.82 | 3000 |
| | QMSA-102*63*** | 1000 | 3.5 | 3 | 2.63 | 3000 |
| | QMSA-122*65*** | 1200 | 4 | 4 | 5.4 | 3000 |
| | QMSA-152*67*** | 1500 | 5 | 5 | 10.6 | 3000 |
| | QMSA-182*65*** | 1800 | 6 | 6 | 7.6 | 3000 |
| | QMSA-232*67*** | 2300 | 7.7 | 7 | 15.3 | 3000 |
| | QMSA-302*67*** | 3000 | 10 | 8 | 19.4 | 3000 |
| QMS series | QMSB-502*6A*** | 5000 | 19 | 12.5 | 70 | 2500 |
| QMM series | QMMA-801*65*** | 800 | 4 | 2.5 | 5.4 | 2000 |
| | QMMA-851*67*** | 850 | 4 | 3 | 8.5 | 2000 |
| | QMMA-102*67*** | 1000 | 5 | 3 | 10.6 | 2000 |
| | QMMA-122*65*** | 1200 | 6 | 3.5 | 7.6 | 2000 |
| | QMMA-132*67*** | 1300 | 6 | 3.5 | 12.6 | 2000 |
| | QMMA-152*67*** | 1500 | 7.7 | 4.5 | 15.2 | 2000 |
| | QMMA-202*67*** | 2000 | 10 | 5.5 | 19.4 | 2000 |
| | QMMA-312*67*** | 3100 | 15 | 9 | 27.7 | 2000 |
| | QMMA-352*6A*** | 3500 | 17.2 | 9 | 65 | 2000 |
| | QMMA-452*6A*** | 4500 | 21.5 | 10 | 79.6 | 2000 |
| | QMMA-602*6A*** | 6000 | 27 | 14 | 96.4 | 2000 |
| | QMMA-752*6A*** | 7500 | 35.8 | 18 | 122.5 | 2000 |
| | QMMA-103*6A*** | 10000 | 48 | 24 | 167.2 | 2000 |

# General Purpose Servo Motors - Technical specifications

| Type designation | | Rated power | Rated torque | Rated Amps | Motor inertia | Rated speed |
|---|---|---|---|---|---|---|
| | | W | N • m | A | $10^{-4}$Kg • $m^2$ | r/min |
| QMM series | QMMB-122*67*** | 1200 | 7.7 | 4 | 15.3 | 1500 |
| | QMMB-152*67*** | 1500 | 10 | 4 | 19.4 | 1500 |
| | QMMB-232*67*** | 2300 | 14.6 | 6 | 27.7 | 1500 |
| | QMMB-302*6A*** | 3000 | 19 | 8 | 70 | 1500 |
| | QMMB-432*6A*** | 4300 | 27 | 10 | 96.4 | 1500 |
| | QMMB-552*6A*** | 5500 | 35 | 12.5 | 122.5 | 1500 |
| | QMMB-752*6A*** | 7500 | 48 | 17 | 167.2 | 1500 |
| QML series | QMLA-102*67*** | 1000 | 10 | 3 | 19.4 | 1000 |
| | QMLA-292*6A*** | 2900 | 27 | 7 | 96.4 | 1000 |
| | QMLA-372*6A*** | 3700 | 35 | 9 | 122.5 | 1000 |

(3) 220 V motor with 5 pole pairs

| Type designation | | Rated power | Rated torque | Rated Amps | Motor inertia | Rated speed |
|---|---|---|---|---|---|---|
| | | W | N • m | A | $10^{-4}$Kg • $m^2$ | r/min |
| QDSA series | QDSA-201*32**A | 200 | 0.64 | 1.5 | 0.28 | 3000 |
| | QDSA-401*32**A | 400 | 1.27 | 2.5 | 0.52 | 3000 |
| | QDSA-751*33**A | 750 | 2.39 | 3.5 | 1.48 | 3000 |
| | QDSA-102*33**A | 1000 | 3.3 | 4.4 | 2.27 | 3000 |
| | QDSA-152*37**K | 1500 | 4.8 | 6.7 | 12.4 | 3000 |
| QDMB series | QDMB-851*37**K | 850 | 5.4 | 3.9 | 12.4 | 1500 |
| | QDMB-132*37**K | 1300 | 8.4 | 5.8 | 17.3 | 1500 |
| | QDMB-152*37**K | 1500 | 9.6 | 7 | 19.8 | 1500 |
| QDMA series | QDMA-102*37**K | 1100 | 5.4 | 5.2 | 12.4 | 2000 |
| | QDMA-152*37**K | 1500 | 7.5 | 7 | 15.9 | 2000 |
| | QDMA-202*37**K | 2000 | 9.6 | 9.2 | 19.8 | 2000 |
| | QDMA-242*37**K | 2400 | 11.5 | 11 | 24.6 | 2000 |
| | QDMA-302*37**K | 3000 | 14.6 | 13.5 | 33.3 | 2000 |

# General Purpose Servo Motors - Torque curves

## 【Torque-speed curve】

Test method:

1. Servo motors with 60/80 mm flange are tested when mounted on a 260 mm × 260 mm × 28 mm cast iron mounting plate.

Servo motors with 110/130/180 mm flange are tested when mounted on a 360 mm × 360 mm × 38 mm cast iron mounting plate.

2. A matched servo drive is used for testing, with the drive input voltage set to the rated voltage.

Notes

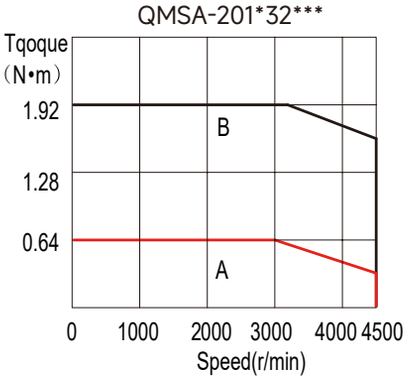
1. The usable range of continuous operation (A) and short-time operation (B) may be affected by input voltage and power cable length. Lower input voltage or longer cables can reduce the available operating range.

2. Region (A) is tested under rated conditions as described. In actual use, differences in mounting method, contact area, or environment may increase motor temperature rise. Please confirm whether the motor's thermal performance meets your application requirements.

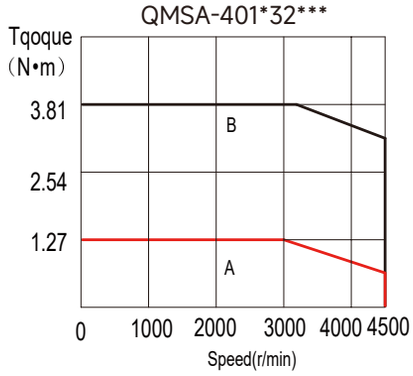
* Intermittent Load Torque (Nm) Continuous Load Torque (Nm)

## Motors with 60 mm flange

QMSA-201*32***

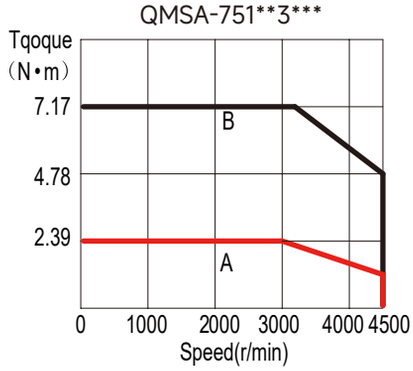



QMSA-401*32***

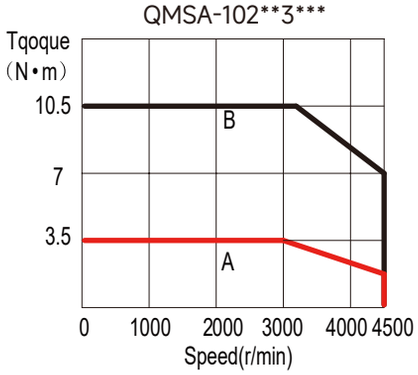



## Motors with 80 mm flange

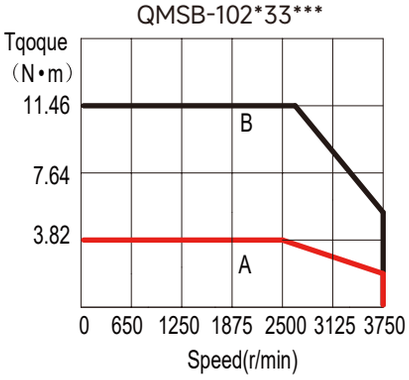
QMSA-751**3***




QMSA-102**3***



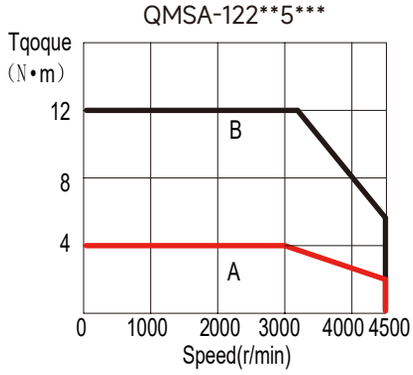

QMSB-102*33***



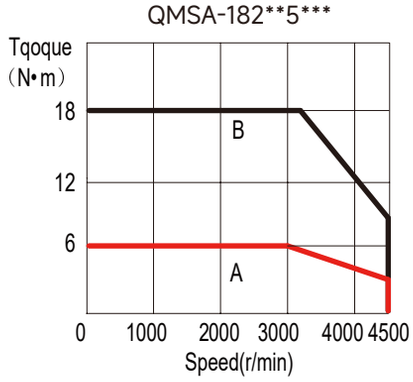
# General Purpose Servo Motors - Torque curves

## Motors with 110 mm flange

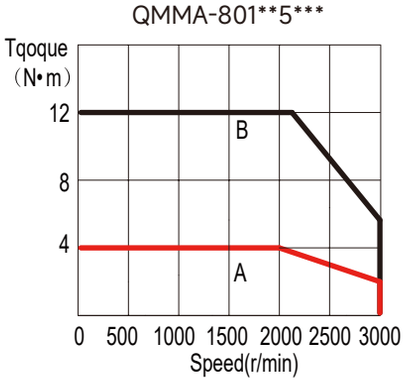
QMSA-122**5***



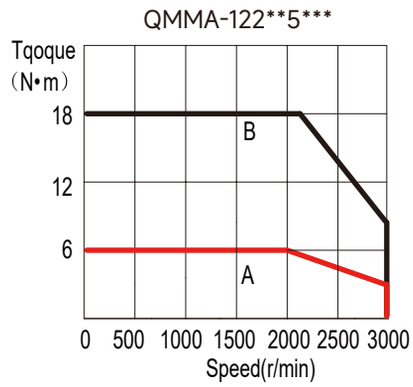

QMSA-182**5***




QMMA-801**5***

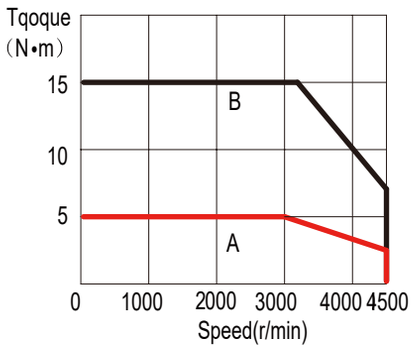



QMMA-122**5***

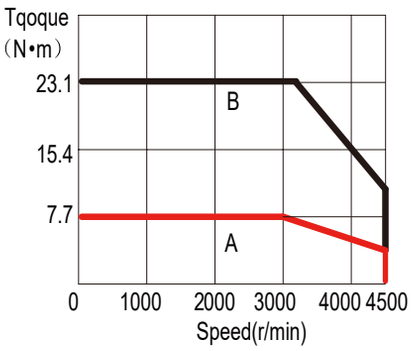



## Motors with 130 mm flange

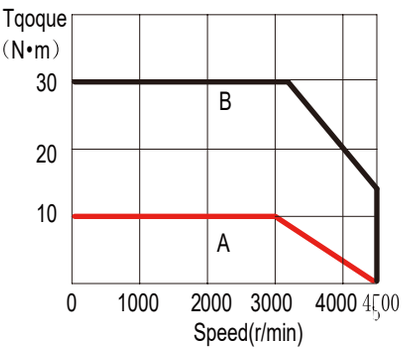
QMSA-152**7***




QMSA-232**7***

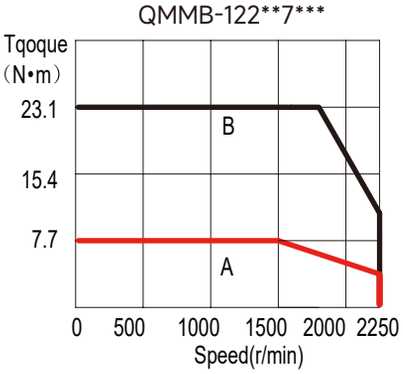



QMSA-302**7***

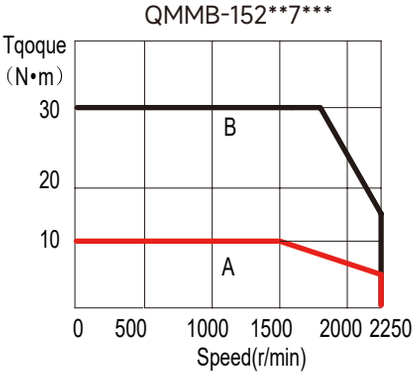



## Motors with 130 mm flange

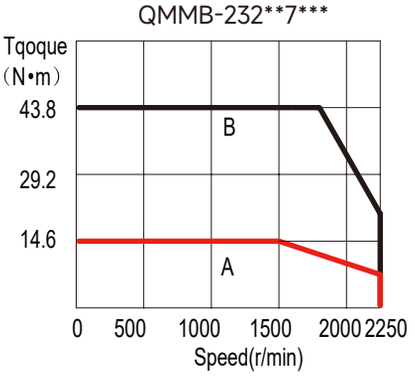
QMMB-122**7***




QMMB-152**7***

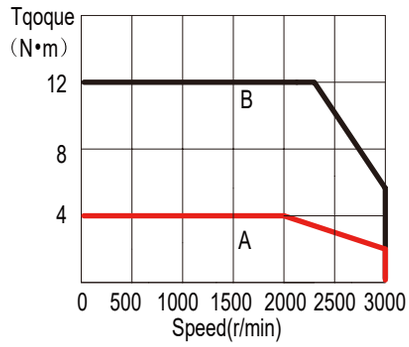



QMMB-232**7***

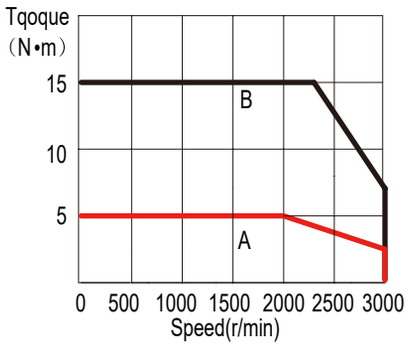


# General Purpose Servo Motors - Torque curves

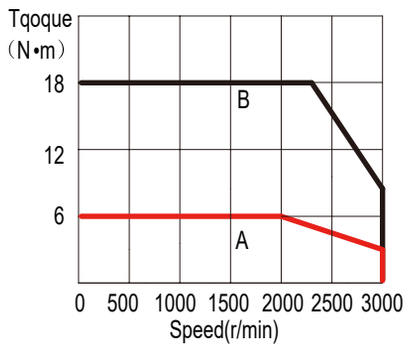
QMMA-851**7***



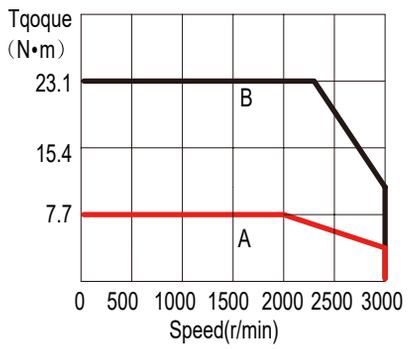

QMMA-102**7***



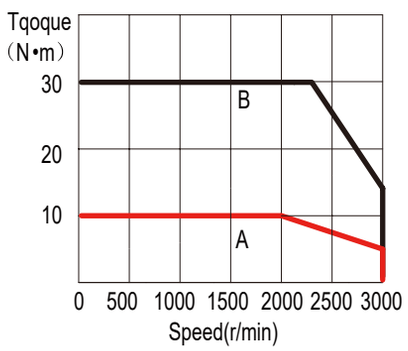

QMMA-132**7***



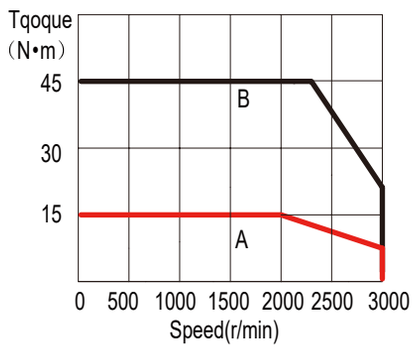

QMMA-152**7***



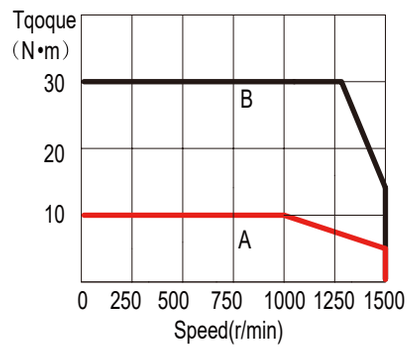

QMMA-202**7***



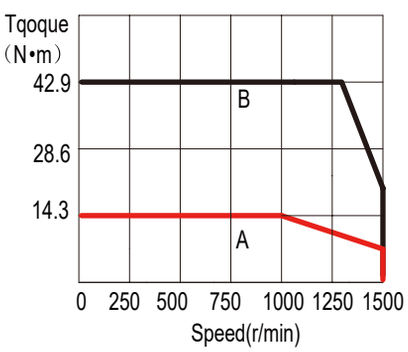

QMMA-312**7***



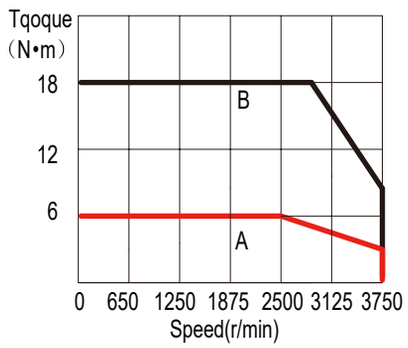

QMLA-102**7***




QMLA-152*37***

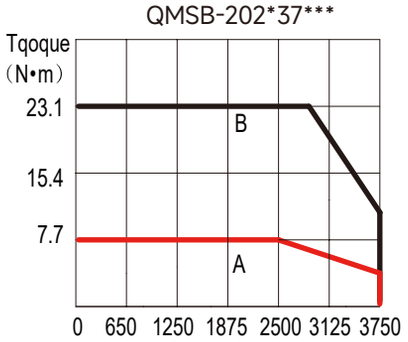



QMSB-152*37***

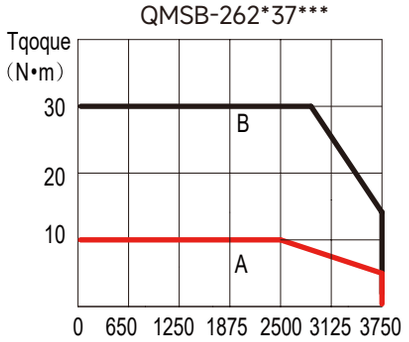



## Motors with 130 mm flange

QMSB-202*37***

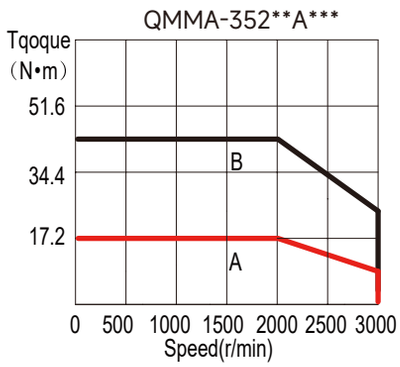


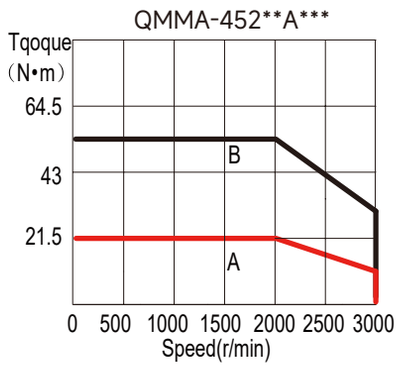

QMSB-262*37***

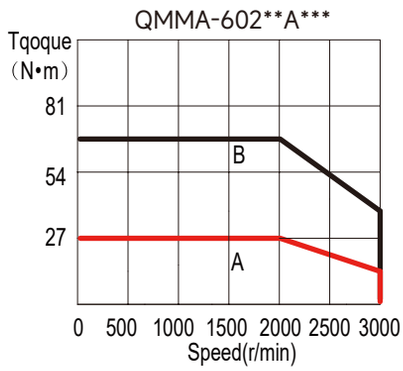


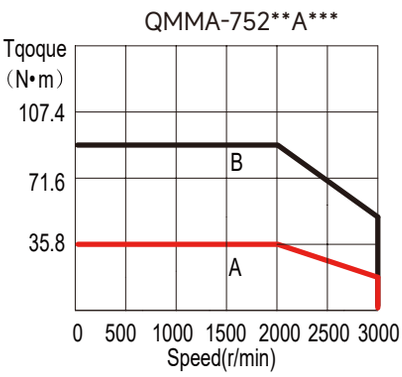
# General Purpose Servo Motors - Torque curves

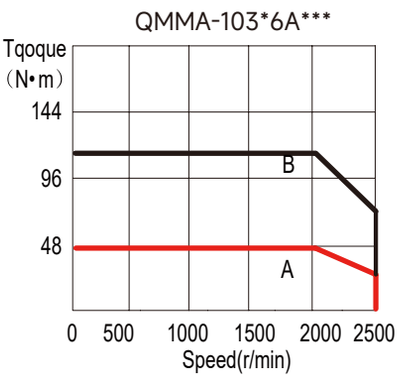
## Motors with 180 mm flange

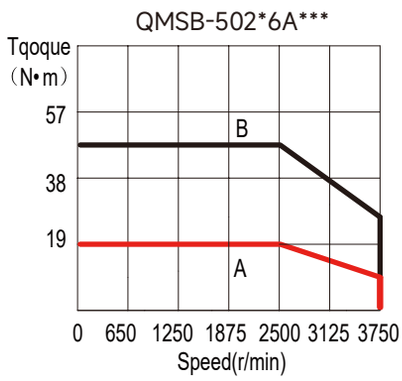


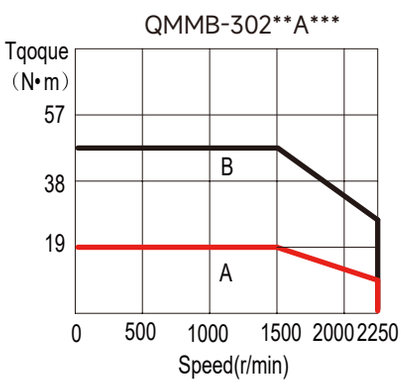



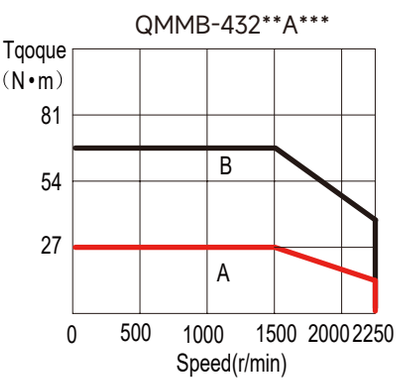



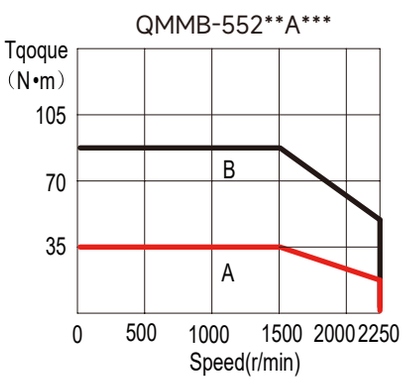



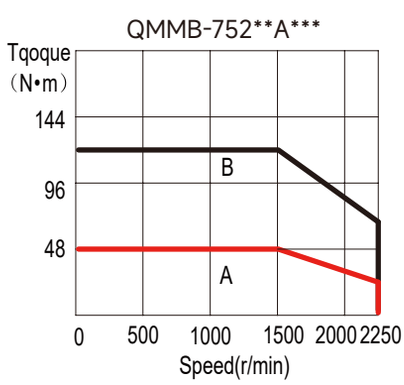



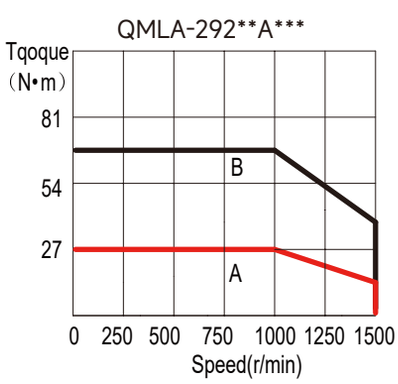



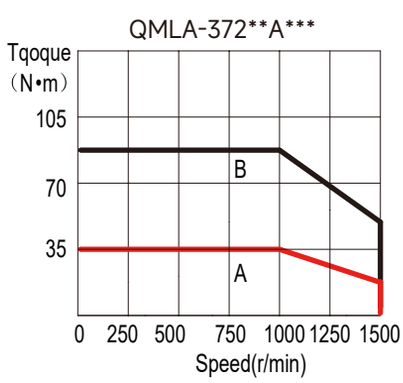




## Motors with 180 mm flange

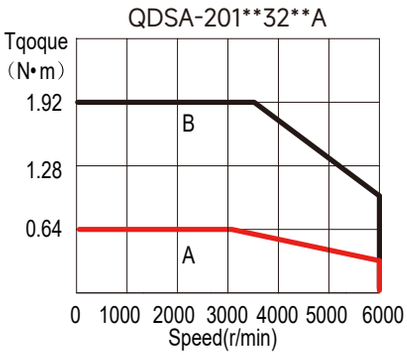


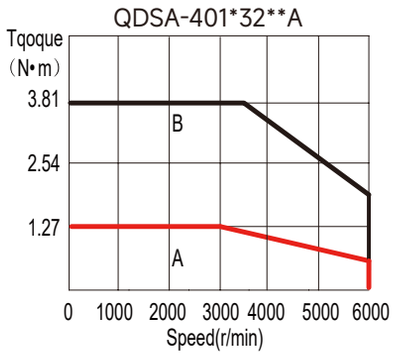



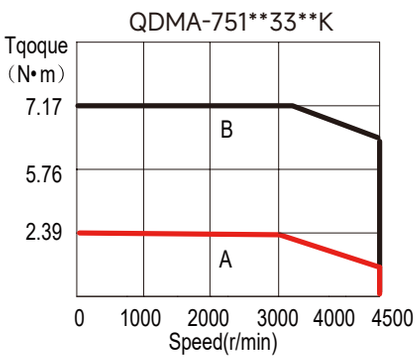
# General Purpose Servo Motors - Torque curves

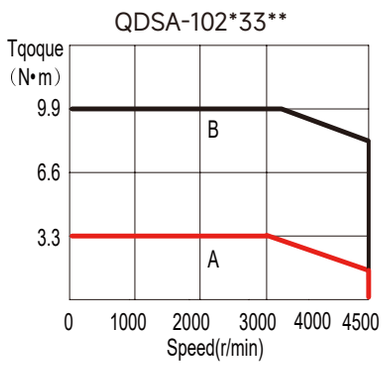
## Motors with 5 pole pairs, 60 mm flange



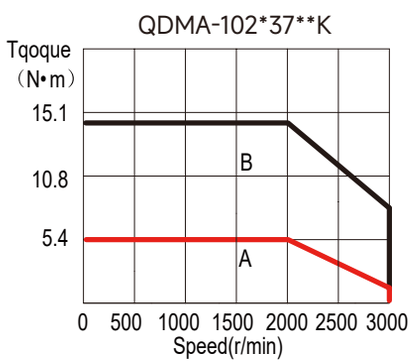



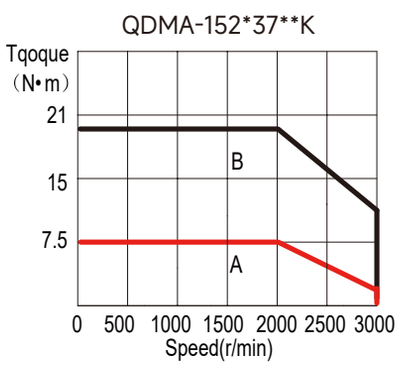

## Motors with 5 pole pairs, 80 mm flange

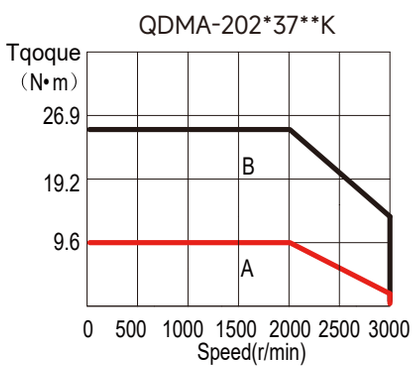



## Motors with 5 pole pairs, 130 mm flange



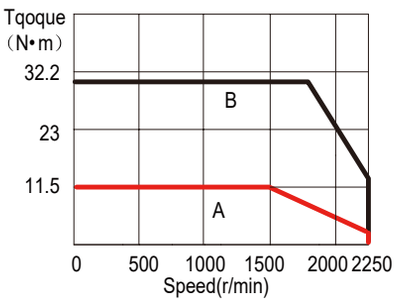



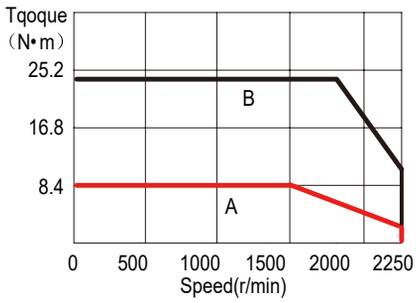
# General Purpose Servo Motors - Torque curves

## Motors with 5 pole pairs, 130 mm flange

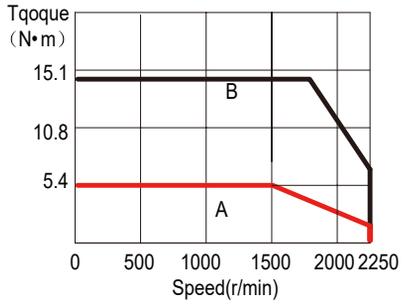
QDMA-242**37**K



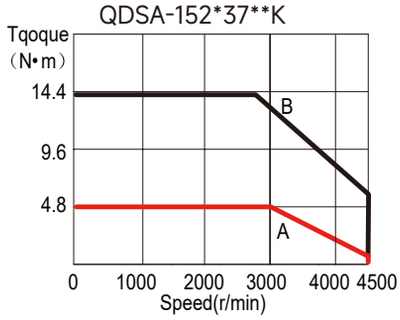

QDMB-132*37**K



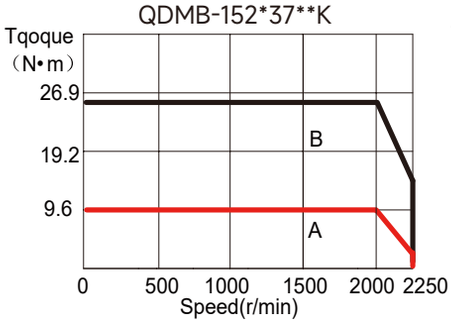

QDMB-851*37**K



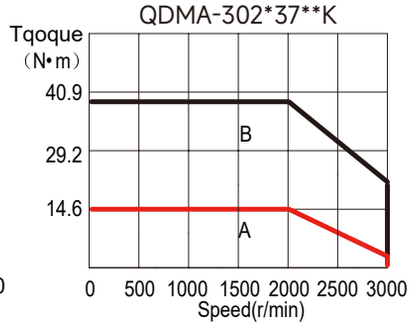

QDSA-152*37**K




QDMB-152*37**K



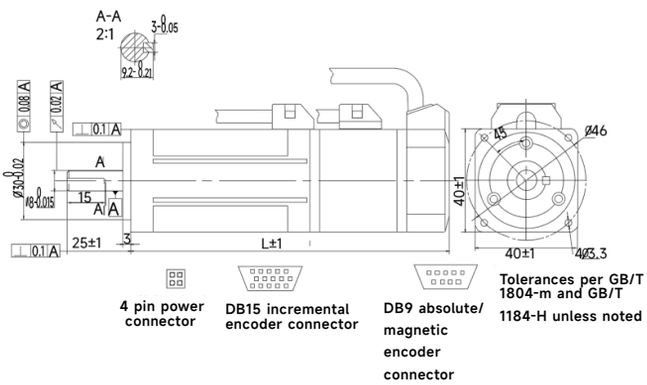

QDMA-302*37**K



# General Purpose Servo Motors - Dimensions

## 【Motor drawings】

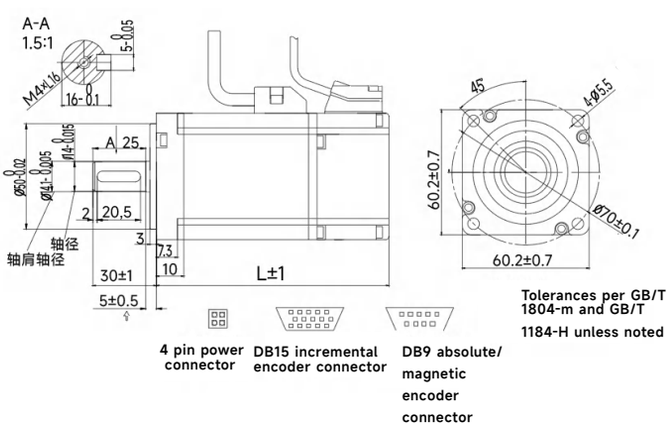
### Servo motors with 4 pole pairs, 40 mm flange




| Type designation | L(mm) | Weight (Kg) (without brake) |
|---|---|---|
| QMSA-101*31*** | 90 | 0.47 |

* The distance from the shaft shoulder to the flange is for reference only. If special requirements exist, please inform us before ordering.

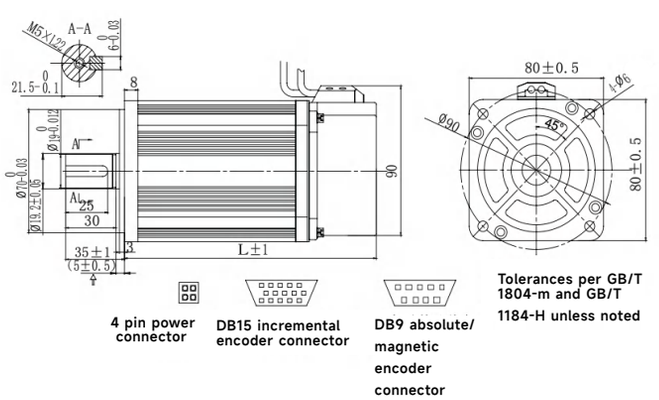
### Servo motors with 4 pole pairs, 60 mm flange




| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QMSA-201*32*** | 116 | 157 | 1.16 | 1.56 | Screw diameter |
| QMSA-401*32*** | 141 | 182 | 1.6 | 2.1 | M4X16 |

* The distance from the shaft shoulder to the flange is for reference only. If special requirements exist, please inform us before ordering.

### Servo motors with 4 pole pairs, 80 mm flange




| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QMSA-751**3*** | 151 | 191 | 2.9 | 3.6 | Screw diameter M5X22 |
| QMSA-102**3*** | 179 | 219 | 3.9 | 4.6 | |
| QMSB-102**3*** | 191 | 231 | 4.1 | 4.8 | |

* The distance from the shaft shoulder to the flange is for reference only. If special requirements exist, please inform us before ordering.

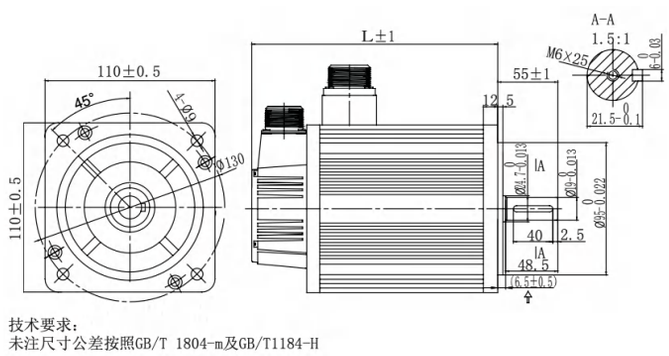
# General Purpose Servo Motors


## Overview

| | |
|---|---|
| **Motor type** | Permanent magnet synchronous servo motor |
| **Flange size（mm）** | 40、60、80、110、130、180 |
| **Input voltage（VAC）** | 220/380 |
| **Rated power（kW）** | 0.1-10 |
| **Brake** | Optional |
| **Feedback options** | Rotatory resolver, absolute encoder |
| **Thermal protection** | PTC、KTY |
| **Insulation class** | F |
| **Cooling method** | IC410 (Self-cooled) |
| **Mounting** | B5 |
| **Degree of protection** | IP65; IP54 |
| **Operating temperature（°C）** | -20...+40 |

# General Purpose Servo Motors - Dimensions

## Servo motors with 4 pole pairs, 110 mm flange




技术要求：
未注尺寸公差按照GB/T 1804-m及GB/T1184-H

| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QMSA-122**5***<br>QMMA-801**5*** | 189 | 243 | 6 | 7.9 | Screw diameter |
| QMSA-182**5***<br>QMMA-122**5*** | 219 | 273 | 7.9 | 9.8 | |

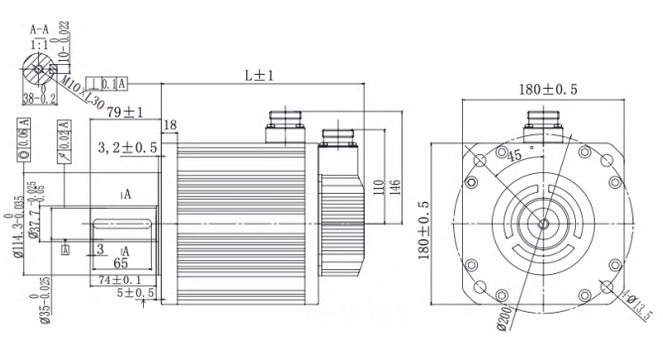
* The distance from the shaft shoulder to the flange is for reference only. If special requirements exist, please inform us before ordering.

## Servo motors with 4 pole pairs, 130 mm flange

| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QMMA-851**7*** | 166 | 217 | 6.2 | 8.75 | Screw diameter M6X25 |
| QMSA-152**7***<br>QMMA-102**7*** | 171 | 222 | 6.6 | 9.15 | |
| QMMA-132**7***<br>QMSB-152**7*** | 179 | 230 | 7.4 | 9.95 | |
| QMSA-232**7***<br>QMMA-152**7***<br>QMMB-122**7***<br>QMSB-202**7*** | 192 | 243 | 8.3 | 10.85 | |
| QMSA-302**7*** | 209 | 260 | 9.8 | 12.35 | |
| QMMA-202**7***<br>QMMB-152**7***<br>QMLA-102**7***<br>QMSB-262**7*** | 213 | 264 | 10.2 | 12.75 | |
| QMMA-312**7***<br>QMLA-152*37*** | 231 | 282 | 11.7 | 14.25 | |
| QMMB-232**7*** | 241 | 292 | 12.2 | 14.75 | |

* The distance from the shaft shoulder to the flange is for reference only. If special requirements exist, please inform us before ordering.

## Servo motors with 4 pole pairs, 180 mm flange



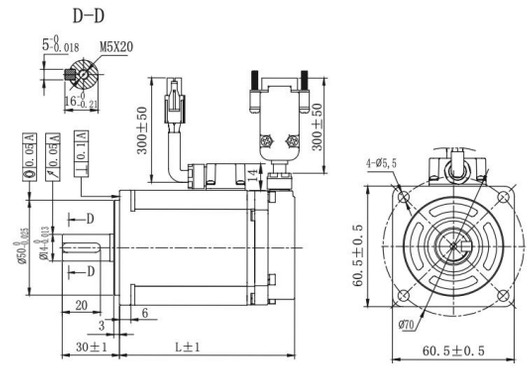

技术要求：
未注尺寸公差按照GB/T 1804-m及GB/T1184-H

| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QMMA-352**A*** | 226 | 298 | 19.5 | 24.3 | Screw diameter |
| QMMB-302**A***<br>QMSB-502**A*** | 232 | 304 | 19.9 | 24.7 | |
| QMMA-452**A*** | 243 | 315 | 22.2 | 27 | |
| QMMA-602*6A*** | 250 | 322 | 23.5 | 28.3 | |
| QMMB-432**A*** | 262 | 334 | 24.6 | 29.4 | |
| QMLA-292**A*** | | | 25.5 | 30.3 | |
| QMMA-752*6A*** | 288 | 360 | 39 | 43.8 | |
| QMMB-552**A*** | 292 | 364 | 30.5 | 35.3 | |
| QMLA-372**A*** | | | | | |
| QMMA-103*6A*** | 334 | 406 | 38 | 42.8 | |
| QMMB-752*6A*** | 346 | 418 | 39 | 44.8 | |

* The distance from the shaft shoulder to the flange is for reference only. If special requirements exist, please inform us before ordering.

# General Purpose Servo Motors - Dimensions

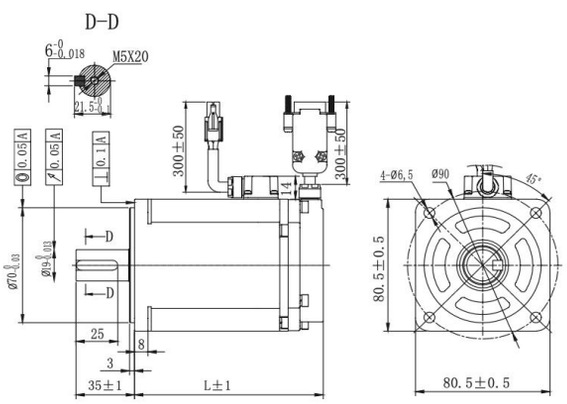
## Servo motors with 5 pole pairs, 60 mm flange




| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QDSA-201(C/D) 32**A | 75 | 105 | 0.78 | 1.15 | Screwed shaft end |
| QDSA-201T32**A | 94 | 124 | 0.78 | 1.15 | |
| QDSA-401(C/D) 32**A | 92 | 122 | 1.13 | 1.5 | |
| QDSA-401T32**A | 111 | 141 | 1.13 | 1.5 | |

Technical Requirements:
1. Unspecified dimensional tolerances are according to GB/T 1804-M and GB/T 1184-H.
2. Lead length: 300 ± 50 mm.

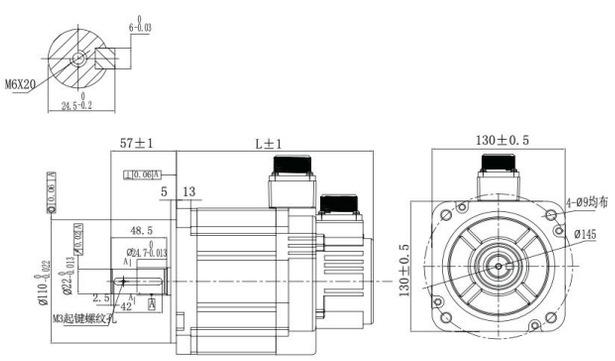
## Servo motors with 5 pole pairs, 80 mm flange




| Type designation | L(mm) | L(mm) (with brake) | Weight (Kg) (without brake) | Weight (Kg) (with brake) | Note |
|---|---|---|---|---|---|
| QDSA-751(C/D) 33**A | 110 | 134 | 2.12 | 2.85 | Screwed shaft end |
| QDSA-751T33**A | 119 | 153 | 2.12 | 2.85 | |
| QDSA-102(C/D) 33**A | 113 | 147 | 2.52 | 3.26 | |
| QDSA-102T33**A | 132 | 166 | 2 52 | 3.26 | |

Technical Requirements:
1. Unspecified dimensional tolerances are according to GB/T 1804-M and GB/T 1184-H.
2. Lead length: 300 ± 50 mm.

## Servo motors with 5 pole pairs, 130 mm flange




| Series | Type designation | L(mm) | Weight (Kg) (without brake) | Note |
|---|---|---|---|---|
| QDMB Series | QDMB-851*37EDK | 154 | 5.5 | Screwed shaft end, diameter: M6×20 |
| | QDMB-132*37EDK | 174 | 6.2 | |
| | QDMB-152*37EDK | 182 | 7.1 | |
| QDMA Series | QDMA-102*37EDK | 154 | 5.5 | |
| | QDMA-242*37EDK | 201 | 7.2 | |
| | QDMA-152*37EDK | 168 | 6 | |
| | QDMA-202*37EDK | 182 | 6.6 | |
| | QDMA-302*37EDK | 233 | 8.5 | |
| QDSA Series | QDSA-152*37EDK | 154 | 7.6 | |

Technical Requirements:
Unspecified dimensional tolerances are according to GB/T 1804-M and GB/T 1184-H.

# Mid-to-High Power Servo Motors


## Overview

| | |
|---|---|
| **Motor type** | Permanent magnet synchronous servo motor |
| **Flange size（mm）** | 200、264 |
| **Input voltage（VAC）** | 380 |
| **Rated power（kW）** | 10.7-122.5 |
| **Brake** | Optional |
| **Feedback options** | Rotatory resolver, absolute encoder |
| **Thermal protection** | PTC、KTY |
| **Insulation class** | F |
| **Cooling method** | IC416(Air-cooled) |
| **Mounting** | B35(Air-cooled) |
| **Degree of protection** | IP54(Air-cooled) |
| **Operating temperature（°C）** | -20...+40 |

# Mid-to-High Power Servo Motors

## Ordering Information

| Rated speed |
|---|
| Rated torque |
| Frame size / Type: Spigot diameter/10 — General purpose servo motors |
| Series |

| Code | Voltage rating |
|---|---|
| 1 | 110-130V |
| 2 | 220-240V |
| 3 | 380-440V |
| 4 | 480-516V |
| 9 | Others |

**QM-18F1015K3-F2R4A**

| Code | Cooling method |
|---|---|
| A | Self-cooled |
| F | Air-cooled with fan |

| Code | Speed X1 | Speed X10 | Speed X100 | Speed X1000 | Speed X10000 |
|---|---|---|---|---|---|
| Torquex1 | A | E | J | N | S |
| Torquex10 | B | F | K | P | T |
| Torquex100 | C | G | L | Q | U |
| Torquex1000 | D | H | M | R | V |

| Code | Versions |
|---|---|
| blank | Initial release |
| A | Version A |
| B | Version B |
| ..... | ..... |
| Sequential versioning using A, B, C, D... | |

| Code | No key way | Shaft end fitted key way | Feather Key | Internal spline | External spline | Others |
|---|---|---|---|---|---|---|
| Without oil seal, no brake | A | E | J | N | S | W |
| With oil seal, no brake | B | F | K | P | T | Y |
| Without oil seal, with brake | C | G | L | Q | U | 1 |
| With oil seal, with brake | D | H | M | R | V | 2 |

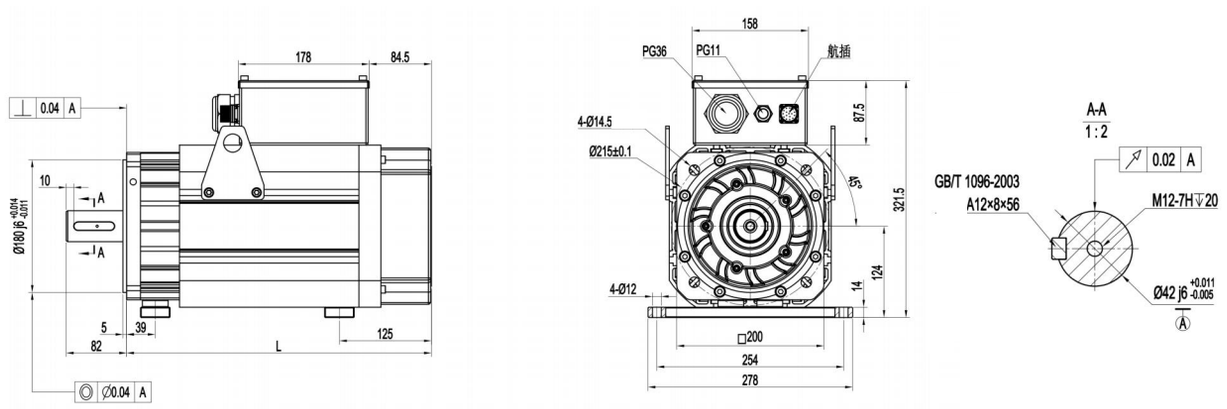
| Code | No foot | Standard foot | Other foot | No ventilation plate & fan |
|---|---|---|---|---|
| Lead with terminal box | 1 | 2 | 3 | - |
| Signal connector | 4 | 5 | 6 | - |
| Others | 7 | 8 | 9 | - |

| Code | Feedback options |
|---|---|
| R4 | Tamagawa, rotatory resolver |
| M4 | Tamagawa, 23 bit absolute encoder |
| S7 | SICK, multi-turn absolute encoder, SKM36 |
| S8 | SICK, single-turn absolute encoder, SKS36 |

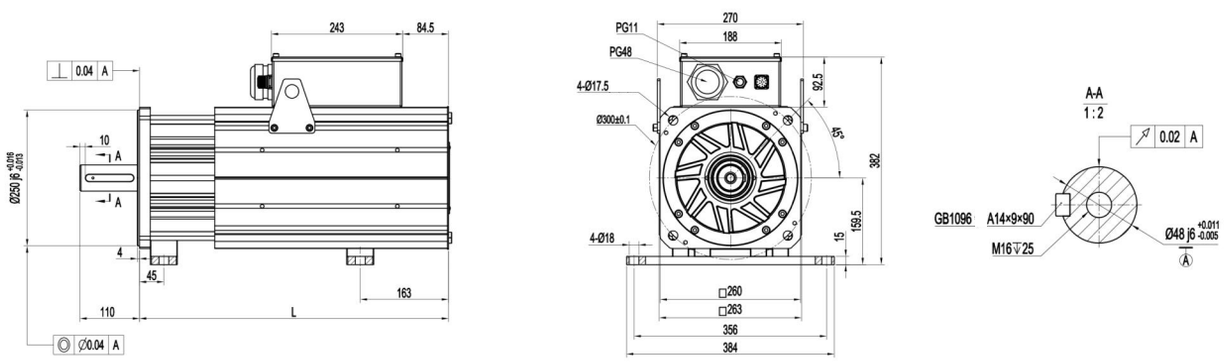
# Mid-to-High Power Servo Motors - Technical specifications

| Technical specifications | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type designation | Rated torque | Rated speed | Rated | Rated power | Torque constant | Voltage constant | Rated frequency | Line resistance | Rated voltage | Effi-ciency | Rotor inertia | L | Weight | D | Key |
| | Nm | rpm | Arms | Kw | Nm/A | V/Krpm | Hz | Ω | V | % | kgm²10⁻³ | mm | KG | mm | mm |
| QM-18F0615K3-XXXXB | 68 | 1500 | 15.8 | 10.7 | 3.76 | 228 | 100 | 1.073 | 380 | 91.6 | 9.8 | 378.5 | 40 | - | |
| QM-18F0620K3-XXXXB | 64 | 2000 | 23.9 | 13.4 | 2.82 | 171 | 133 | 0.603 | 380 | 92.0 | | | | | |
| QM-18F1015K3-XXXXB | 97 | 1500 | 31.9 | 15.2 | 3.20 | 193 | 100 | 0.473 | 380 | 92.2 | 13.2 | 414.5 | 45 | | |
| QM-18F1020K3-XXXXB | 95 | 2000 | 38.0 | 19.9 | 2.63 | 159 | 133 | 0.325 | 380 | 93.0 | | | | | |
| QM-18F1415K3-XXXXB | 140 | 1500 | 280 | 22.0 | 3.55 | 215 | 100 | 0.322 | 380 | 93.0 | 19.8 | 486.5 | 59 | | |
| QM-18F1420K3-XXXXB | 138 | 2000 | 276 | 28.9 | 2.51 | 152 | 133 | 0.160 | 380 | 93.6 | | | | | |
| QM-18F1715K3-XXXXB | 167 | 1500 | 334 | 26.2 | 3.20 | 193 | 100 | 0.191 | 380 | 93.3 | 24.7 | 522.5 | 68 | | |
| QM-18F1720K3-XXXXB | 163 | 2000 | 326 | 34.1 | 2.63 | 159 | 133 | 0.131 | 380 | 93.9 | | | | | |
| QM-25F2115K3-XXXXA | 215 | 1500 | 387 | 33.8 | 3.29 | 199 | 100 | 0.139 | 380 | 94.3 | 25.7 | 521.0 | 85 | 48 | 14*9*90 |
| QM-25F2120K3-XXXXA | 205 | 2000 | 369 | 42.9 | 2.67 | 161 | 133 | 0.090 | 380 | 95.0 | | | | | |
| QM-25F2615K3-XXXXA | 265 | 1500 | 477 | 41.6 | 3.33 | 202 | 100 | 0.105 | 380 | 94.6 | 31.5 | 571.0 | 106 | 48 | 14*9*90 |
| QM-25F2620K3-XXXXA | 250 | 2000 | 450 | 52.4 | 2.55 | 154 | 133 | 0.062 | 380 | 95.5 | | | | | |
| QM-25F3615K3-XXXXA | 362 | 1500 | 652 | 56.9 | 3.51 | 212 | 100 | 0.057 | 380 | 96.3 | 89.2 | 628.5 | 155 | 48 | 18*11*90 |
| QM-25F3620K3-XXXXA | 355 | 2000 | 639 | 74.3 | 2.63 | 159 | 133 | 0.033 | 380 | 96.9 | | | | | |
| QM-25F4115K3-XXXXA | 415 | 1500 | 747 | 65.2 | 3.37 | 204 | 100 | 0.044 | 380 | 96.4 | 99.8 | 673.0 | 173 | 48 | 18*11*90 |
| QM-25F4120K3-XXXXA | 405 | 2000 | 729 | 84.8 | 2.70 | 163 | 133 | 0.029 | 380 | 97.0 | | | | | |
| QM-25F5015K3-XXXXA | 504 | 1500 | 907 | 79.2 | 3.64 | 220 | 100 | 0.042 | 380 | 96.4 | 122.0 | 741.0 | 197 | 60 | 18*11*90 |
| QM-25F5020K3-XXXXA | 495 | 2000 | 900 | 103.7 | 2.43 | 147 | 133 | 0.018 | 380 | 97.1 | | | | | |
| QM-25F6015K3-XXXXA | 605 | 1500 | 1089 | 95.0 | 3.46 | 209 | 100 | 0.029 | 380 | 96.6 | 154.0 | 837.5 | 233 | 60 | 18*11*90 |
| QM-25F6020K3-XXXXA | 585 | 2000 | 1053 | 122.5 | 2.47 | 150 | 133 | 0.015 | 380 | 97.2 | | | | | |

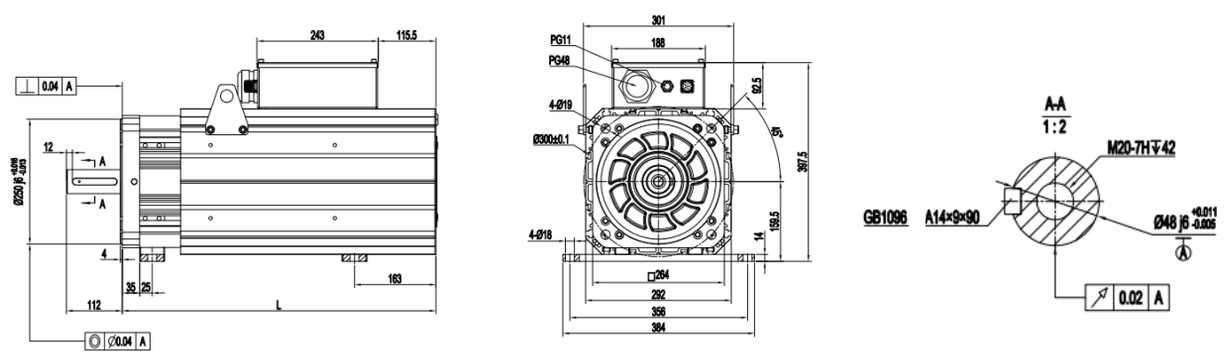
# Mid-to-High Power Servo Motors - Dimensions




QM-18F motor drawings




QM-25F motor drawings (QM-25F19XX~QM-25F31XXK3)




QM-25F motor drawings (QM-25F36XX~QM-25F60XXK3)

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