MOONS'

moving in better ways

Stepper Products

General Catalogue

Integrated Step–Servo Motor
Step–Servo Motor & Driver
Integrated Stepper Motor
Stepper Driver
Stepper Motor

Dawn of MOONS' 3A Era

1st A **Motion Products & Motion Control Products for Manufacturing Automation**

MOONS' is a leading manufacturer of the key parts, components and system level products used in manufacturing automation including: Stepper Motor and Drive, Brushless Motor and Drive, AC Servo Motor and Drive, Integrated solutions. We continue to play a major role in the manufacturing automation field with us moving forward to being a system level provider of total motion control solutions.

2nd A **Intelligent LED Driver & Control Technologies for LED Lighting Management Automation**

3rd A **Online Asset Monitoring, Fault Detection and Diagnosis Solutions for EAM Automation**

MOONS' Business Philosophies

• Customer satisfaction

MOONS' aims to enhance customer satisfaction through the provision development of innovative solutions, manufacture of high quality products, and ontime delivery and outstanding customer support.

• Employee satisfaction

MOONS' values and respects our employees input and encourages them to grow together with the company.
We have been working to develop tools and trainings to build a thriving culture of excellence internally to support the future growth of our employees and the company.

• Partnership

MOONS' strongly believes in a true integrated partnership between all partners in business including customers, distributors and all these in supply chain. As a result of our this philosophy, we endeavor to provide the best value contribution to all partners, which can help our partners improve their competiveness to achieve the win-win situation.

Worldwide service map


moving in better ways

To demostrate our commitment to our community and our customers, **MOONS'** has adopted as our official slogan: "Moving in Better Ways". These words have following meanings to **MOONS':**

- **MOONS'** is an excellent global manufacturer of control motor & control motor drive system
- **MOONS'** is a leading global supplier of intelligent LED lighting control system and drive solutions
- **MOONS'** is a well-recognized reliable provider of system solutions for the intelligent system management in large asset-intensive industrial enterprises

We provide superior motion control systems to our global customers through optimizing of product design, engineering, and manufacturing. This is done by strengthening process and quality control and constantly creating solutions using motion control products that are more energy efficient and environmental friendly.
We provide leading-edge LED lighting drivers, controls and management solutions. Our leading lighting control technology makes the drive professional, convenient to use, and more energy efficient in reducing costs and enhancing profits for global customers.
We provide management system solutions for large asset-intensive industries including power generation, petrochemical, metallurgy, coal and large scale agriculture.

- **We are an ambitious and enterprising company**

MOONS' never stops the on-going accelerated pace to improve processes and increase efficiency. Through scientific management methodologies and tools and incorporating advanced technology with senior management experience, we constantly optimize management processes that enable **MOONS'** to maintain on-going growth in competitive markets.

- **We are a cooperative and thriving group**

All members of our team are able to incorporate the concept of moving in better ways during work, they continually upgrade our collective values, and strive for excellence in the process of doing business to improve expertise and gain better opportunities.

Motion Control Products and Solutions

MOONS' provides a wide range of motion control products and solutions serving the fields of printing, intelligent stage lighting, textile machinery, consumer appliance, banking equipment, factory automation, electronics, semiconductor equipment, packaging machinery, medical equipment and measuring equipment, to name a few.

Entering into the hybrid stepper motor business in 1997, **MOONS'** has grown to where it is now one of the top 5 global manufacturers of stepper motors, and an integrated provider of related motion control products and solutions.

MOONS' has been and is concentrating on technological advancement, product design innovation and improvement for standard and customized motion control products and solutions. Cutting edge technologies, product improvement and scientifically proven management systems permit **MOONS'** to exceed customers' requirements around the world. **MOONS'** supports our growing customer base by providing exceptional quality, application engineering, rapid prototyping, regional warehousing and competitive pricing.


Introduction to Stepper Motors

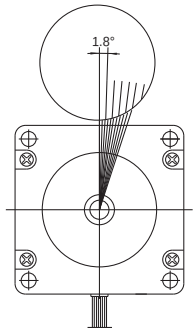
A stepper motor is an electromechanical device which converts electrical pulses into discrete mechanical movements. The shaft of a stepper motor rotates in discrete step increments when electrical command pulses are applied to it in the proper sequence.

Stepper motors are the easiest devices for precise positioning control. They are wildly being used in various application for position and speed via all kinds of control signals such as digital, analog, communication etc.

■ Features

◇ Precise Positioning Control

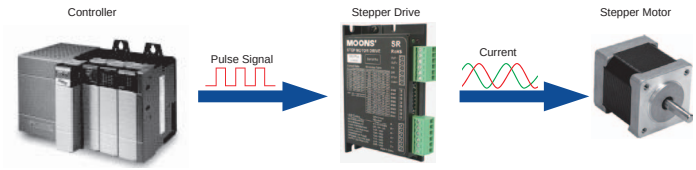
A stepper motor rotates with a fixed step angle, just like the second hand of a clock. This angle is called "basic step angle." MOONS' offers several types of "basic step angle" as standard motors: 2-phase stepping motors with a basic step angle of 0.9° and 1.8° and 3-phase stepping motors with a basic step angle of 1.2°.
Besides the standard motor, MOONS' also has stepper motors avalible with other "basic step angle." They are 0.72°, 1.5°, 3.6° and 3.75°, these motors are not listed in this catalogue, please contact MOONS' for details.



2 phase stepper motor

◇ Easy Control with Pulse Signals

A system configuration for high accuracy positioning is shown below. The rotation angle and speed of the stepping motor can be controlled accurately using pulse signals from the controller.

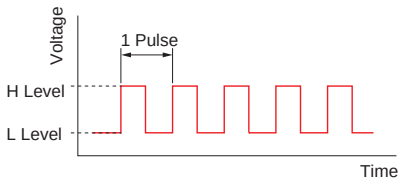


▪ What is a Pulse Signal?

A pulse signal is an electrical signal whose voltage level changes repeatedly between ON and OFF.

Each ON/OFF cycle is counted as one pulse. A command with one pulse causes the motor output shaft to turn by one step.

The signal levels corresponding to voltage ON and OFF conditions are referred to as "H" and "L," respectively.



▪ The length of Rotation is Proportional to the Number of Pulses

The length of rotation of the stepping motor is proportional to the number of pulse signal (pulse number) given to the driver.

The relationship of the stepper motor's rotation (rotation angle of the motor output shaft) and pulse number is expressed as follows:

$\theta = \theta s \times A$

θ: Rotation angle of the motor output shaft [deg]
θs : Step angle [deg/step]
A : Pulse number [pulses]

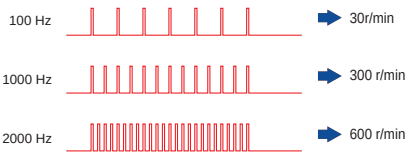
▪ The Speed is Proportional to the Pulse Frequency

The speed of the stepper motor is proportional to the frequency of pulse signals given to the driver.

The relationship of the pulse frequency [Hz] and motor speed [r/min] is expressed as follows:

$N = \frac{\theta s}{360} \times f \times 60$

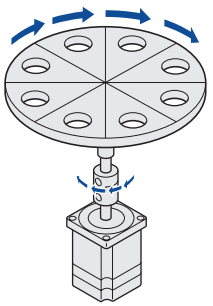
N : Speed of the motor output shaft [r/min]
θs : Step angle [deg/step]
f : Pulse frequency [Hz]
(Number of pulses input per second)



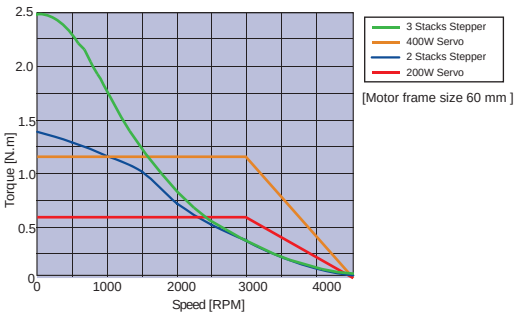
◇ Generating High Torque with a Compact Size

Stepper motors generate high torque with a compact size.
These features give them excellent acceleration and response, which in turn makes these motors well-suited for torque-demanding applications where the motor must be started and stopped frequently.
To meet the need for greater torque at low speed, MOONS' also has geared motors option.

- Frequent Starting/Stopping is Possible

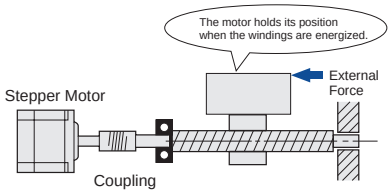


- Speed VS Torque Characteristics comparetion between servo and stepper with same motor size.



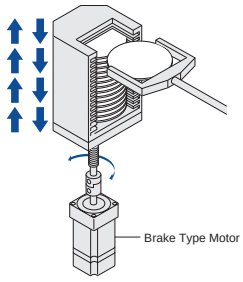
◇ The Motor Holds Itself at a Stopped Position

Stepper motor has full torque at stand-still as long as the windings are energized. This means that the motor can be held at a stopped position without using a mechanical brake.



◇ Motor with Electromagnetic Brake

Once the power is cut off, the self-holding torque of the motor is lost and the motor can no longer be held at the stopped position in vertical operations or when an external force is applied. In lift and similar applications, an electromagnetic brake type motor is required.

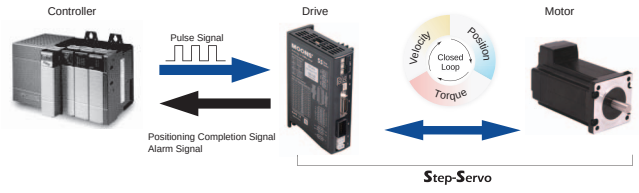


◇ Closed Loop Servo Control Stepper Motors

Step-Servo

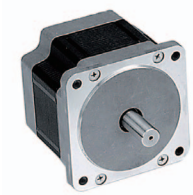
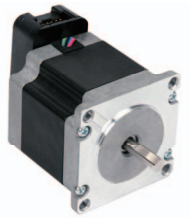
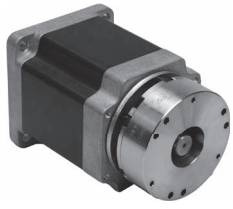
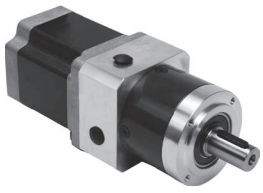
The **Step-Servo** is an innovative revolution for the world of stepping motor, it enhances the stepping motor with servo technology to create a product with exceptional feature and broad capability.

The **Step-Servo** greatly improves the performance to be much more Intelligent, Efficient, Compact, Accurate, Fast and Smooth.



■ Stepper Motor Category

Stepper motors come in different types including the basic type, encoder type, IP65 type, Integrated type with drive and controller, brake type and geared type. The availability of all options can also be combined together as the most optimize and compact motion control unit, for example, MOONS' can offer encoder and geared type, IP65 integrated with drive, controller and encoder, all combinations are avalible per request.

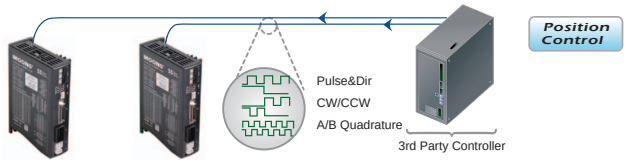
◇ Basic Type A basic model that is easy to use and designed with a balanced set of functions and characteristics.	
◇ Encoder Type Encoder type stepper gives the possiblity for closed loop control, encoder feedback signals can be used for position verification and enhanced performance as stall detection and stall prevension depending on the features of the drive.	
◇ IP65 Type IP65 type stepper motors with the feature of dust proof and resistant to low pressure water jets, are ideal for applications in wet factory environments such as the food and beverage industry or outdoor use. IP65 specifies a product that is dust tight (no ingress of dust; complete protection against contact) and protected against water jets (water projected by a nozzle from any direction shall have no harmful effects).	
◇ Integrated Type with Drive and Controller Integrated stepper motors offer a space-saving design that reduces wiring and saves on cost over separate motor and drive components. For controller type, you only need cable connection for Power and necessory communication or sensor depending on application, it also cost for host controller and make it easy for you to setup sofiscated motion control system.	
◇ Brake Type These motors incorporate a non-excitation type electromagnetic brake. When the power is accidentally cut off due to power outage or other unexpected event, the electromagnetic brake holds the load in position to prevent it from dropping or moving. Brake type steppers are wildly used in vertical axis application.	
◇ Geared Type These motors incorporate a dedicated position-control gearhead with reduced backlash to make the most of the high controllability of the motors. The gearhead ensures highly accurate, smooth operation even in applications where a large torque is received.	

■ Control Modes for Drives

With MOONS' advanced stepper drive technology, each stepper motor can be operated under various control modes as position control, velocity control or torque control. MOONS' stepper drive accepts all types of control signals including digial, analog and Industrial network communications. Built-in controller Q drive supports stand alone operation for single axis motion by stored sofiscated program execution.

◇ Pulse Control

Pulse control is a traditional way to command a stepper motor in position and velocity control.
The length of rotation is proportional to the number of pulses as well as the speed is proportional to the pulse frequency.



Pulse Control

Three most popular pulse control digital signal types are Pulse & Direction, CW/CCW Pulse and A/B Quadrature.

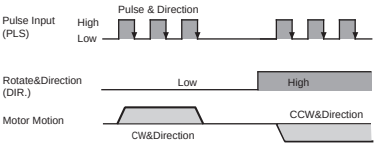
- Pulse & Direction

When the Pulse input is turned ON while the DIR input is ON, the motor will rotate by one step in one direction.

When the Pulse input is turned ON while the DIR input is OFF, the motor will rotate by one step the other direction.

*Direction definition of DIR input can be configured via MOONS' software.

The chart below shows motor configured as while the DIR input is ON, the motor will rotate by CW direction.

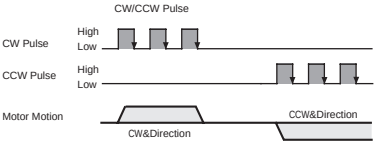


- CW/CCW Pulse

When the X1 input is turned ON, the motor will rotate by one step in One direction. When the X2 input is turned ON, the motor will rotate by one step in the other direction.

*Direction definition can be configured via MOONS' software.

The chart below shows motor configured as while the X1 input is ON, the motor will rotate by one step in CW direction.

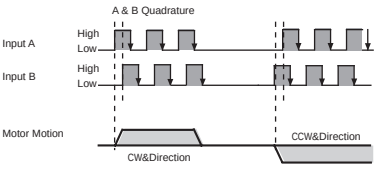


- A & B Quadrature

The motor will move according to signals that are fed to the drive from a two channel increamental master encoder.

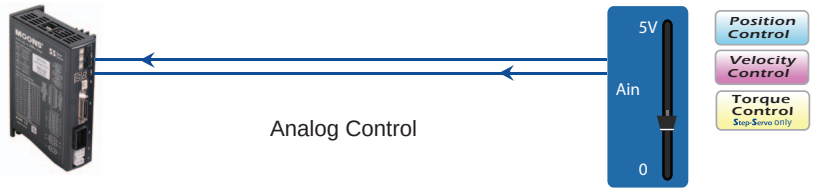
Direction definition can be configured via MOONS' software. Direction is determined via which channel leads the other.

The chart below shows motor configured as while X1 Leads X2, the motor will rotate by CW direction.



◇ Analog Control

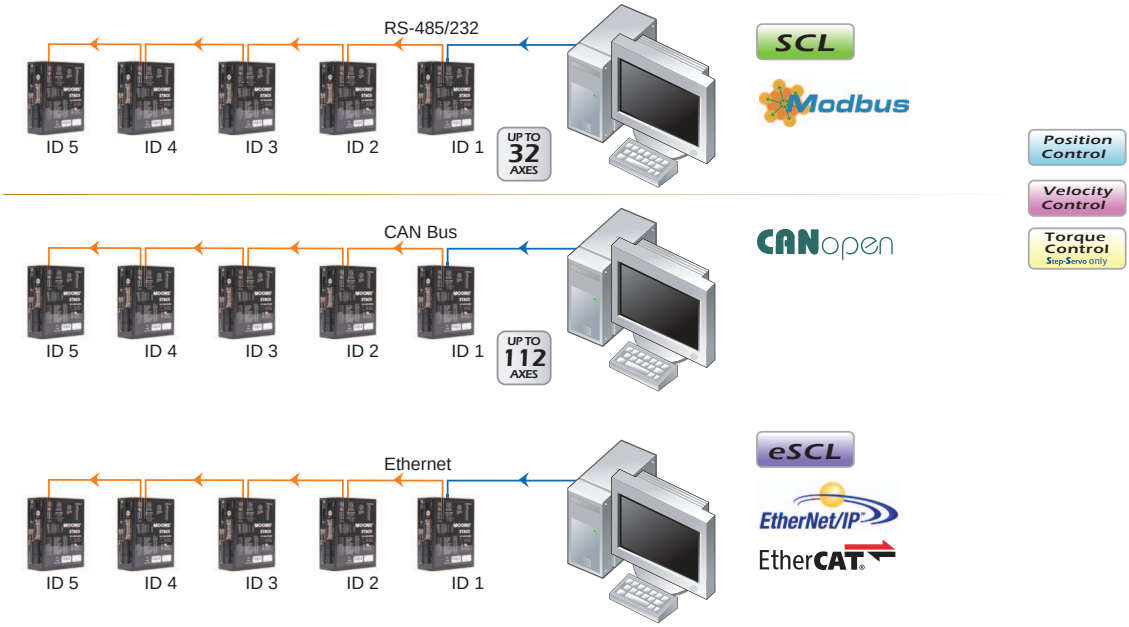
MOONS' stepper drive has the ability to accept analog signal for position and analog control, **Step-Servo** can also use analog signal for torque control.



Analog Control

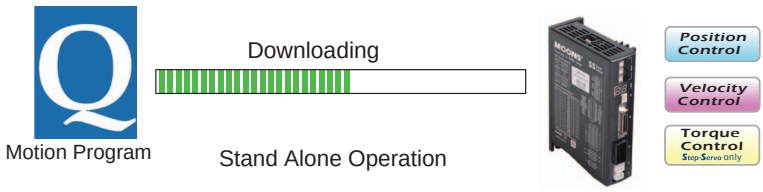
◇ Field Bus Control

MOONS' stepper drive supports all popular Industrial network communications including RS-485, Modbus, CAN , Ethernet and EtherCAT.



◇ Stand Alone Operation

MOONS' Built-in controller Q drive supports stand alone operation for single axis motion by stored sofiscated program execution. It has the ability to run up to 744 lines of stored Q program in non-volatile memory. Q programs are created using the Q Programmer software, which provides multi-tasking, math calculations using analog and digital parameters, conditional processing, data register manipulation, and more features in a robust yet simple text-based programming language.



■ Overview of MOONS' Stepper Products

◇ Closed Loop Step-Servo

TSM Series - Integrated Step-Servo

Frame Size: 28mm, 42mm, 56mm, 60mm, 86mm
Input Voltage(Typical): TSM11:24VDC TSM17:12-48VDC
TSM23/24:12-70VDC TSM34: 24-70VDC
Encoder: Incremental 20000 counts/rev
(only TSM11 encoder 4096 counts/rev)

Position Control
Velocity Control
Torque Control

Enhanced Intelligence:
- Automatic load inertia detection
- Extended homing and software limit

Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control, Daisy Chain
- Stand alone operation

Inputs and Outputs:
- P Type- 4 Digital Inputs, 3 Digital Outputs, Encoder Outputs
- S/Q/C/IP Type- 8 Digital Inputs, 4 Digital Outputs, 1 Analog Input

Communication:
SCL CANopen Modbus eSCL EtherNet/IP

CE RoHS Compliant

SSM Series - Integrated Step-Servo

Frame Size: 42mm, 56mm, 60mm
Input Voltage(Typical): SSM17: 12-48VDC SSM23/24: 12-70VDC
Encoder: Incremental 20000 counts/rev
Easy Wiring with Spring Connectors

Position Control
Velocity Control
Torque Control

Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control
- Stand alone operation

Inputs and Outputs:
- S/Q Type- 3 Digital Inputs, 1 Digital Output, 1 Analog Input
- C Type- 3 Digital Inputs, 1 Digital Output

Communication:
SCL CANopen eSCL EtherNet/IP Modbus

CE RoHS Compliant

TXM Series - IP65 Type Integrated Step-Servo

Frame Size: 60mm, 86mm
Input Voltage(Typical): TXM24: 12-70VDC TXM34: 24-70VDC
Encoder: Incremental 20000 counts/rev

Position Control
Velocity Control
Torque Control

Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control(Daisy Chain for RS-485 and CANopen)
- Stand alone operation

Inputs and Outputs:
- S/Q/IP Type- 3 Digital Inputs, 1 Digital Output, 1 Analog Input
- C Type- 5 Digital Inputs, 3 Digital Outputs

Communication:
SCL CANopen eSCL EtherNet/IP Modbus

CE RoHS Compliant

RS Series - Step-Servo Motor & Drive Package

Motor Frame Size: 28mm, 42mm, 56mm, 60mm, 86mm
Input Voltage(Typical): 24-70VDC
Encoder: Magnetic 4096 counts/rev
Enhanced Intelligence:
- Automatic load inertia detection and switch set stiffness
- Extended homing and software limit

Position Control
Velocity Control
Torque Control

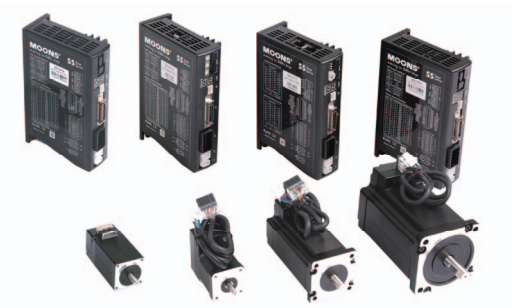
Control Modes:
- Pulse Control
- SCL Command Control
- Stand alone operation

Inputs and Outputs:
- P Type- 4 Digital Inputs, 3 Digital Outputs, Encoder Outputs
- S/Q Type- 4 Digital Inputs, 3 Digital Outputs

Communication:
SCL Modbus

CE RoHS Compliant

SS Series - Step-Servo Motor & Drive Package



Motor Frame Size: 28mm, 42mm, 56mm, 60mm, 86mm
Input Voltage(Typical): 24-70VDC
Encoder: Incremental 20000 counts/rev
(only AM11SS motor encoder 4096 counts/rev)

Position Control
Velocity Control
Torque Control

Enhanced Intelligence:
- Automatic load inertia detection and switch set stiffness
- Extended homing and software limit

Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control(Daisy Chain for RS-485, CANopen and EtherCAT)
- Stand alone operation

Inputs and Outputs:
- P/R Type- 6 Digital Inputs, 2 Digital Outputs, Encoder Outputs
- S/Q/C/EC Type- 8 Digital Inputs, 4 Digital Outputs, 2 Analog Inputs

Communication:
SCL CANopen Modbus EtherCAT

CE RoHS Compliant

◇ Integrated Stepper Motor

STM-R Series - Pluse Input Type Integrated Stepper Motor

Frame Size: 42mm, 56mm
Input Voltage(Typical): STM17R: 12-48VDC STM23R: 12-70VDC
Encoder Option: Incremental 4000 counts/rev
Microstep Resolution: Switch set, up to 25600 steps/rev
Control Modes:
- Pulse Control

Position Control

Inputs and Output:
- 3 Digital Inputs, 1 Digital Output

CE RoHS Compliant

STM Series - Controller Type Integrated Stepper Motor

Frame Size: 28mm, 42mm, 56mm, 60mm
Input Voltage(Typical):
- STM11 - 24VDC
- STM17 - 12-48VDC
- STM23/24 - 12-70VDC

Position Control
Velocity Control

Encoder Option: Incremental 4000 counts/rev
- Stall Detection
- Stall Prevension

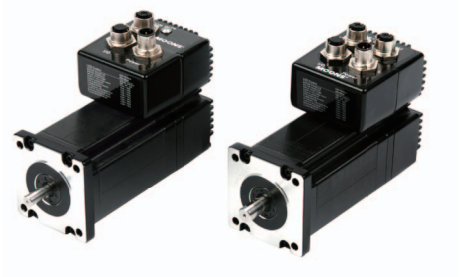
Microstep Resolution: Software set, up to 51200 steps/rev
Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control
- Stand alone operation

Inputs and Outputs:
- STM11 4 digital Inputs, 2 Outputs
- SF/QF Type- 4 Configurable digital Inputs/Outputs, 1 Analog Input
- S/Q/IP Type- 3 Digital Inputs，1Digital Output，1 Analog Input
- C Type- 3 Digital Inputs, 1 Digital Output

Communication:
SCL CANopen eSCL EtherNet/IP Modbus

CE RoHS Compliant

SWM Series - IP65 Type Integrated Stepper Motor



Frame Size: 60mm
Input Voltage(Typical): 12-70VDC
Encoder Option: Incremental 4000 counts/rev
- Stall Detection
- Stall Prevension

Position Control
Velocity Control

Microstep Resolution: Software set, up to 51200 steps/rev
Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control(Daisy Chain for RS-485 and CANopen)
- Stand alone operation

Inputs and Outputs:
- SF/QF Type- 4 Configurable digital Inputs/Outputs, 1 Analog Input
- S/Q/IP Type- 3 Digital Inputs, 1 Digital Output, 1 Analog Input

Communication:
SCL eSCL EtherNet/IP Modbus

CE RoHS Compliant

◇ Two Phase Stepper Drive

SRAC Series - AC Input Stepper Drive

Position Control

Input Voltage(Typical): AC120V/240V
Drive Output Current: Up to 8Amp(Peak of Sine)
Microstep Resolution: Switch set, up to 25600 steps/rev
Control Modes:
- Pulse Control

Inputs and Outputs:
- 3 Digital Inputs, 1 Digital Output

Supported Motor Frame Size: 56mm, 60mm, 86mm

CE RoHS Compliant

STAC Series - AC Input Controller Type Stepper Drive

Position Control
Velocity Control

Input Voltage(Typical): AC120V/240V
Drive Output Current: Up to 2.5Amp(Peak of Sine)
Encoder Option: Incremental
- Stall Detection
- Stall Prevension

Microstep Resolution: Software set, up to 51200 steps/rev
Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control
- Stand alone operation

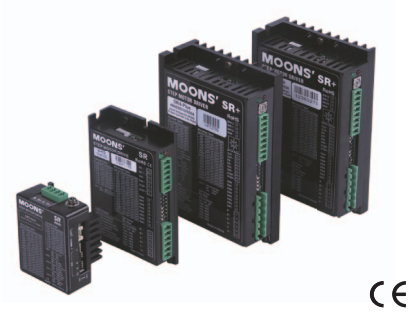
Inputs and Outputs:
- S/Q/C Type- 4 Digital Inputs, 2 Digital Outputs, 1 Analog Input
- Q-A/IP Type- 12 Digital Inputs, 6 Digital Outputs, 1 Analog Input

Communication:
SCL CANopen eSCL EtherNet/IP Modbus

Supported Motor Frame Size: 56mm, 60mm, 86mm

CE RoHS Compliant UL

SR Series - DC Input Stepper Drive



Position Control

Input Voltage(Typical):
- SR2/SR2-Plus/SR3-mini: 12- 48VDC
- SR4/SR4-Plus: 24-48VDC
- SR8/SR8-Plus: 24-80VDC

Drive Output Current: Up to 7.8Amp(Peak of Sine)
Microstep Resolution: Switch set, up to 51200 steps/rev
Control Modes:
- Pulse Control

Inputs and Outputs:
- 3 Digital Inputs, 1 Digital Output

Supported Motor Frame Size:
- 20mm, 28mm, 35mm, 42mm, 56mm, 60mm, 86mm

CE RoHS Compliant

STF Series - Intelligent field bus control Stepper Drive

Position Control
Velocity Control

Input Voltage(Typical): DC12V/24V/48V
Drive Output Current: Up to 10Amp(Peak of Sine)
Microstep Resolution: Software set, up to 51200 steps/rev
Control Modes:
- Field Bus Control
- Stand alone operation

Inputs and Outputs:
- 8 Digital Inputs, 4 Digital Outputs

Communication:
EtherCAT EtherNet/IP CANopen Modbus

Supported Motor Frame Size:
- 20mm, 28mm, 35mm, 42mm, 56mm, 60mm, 86mm

CE RoHS Compliant

ST Series - DC Input Controller Type Stepper Drive

Position Control

Velocity Control

Input Voltage(Typical): DC24V/48V

Drive Output Current: Up to 10Amp(Peak of Sine)

Encoder Option: Incremental
- Stall Detection
- Stall Prevension

Microstep Resolution: Software set, up to 51200 steps/rev

Control Modes:
- Pulse Control
- Analog Control
- Field Bus Control
- Stand alone operation

Inputs and Outputs:
- S type- 3 Digital Inputs, 1 Digital Output, 1 Analog Input
- Q/C/IP- 8 Digital Inputs, 4 Digital Outputs, 2 Analog Inputs

Communication:

SCL CANopen eSCL EtherNet/IP Modbus

Supported Motor Frame Size:
- 28mm, 35mm, 42mm, 56mm, 60mm, 86mm

◇ Three Phase Stepper Drive

AC Input Stepper Drive and DC Input Stepper Drive

Drive Input Voltage(Typical):
- AC 120V/240V
- DC 24V/48V

Control Modes:
- Pulse Control
- Analog Control
- Stand alone operation

Inputs and Outputs:
- 3 Digital Inputs, 1 Digital Output

Supported Motor Frame Size: 60mm, 86mm

◇ Stepper Motor

Standard Motors

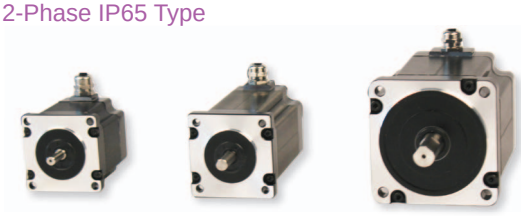
2-Phase Basic Type

20mm 28mm 35mm 42mm 56mm 60mm 86mm 110mm

2-Phase PowerPlus Series Type

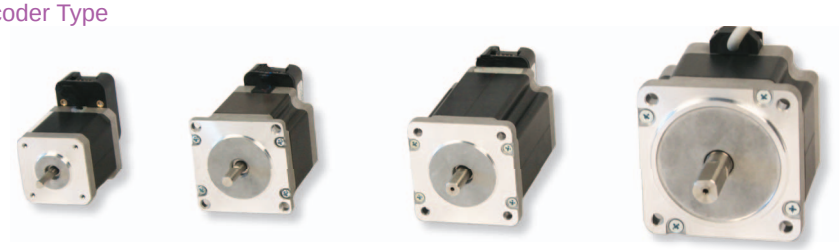
56mm

2-Phase IP65 Type



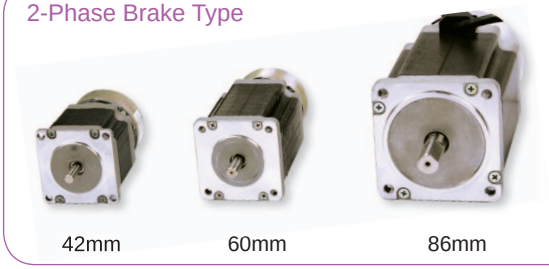
56mm 60mm 86mm

2-Phase Encoder Type



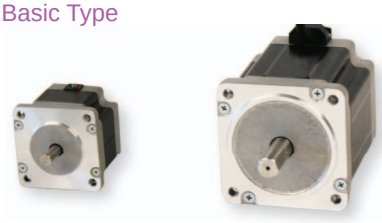
42mm 56mm 60mm 86mm

2-Phase Brake Type



42mm 60mm 86mm

3-Phase Basic Type



60mm 86mm

Planetary Reducer Motors Type

20mm 28mm 42mm 57mm(60) 86mm

Stepper General Catalogue

Stepper Motor

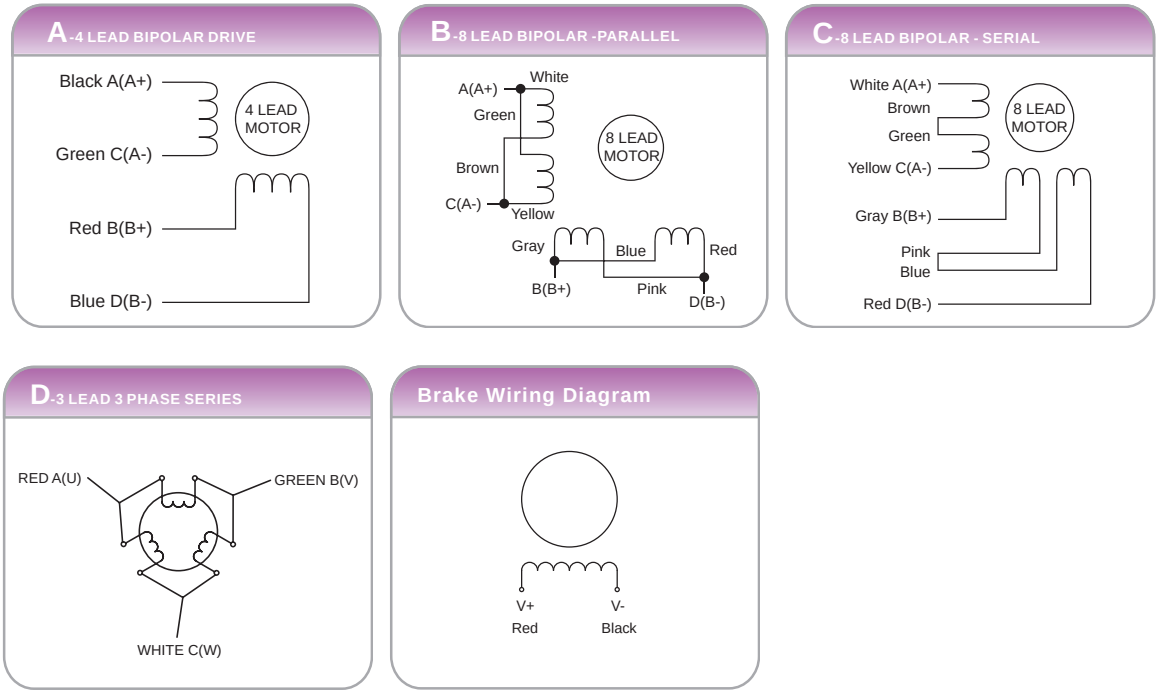
Numbering System

AM 17 HD 0 0 01 - 01

1 2 3 4 5 6 7

1. Motion Control Standard Series
2. Size: Motor outside diameter in tenths of an inch (Ex: size 17 = 1.7")
(8:20mm; 11:28mm; 14:35mm; 17:42mm; 23:56mm; 24:60mm; 34:86mm; 42:110mm)
3. Series:
   HA: step angle 0.9°
   HY, HS, HD: step angle 1.8°
   HC: step angle 1.2°
4. Length of stator
5. Number of lead wires
   0: Connector type
   3: 3 lead wires
   4: 4 lead wires
   6: 6 lead wires
   8: 8 lead wires
6. Electric variation: variety of current, torque, etc.
7. Mechanical variation: variety of shaft, lead wires, screws, etc.

Wiring Diagrams

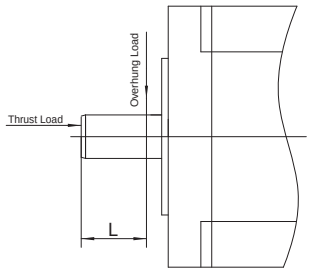


Generall Specifications

Specifications		Parameter
Step Accuracy		±5%(Tested by: Constant Current Drive/24V/Two Phase On/Rated Current/Full Step:1rps)
Insulation Class		Class B(130°C)
Operating Environment	Ambient Temperature	-20~+50°C(non-freezing)
	Ambient Humidity	85% or less (non-condensing)
	Atmosphere	No corrosive gases, dust, water or oil
Temperature Rise		Temperature rise of windings is 80˚C (144˚F) or less measured by the resistance change method. (at rated voltage, at standstill, two phases excited)
Shaft Runout		0.050T.I.R.(mm)
Radial Play		0.02mm Max.(500gf)
Axial Play		0.08mm Max.(500gf)
Concentricity		0.075T.I.R.(mm)
Perpendicularity		0.100T.I.R.(mm)

Permissible Overhung Load and Permissible Thrust Load(Unit:N)

Type	Permissible Overhung Load Distance(L) from Shaft End(mm)					Permissible Thrust Load
	0mm	5mm	10mm	15mm	20mm	
8HY	12	15	20	---	---	Less than the motor mass
11HS	20	25	34	52	- - -	
14HA/14HY	20	25	34	52	- - -	
17HD/17HA/17HC	20	25	34	52	- - -	
23HS	50	60	75	100	150	
24HS/24HC	61	73	90	110	160	
34HD/34HC	260	290	340	390	480	
42HS	390	435	510	585	720	



Motor Installation

Mounting Direction

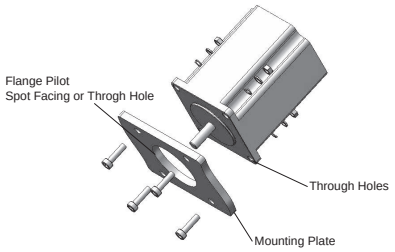
Motors can be mounted freely in any direction as shown below.

Regardless of how the motor is mounted, take care not to apply an overhung load or thrust load on the shaft. Make sure the cable does not contact the mounting surface causing undesirable force on the cable.

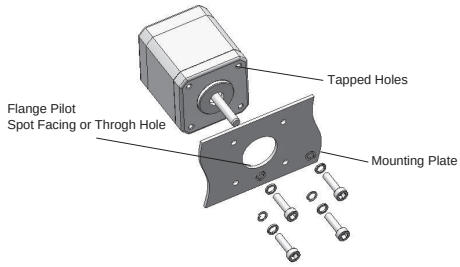
Mounting Method

Considering heat radiation and vibration isolation as much as possible, mount the motor tightly against a metal plane.

- Mounting Method for Through Hole Type



- Mounting Method for Tapped Hole Type



Installation Conditions

Install the motor in a location that meets the following conditions, or the product may be damaged.

- Indoors (This product is designed and manufactured to be installed within another device.)
- Ambient temperature: -20~+50°C(non-freezing)
- Ambient humidity: 85% or less (non-condensing)
- Not exposed to explosive, flammable or corrosive gases
- Not exposed to direct sunlight
- Not exposed to dust
- Not exposed to water or oil
- A place where heat can escape easily
- Not exposed to continuous vibration or excessive impact

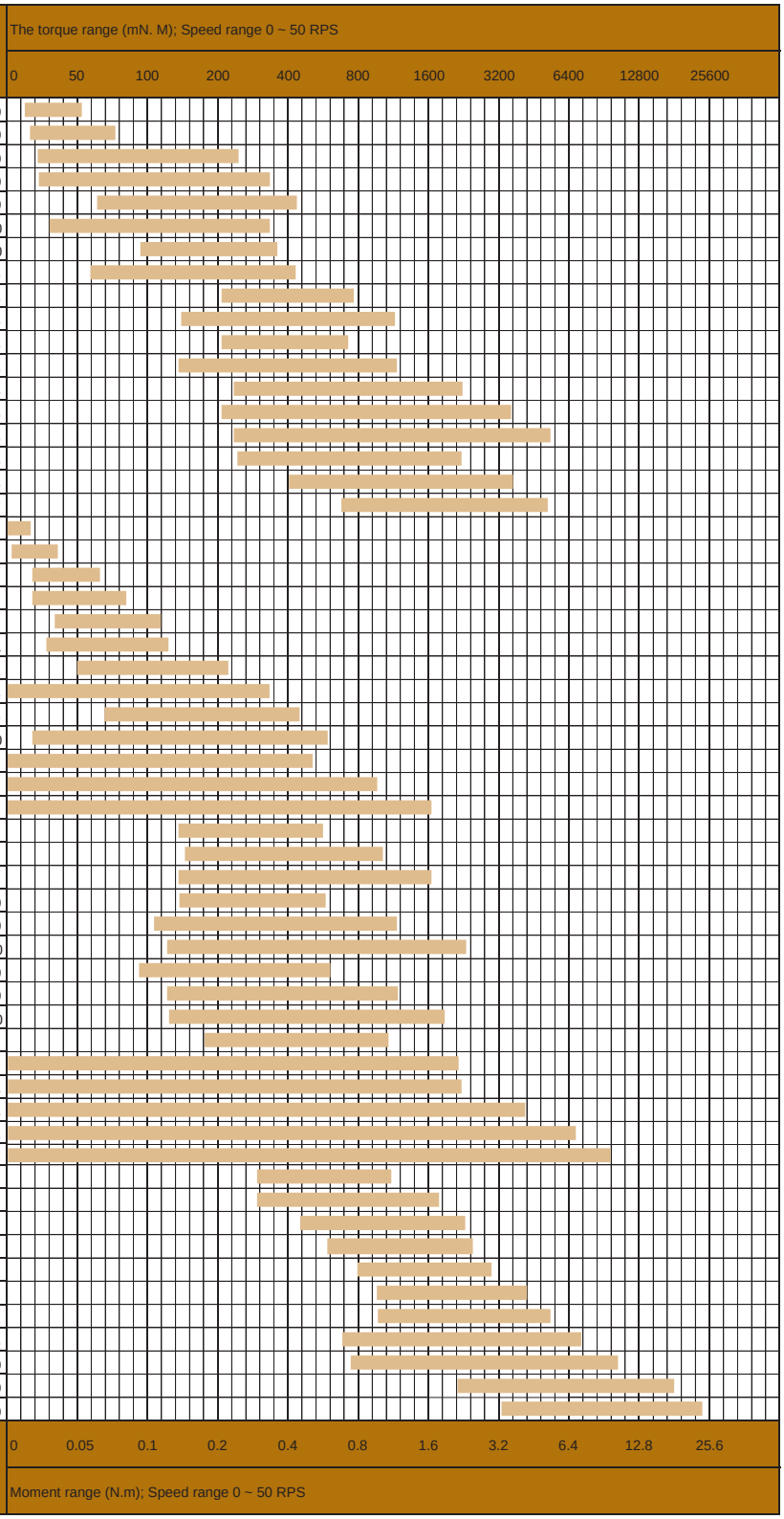
Notes:

When installing the motor in an enclosed space such as a control box, or somewhere close to a heat-radiating object, vent holes should be used to prevent the motor from overheating.

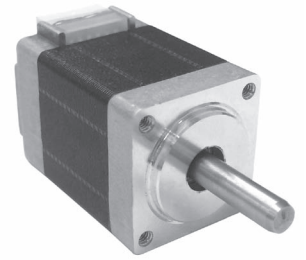
Do not install the motor in a location where a source of vibration will cause the motor to vibrate.

QUICK SELECTION OF MOTOR

step angle (°)	Size: Base (mm)	Size: Thickness (mm)	Size: Series	Recommended Driver	Model
0.9	35	20	NEMA14	SR / ST	AM14HA74A0
		28			AM14HA04A0
	42	34.3	NEMA17		AM17HA44A0
		39.8			AM17HA24A0
		48.3			AM17HA64A0
1.2	42	34	NEMA17	3SR / 3ST	AM17HC20A0
		43			AM17HC60A0
	60	45.5	NEMA24		AM24HC4306
		54.5			AM24HC2306
		76.5			AM24HC3306
		54.5			AM24HC2308
		76.5			AM24HC3308
	86	45.5	NEMA34		AM34HC0305
		54.5			AM34HC1305
		76.5			AM34HC2306
		45.5			AM34HC0306
		54.5			AM34HC1306
		76.5			AM34HC2307
1.8	20	31.5	NEMA8	SR / ST	AM8HY2050
		47			AM8HY4043
	28	31	NEMA11		AM11HS1008
		40			AM11HS3007
		51			AM11HS5008
	35	40	NEMA14		AM14HYB401
	42	34.3	NEMA17		AM17HD4452
		39.8			AM17HD2438
		48.3			AM17HD6426
		62.8			AM17HDB410
	57	41	NEMA23		AM23HS0420
		54			AM23HS2449
		76			AM23HS3454
		41			AM23HS0421
		54			AM23HS2450
		76			AM23HS3455
		39			AM23HS04A0
		55			AM23HS84A0
		77			AM23HSA4A0
		39			AM23HS04B0
		55			AM23HS84B0
		77			AM23HSA4B0
	60	55	NEMA24		AM24HS2402
		85			AM24HS5401
	86	66.5	NEMA34		AM34HD0404
		96			AM34HD1404
		125.5			AM34HD2403
		156			AM34HD3402
	57	54	NEMA23	SRAC / STAC	AM23HS2459
		76			AM23HS3466
	60	85	NEMA24		AM24HS5411
	86	66.5	NEMA34		AM34HD0802
		75			AM34HD4802
		96			AM34HD1802
		115			AM34HD6802
		125.5			AM34HD2805
	110	98.5	NEMA42		AM42HS04A0
		149.5			AM42HS24A0
		201			AM42HS34A0



NEMA8(□20mm) 2-phase DC1.8°- 8HY Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	6 N (1.3 Lbs.)Push
	25 N (5.6 Lbs.) Pull
Radial	18 N (4 Lbs.) At End of Shaft
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

RoHS Compliant

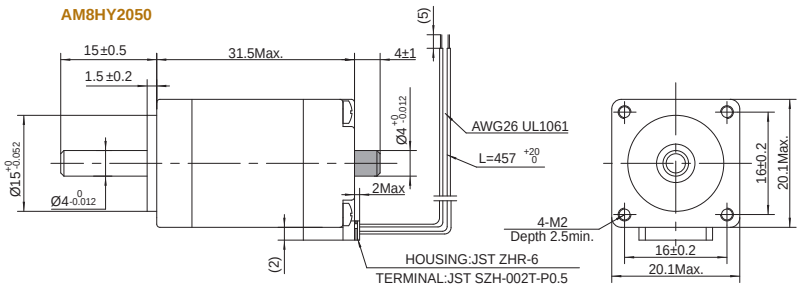
Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM8HY2050-01N	Single Shaft	A	4	31.5	0.018	0.35	11.5	2.0	0.05	500VAC 1 minute
AM8HY2050-02N	Double Shaft									
AM8HY4043-01N	Single Shaft			47	0.038		20.3	4.2	0.09	
AM8HY4043-02N	Double Shaft									

* Wiring Diagram A See Page 245

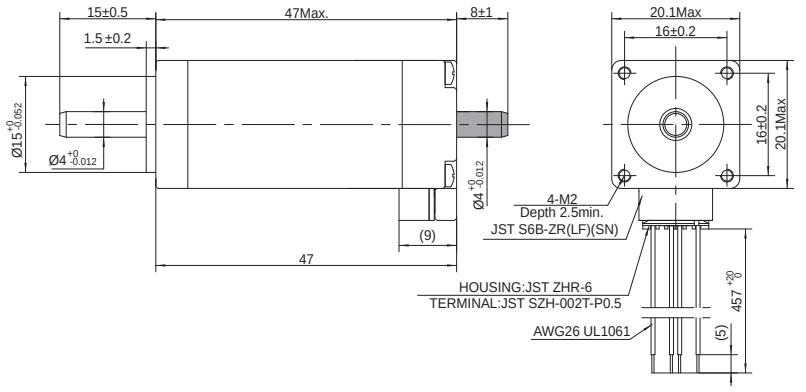
Dimensions (Unit: mm)

AM8HY2050



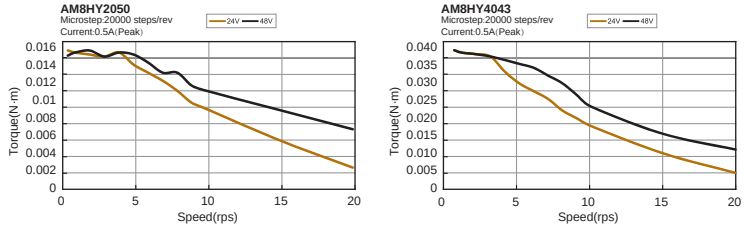
■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

AM8HY4043

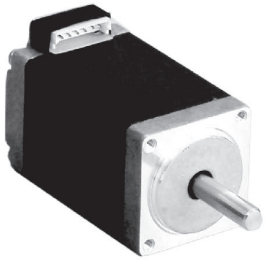


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA11(□28mm) 2-phase DC 1.8°- 11HS Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	15 N (3.4 Lbs.)Push
	25 N (5.6 Lbs.) Pull
Radial	30 N (6.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

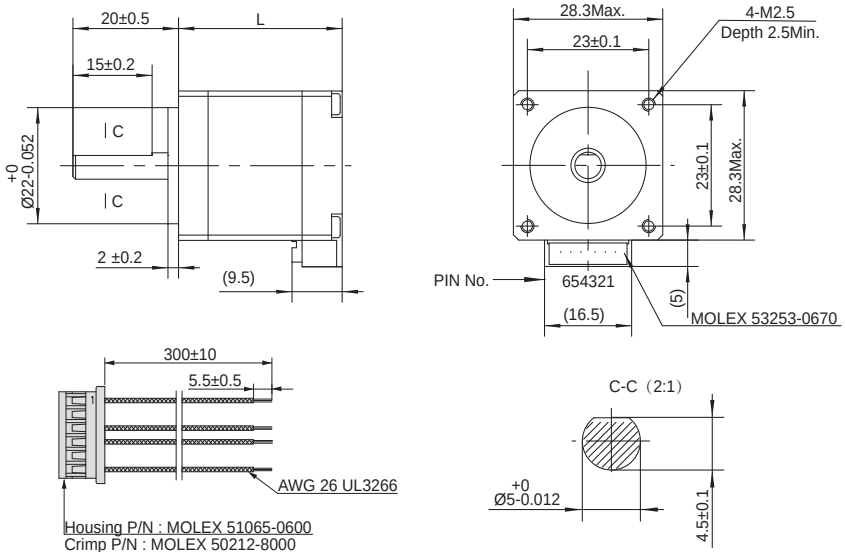
RoHS Compliant

Parameters

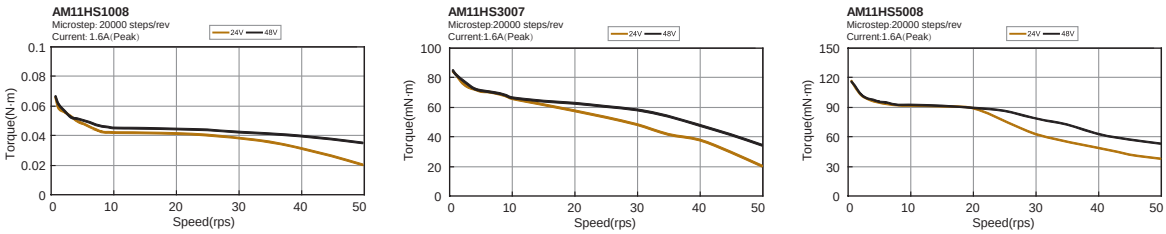
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM11HS1008-07	Single Shaft	A	4	31.0	0.072	1	2.5	9.0	0.1	500VAC 1 minute
AM11HS3007-02	Single Shaft			40.0	0.082		1.7	12.0	0.15	
AM11HS5008-01	Single Shaft			51.0	0.125		3.5	18.0	0.2	

* Wiring Diagram A See Page 245

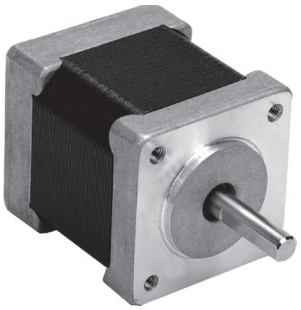
Dimensions (Unit: mm)



Torque Curves(Recommended Driver: SR or ST)



NEMA14(□35mm) 2-phase DC 1.8°- 14HY Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	25 N (5.6 Lbs.)Push 65 N (15 Lbs.) Pull
Radial	30 N (6.5 Lbs.) At End of Shaft
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

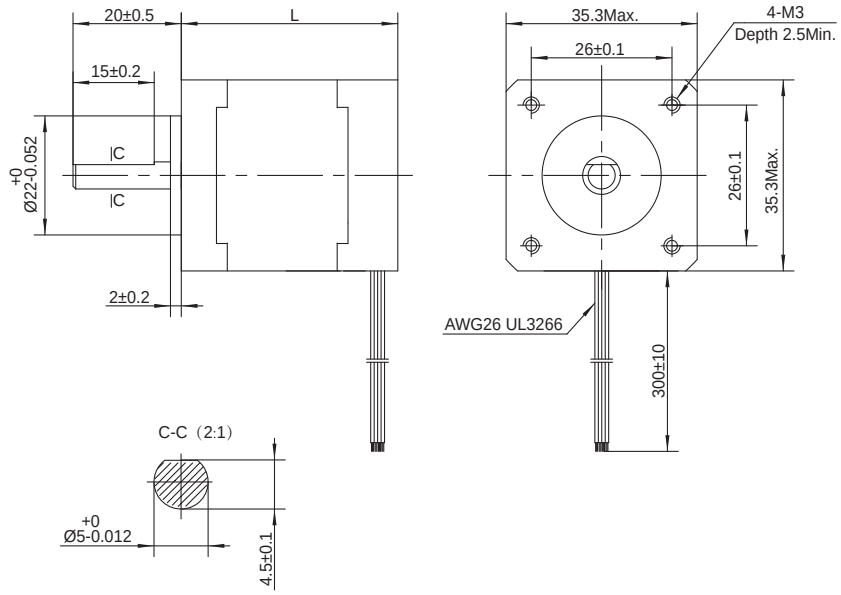
RoHS Compliant

Parameters

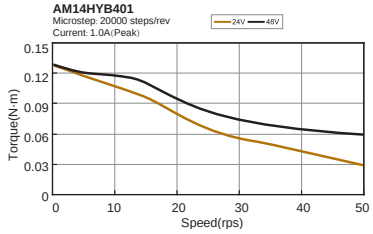
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM14HYB401-03	Single Shaft	A	4	40.0	0.2	1.0	4.3	20.0	0.21	500VAC 1 minute

* Wiring Diagram A See Page 245

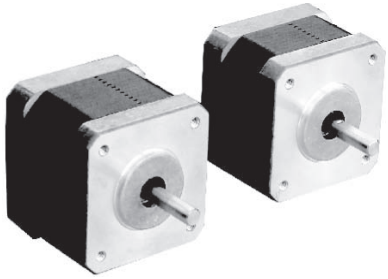
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SR or ST)



NEMA14(□35mm) 2-phase DC 0.9°- 14HA Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	25 N (5.6 Lbs.)Push 65 N (15 Lbs.) Pull
Radial	30 N (6.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

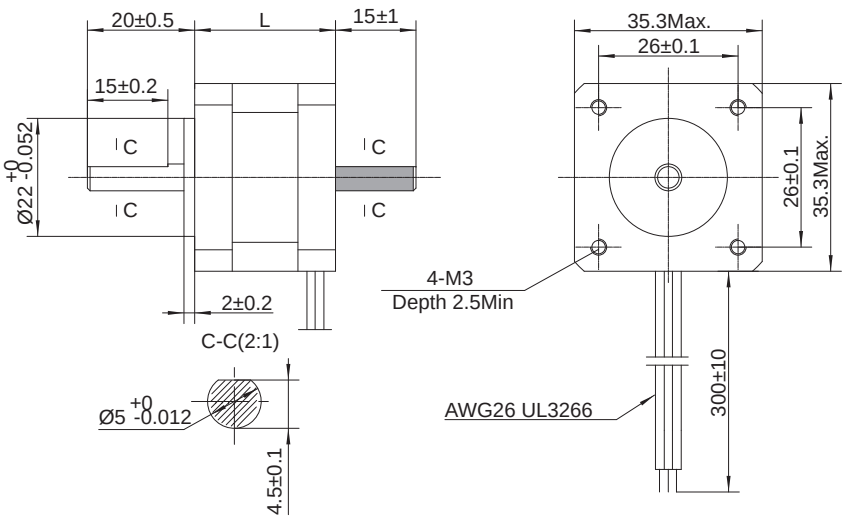
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N·m	Current A/Phase	Resistance Ω/Phase	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
AM14HA74A0-01N	Single Shaft	A	4	20	0.065	1.5	0.9	10.0	0.09	500VAC 1 minute
AM14HA74A0-02N	Double Shaft									
AM14HA04A0-01N	Single Shaft			28	0.08	1.5	0.9	14.0	0.16	
AM14HA04A0-02N	Double Shaft									

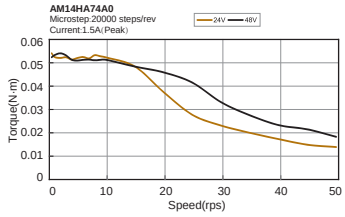
*** Wiring Diagram A See Page 245**

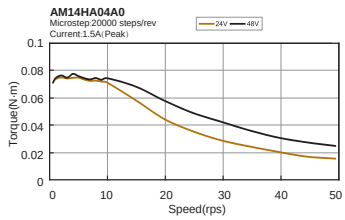
Dimensions (Unit: mm)



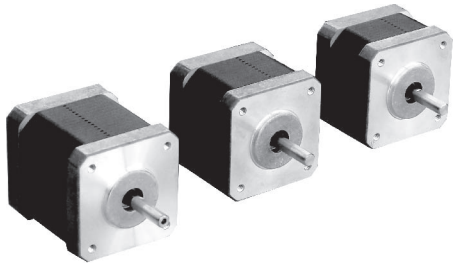
■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)





NEMA17(□42mm) 2-phase DC 1.8°- 17HD Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	25 N (5.6 Lbs.)Push 65 N (15 Lbs.) Pull
Radial	30 N (6.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

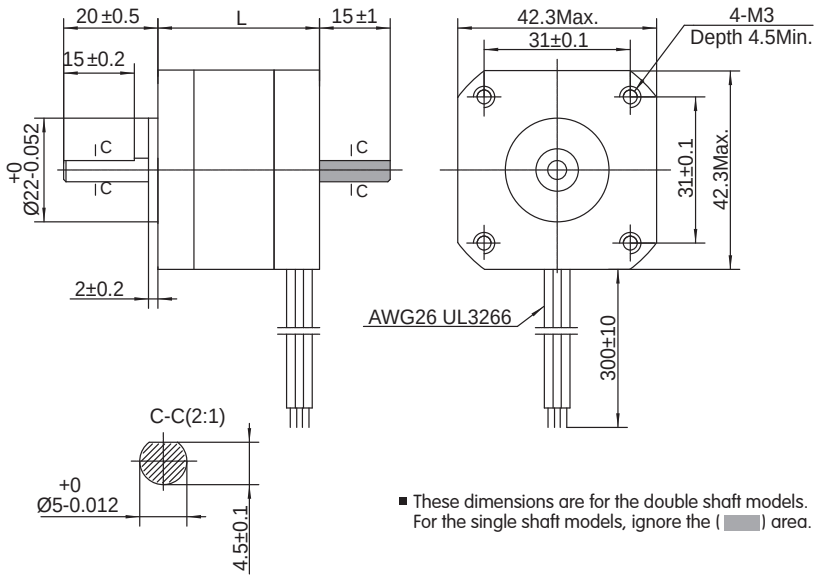
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N·m	Current A/Phase	Resistance Ω/Phase	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
AM17HD4452-02N	Single Shaft	A	4	34.3	0.285	1.5	1.5	38.0	0.23	500VAC 1 minute
AM17HD4452-01N	Double Shaft									
AM17HD2438-02N	Single Shaft			39.8	0.46		1.9	57.0	0.28	
AM17HD2438-01N	Double Shaft									
AM17HD6426-06N	Single Shaft			48.3	0.59		2.3	82.0	0.36	
AM17HD6426-05N	Double Shaft									
AM17HDB410-01N	Single Shaft			62.8	0.85	1.4	3.2	123.0	0.6	
AM17HDB410-02N	Double Shaft									

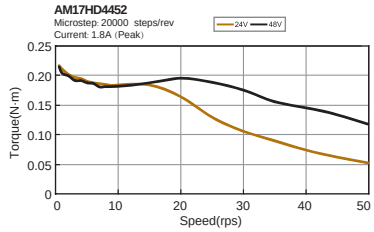
* Wiring Diagram A See Page 245

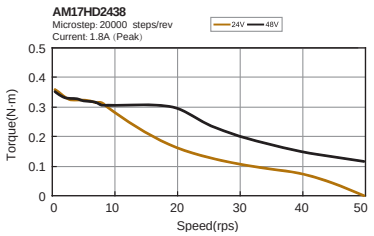
Dimensions (Unit: mm)

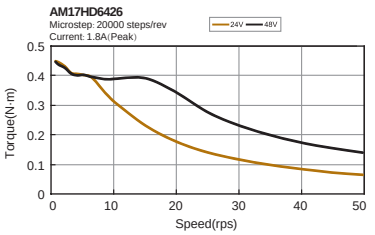


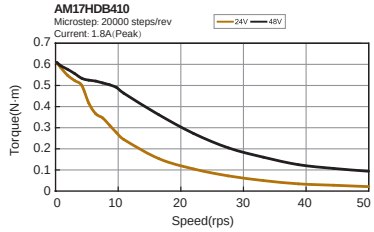
■ These dimensions are for the double shaft models.
For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)

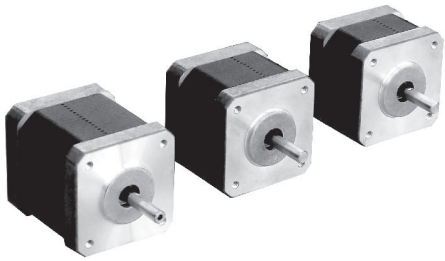








NEMA17(□42mm) 2-phase DC 0.9°- 17HA Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	25 N (5.6 Lbs.)Push 65 N (15 Lbs.) Pull
Radial	30 N (6.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

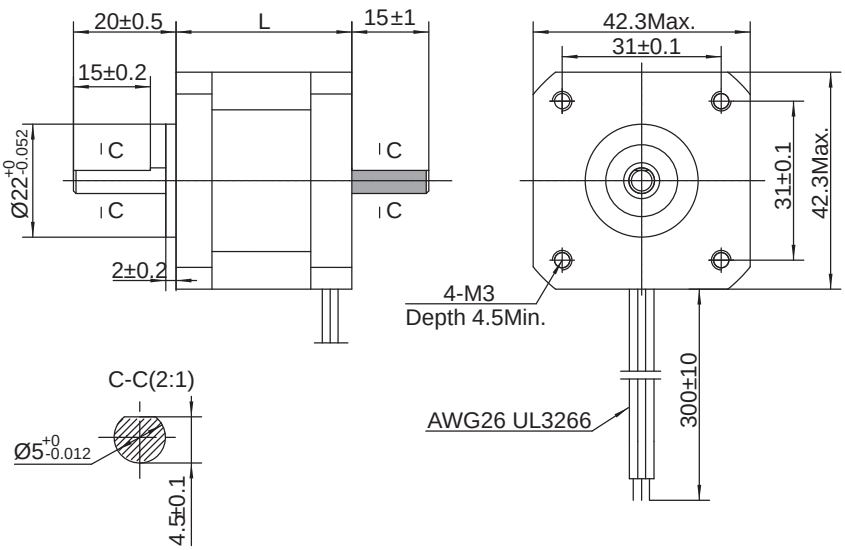
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N·m	Current A/Phase	Resistance Ω/Phase	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
AM17HA44A0-01N	Single Shaft	A	4	34.3	0.25	1.5	1.6	38.0	0.23	500VAC 1 minute
AM17HA44A0-02N	Double Shaft									
AM17HA24A0-01N	Single Shaft			39.8	0.35		1.65	57.0	0.28	
AM17HA24A0-02N	Double Shaft									
AM17HA64A0-01N	Single Shaft			48.3	0.45		1.56	82.0	0.36	
AM17HA64A0-02N	Double Shaft									

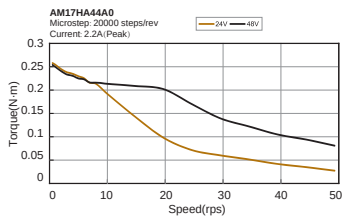
* Wiring Diagram A See Page 245

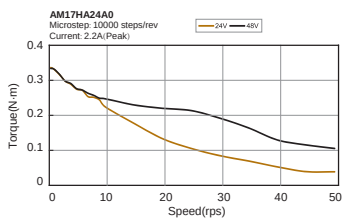
Dimensions (Unit: mm)

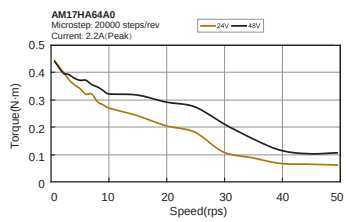


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

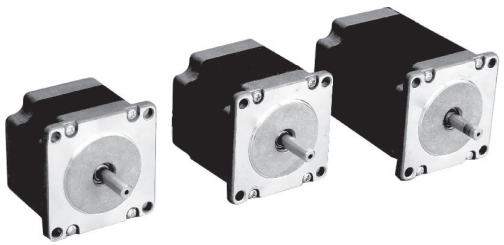
Torque Curves (Recommended Driver: SR or ST)







NEMA23(□ 56mm) 2-phase DC 1.8° - 23HS Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

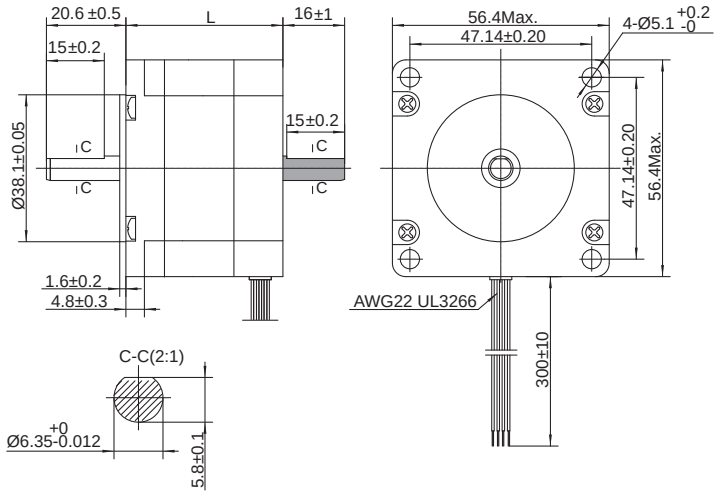
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM23HS0420-01	Single Shaft	A	4	41.0	0.72	1.8	1.8	135.0	0.42	500VAC 1 minute
AM23HS0420-02	Double Shaft									
AM23HS2449-01	Single Shaft			54.0	1.25		2.4	260.0	0.6	
AM23HS2449-02	Double Shaft									
AM23HS3454-01	Single Shaft			76.0	2.1		2.9	460.0	1.0	
AM23HS3454-02	Double Shaft									
AM23HS0421-01	Single Shaft			41.0	0.72	3.7	0.48	135.0	0.42	
AM23HS0421-02	Double Shaft									
AM23HS2450-01	Single Shaft			54.0	1.25		0.63	260.0	0.6	
AM23HS2450-02	Double Shaft									
AM23HS3455-01	Single Shaft			76.0	2.1		0.75	460.0	1.0	
AM23HS3455-02	Double Shaft									

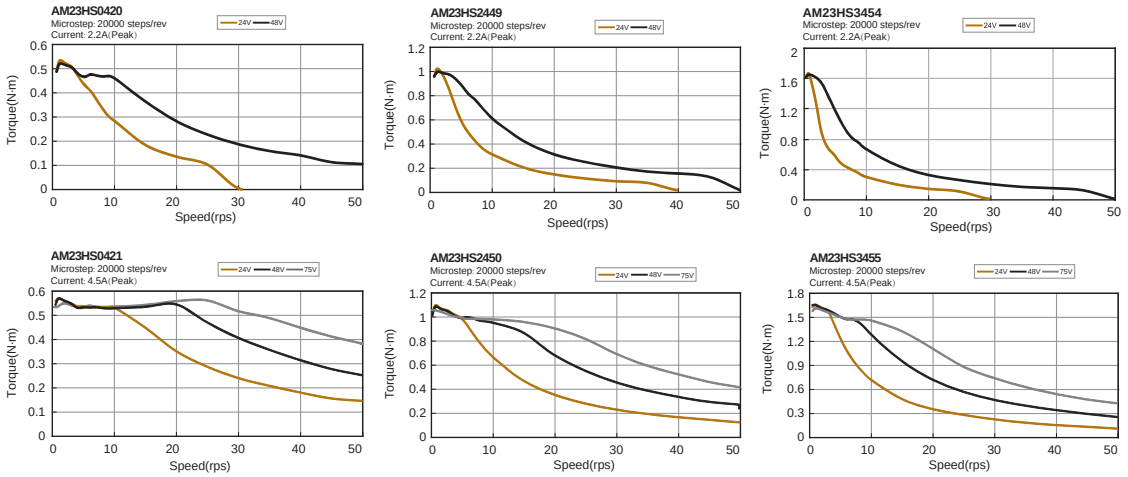
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)



■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA23(□56mm) 2-phase DC 1.8°- 23HS PowerPlus Series (6.35mm Shaft)

Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

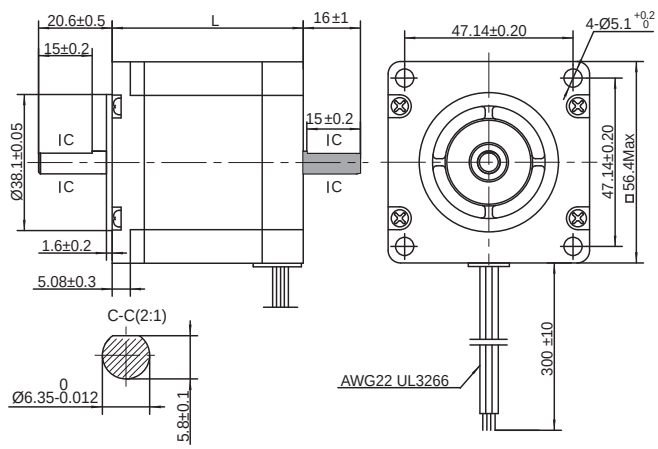
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM23HS04A0-01	Single Shaft	A	4	39	0.82	1.8	1.8	105.0	0.4	500VAC 1 minute
AM23HS04A0-02	Double Shaft									
AM23HS84A0-01	Single Shaft			55	1.5		2.4	215.0	0.6	
AM23HS84A0-02	Double Shaft									
AM23HSA4A0-01	Single Shaft			77	2.3		3	365.0	1.0	
AM23HSA4A0-02	Double Shaft									
AM23HS04B0-01	Single Shaft			39	0.82	3.7	0.48	105.0	0.4	
AM23HS04B0-02	Double Shaft									
AM23HS84B0-01	Single Shaft			55	1.5		0.63	215.0	0.6	
AM23HS84B0-02	Double Shaft									
AM23HSA4B0-01	Single Shaft			77	2.3		0.75	365.0	1.0	
AM23HSA4B0-02	Double Shaft									

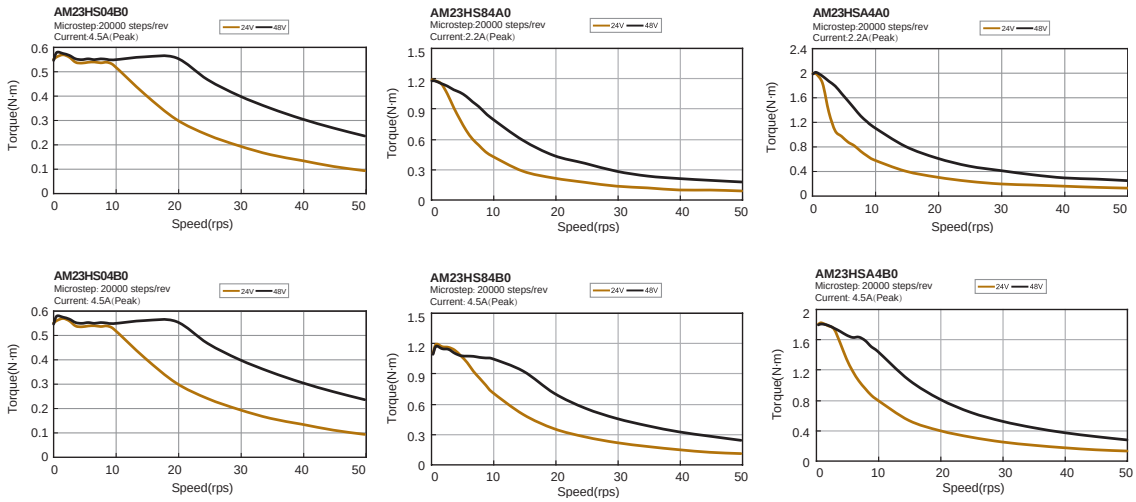
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

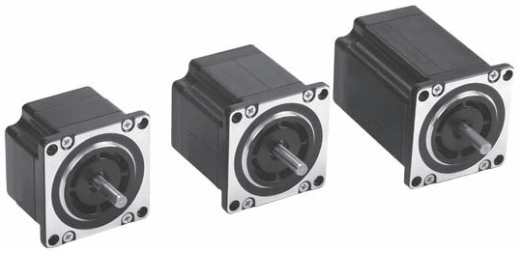


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA23(□56mm) 2-phase DC 1.8°- 23HS PowerPlus Series (8mm Shaft)



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

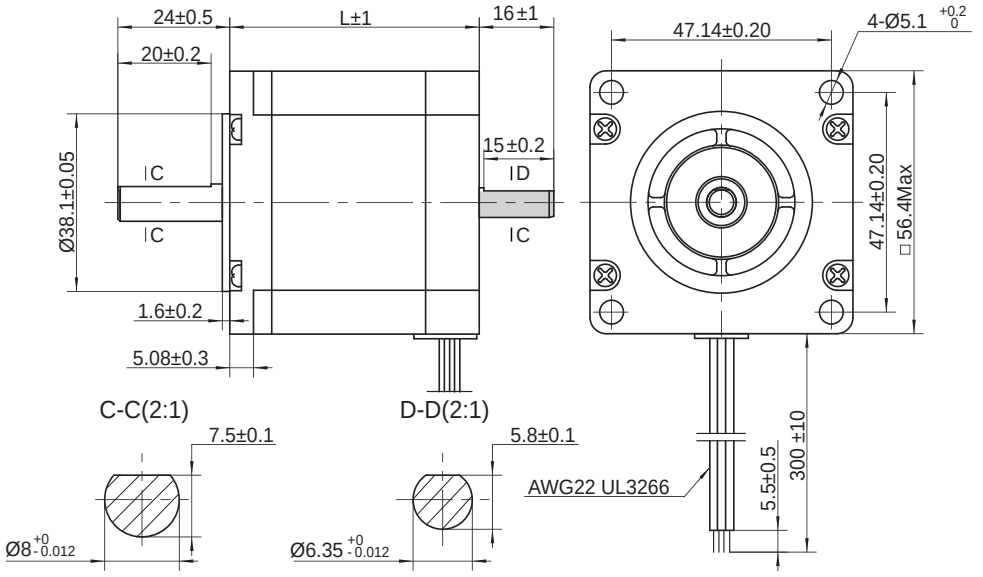
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM23HS04B0-03	Single Shaft	A	4	39	0.82	3.7	0.48	105.0	0.4	500VAC 1 minute
AM23HS04B0-04	Double Shaft									
AM23HS84B0-03	Single Shaft			55	1.5		0.63	215.0	0.6	
AM23HS84B0-04	Double Shaft									
AM23HSA4B0-03	Single Shaft			77	2.3		0.75	365.0	1.0	
AM23HSA4B0-04	Double Shaft									

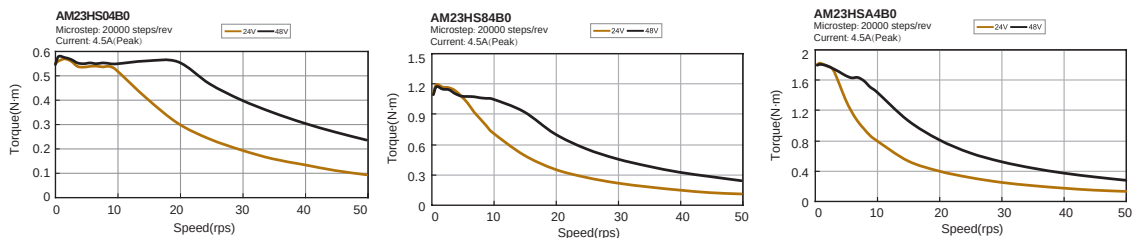
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

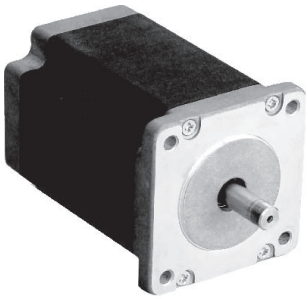


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA24(□60mm) 2-phase DC 1.8°- 24HS Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.)At Flat Center
IP Rating	40
Operating Temp	−20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

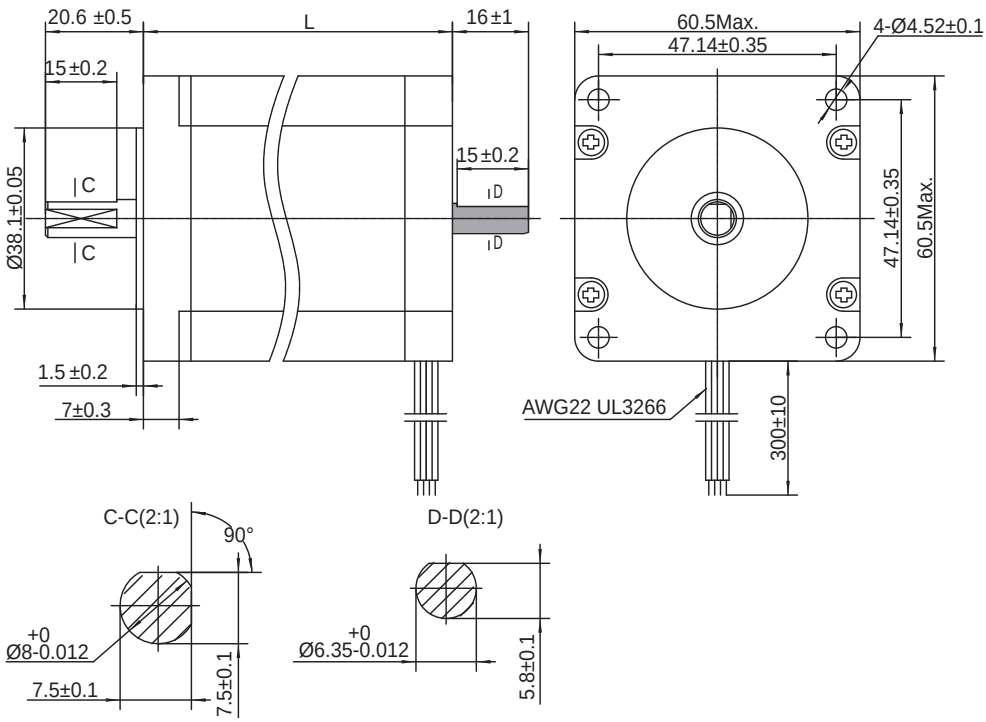
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM24HS2402-08N	Single Shaft	A	4	54.0	1.57	4.0	0.43	450.0	0.83	500VAC 1 minute
AM24HS2402-11N	Double Shaft									
AM24HS5401-10N	Single Shaft			85.0	3.2	4.0	0.65	900.0	1.4	
AM24HS5401-24N	Double Shaft									

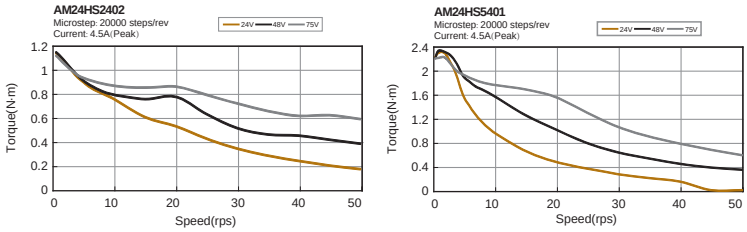
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

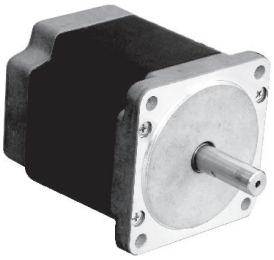


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA34(□86mm) 2-phase DC 1.8°- 34HD Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	65 N (15 Lbs.)Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

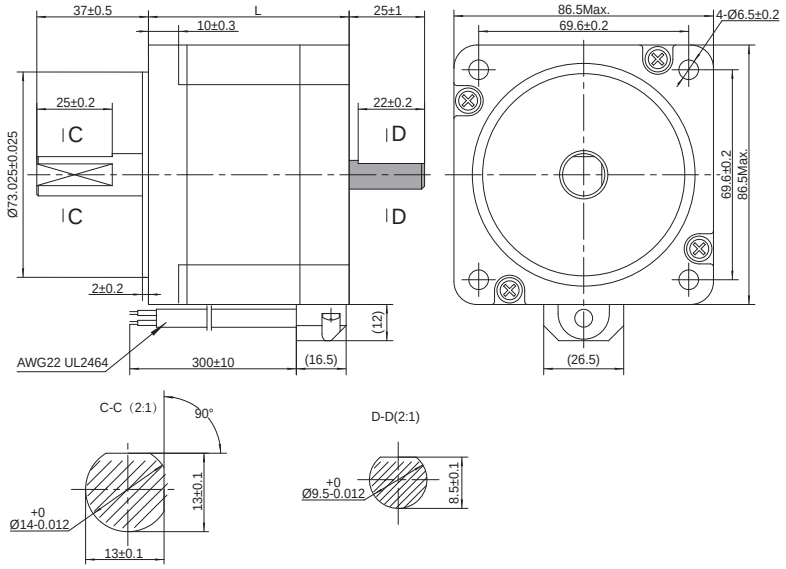
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N·m	Current A/Phase	Resistance Ω/Phase	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
AM34HD0404-08	Single Shaft	A	4	66.5	3.7	6.3	0.25	1100.0	1.6	500VAC 1 minute
AM34HD0404-09	Double Shaft									
AM34HD1404-06	Single Shaft			96.0	6.7		0.35	1850.0	2.7	
AM34HD1404-07	Double Shaft									
AM34HD2403-07	Single Shaft			125.5	9.4	5.6	0.49	2750.0	3.8	
AM34HD2403-08	Double Shaft									
AM34HD3402-01	Single Shaft			156.0	11.5	5.6	0.63	4400.0	5.2	
AM34HD3402-02	Double Shaft									

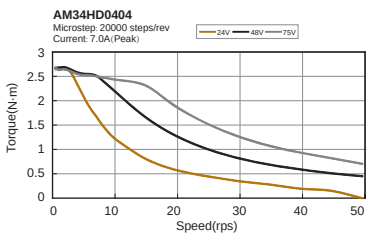
* Wiring Diagram A See Page 245

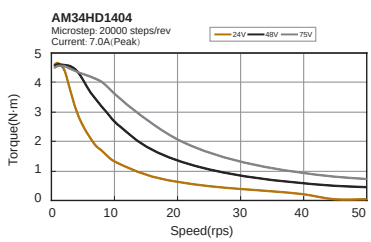
Dimensions (Unit: mm)

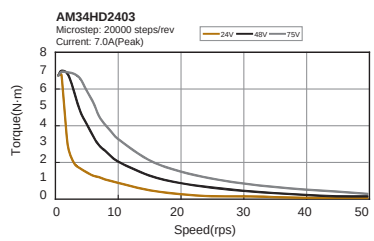


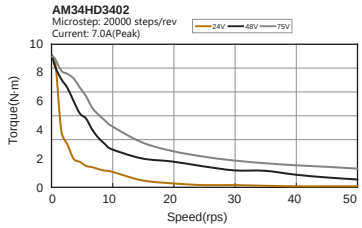
■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)

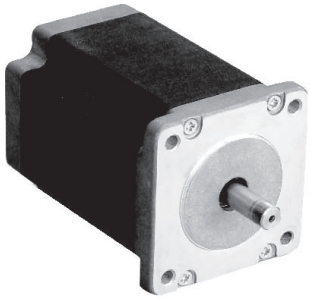








NEMA23(□56mm) 2-phase AC1.8°- 23HS Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

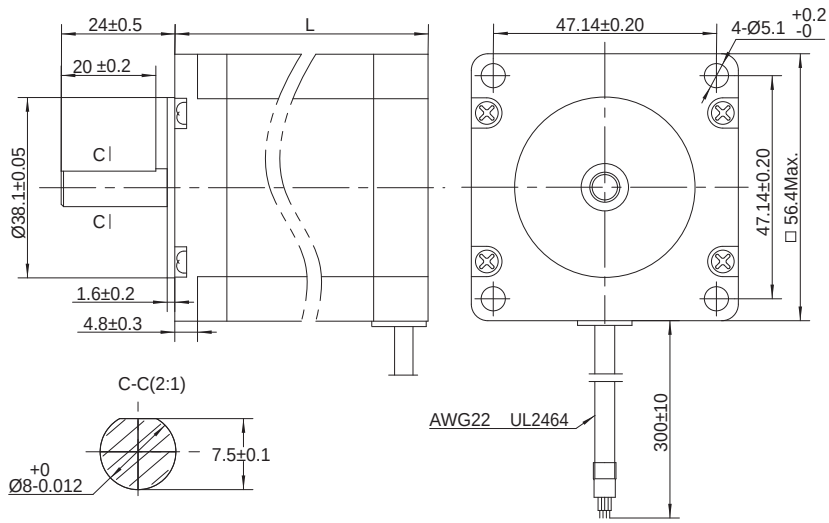
RoHS Compliant

Parameters

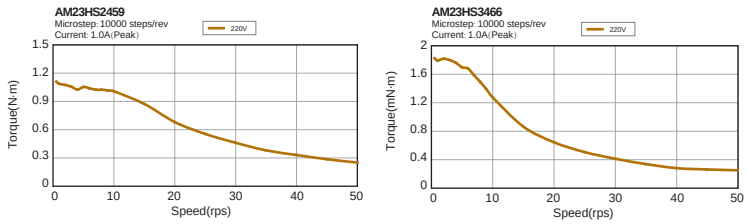
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM23HS2459-01	Single Shaft	A	4	54	1.7	1	16.6	260.0	0.6	1500VAC 1 minute
AM23HS3466-01				76	2.2	0.6	25.4	460.0	1.0	

* Wiring Diagram A See Page 245

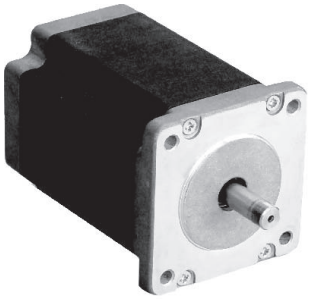
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SRAC or STAC)



NEMA24(□60mm) 2-phase AC1.8°- 24HS Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

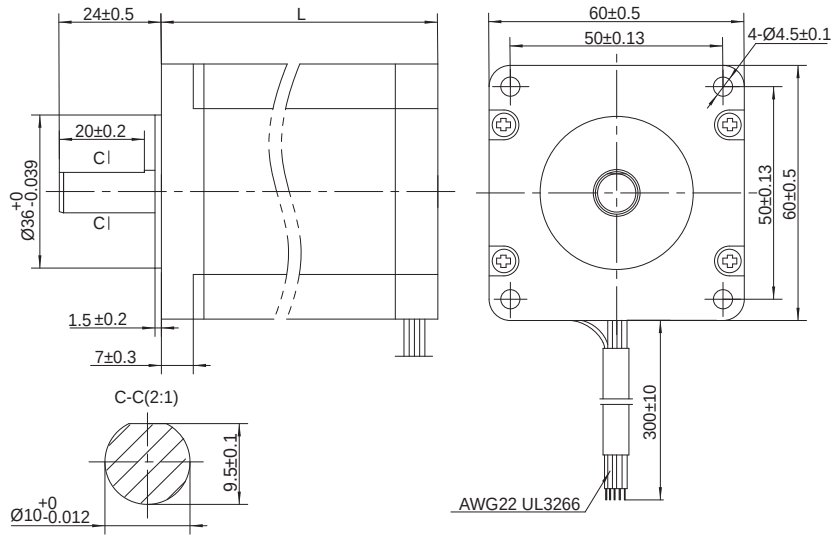
RoHS Compliant

■ Parameters

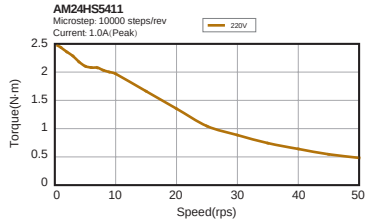
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM24HS5411-01N	Single Shaft	A	4	85	3.1	0.8	15.4	900.0	1.4	1500VAC 1 minute

* Wiring Diagram A See Page 245

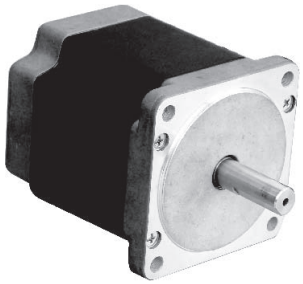
■ Dimensions (Unit: mm)



■ Torque Curves (Recommended Driver: SRAC or STAC)



NEMA34(□86mm) 2-phase AC 1.8°- 34HD Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	65 N (15 Lbs.)Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

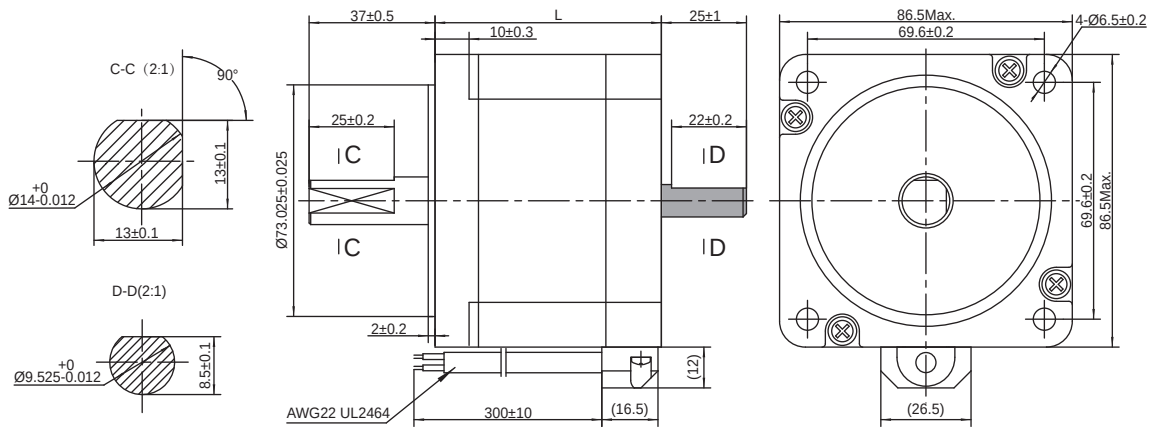
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N.m	Current A/Phase	Resistance Ω/Phase Series connection	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
AM34HD0802-01	Single Shaft	B(Parallel) C(Series)	8	66.5	4.2	1.8 (220V Series connection) / 3.6 (110V Parallel connection)	3.4	1100.0	1.6	1500VAC 1 minute
AM34HD0802-02	Double Shaft									
AM34HD4802-01	Single Shaft			75	4.7		3.6	1350.0	1.9	
AM34HD1802-01	Single Shaft			96	7.3		3.6	1850.0	2.7	
AM34HD1802-03	Double Shaft									
AM34HD6801-01	Single Shaft			115	7.6		4	2400.0	3.5	
AM34HD2805-01	Single Shaft			125.5	8.7		4.2	2750.0	3.8	
AM34HD2805-03	Double Shaft									

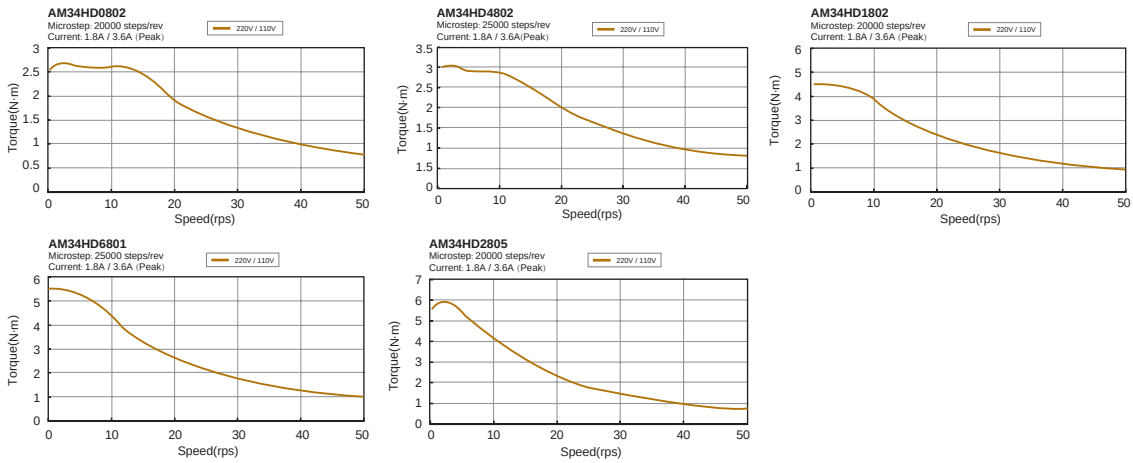
* Wiring Diagram B / C See Page 245

Dimensions (Unit: mm)

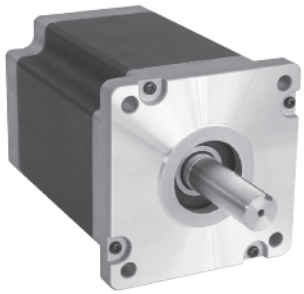


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SRAC or STAC)



NEMA42(□110mm) 2-phase AC 1.8° - 42HS Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	250 N (56 Lbs.)Push 250 N (56 Lbs.) Pull
Radial	450 N (100 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

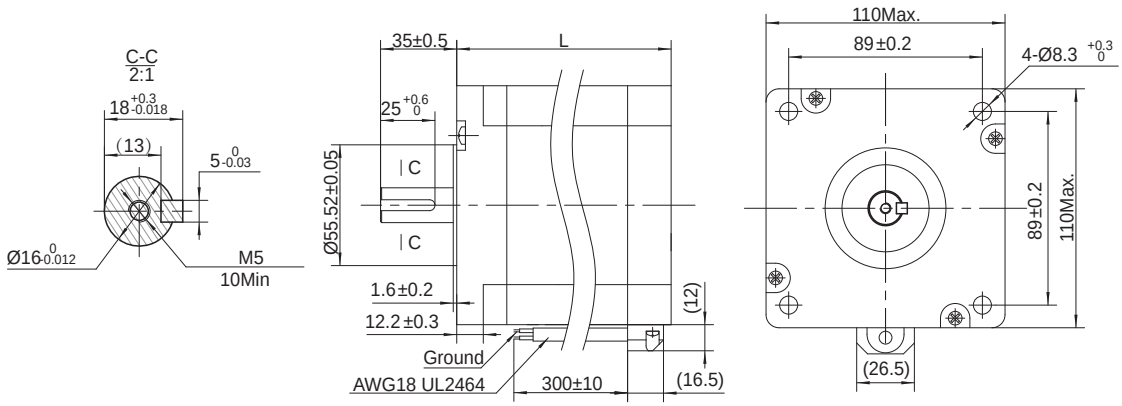
RoHS Compliant

Parameters

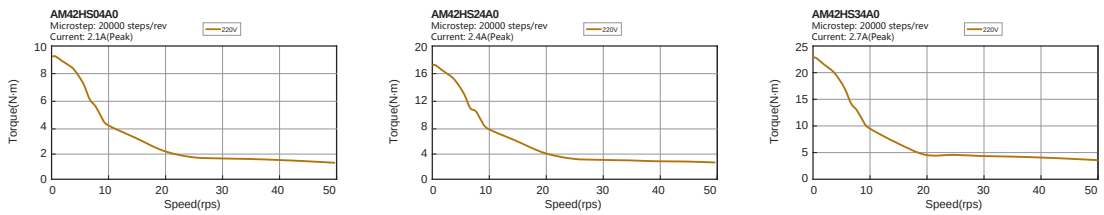
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM42HS04A0-01	Single Shaft	A	4	98.5	12	2.1	4.2	5500	4.8	1500VAC 1 minute
AM42HS24A0-01				149.5	21	2.4	4.4	10900	8	
AM42HS34A0-01				201	30	2.7	4.4	16200	11.6	

* Wiring Diagram A See Page 245

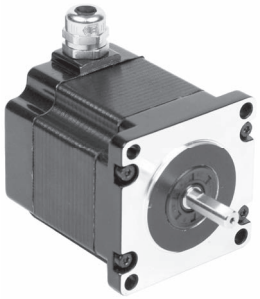
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SRAC or STAC)



NEMA23(□56mm) 2-phase DC1.8°- 23HS Series IP65 Type



Phases	2
Steps / Revolution	±5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	65
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

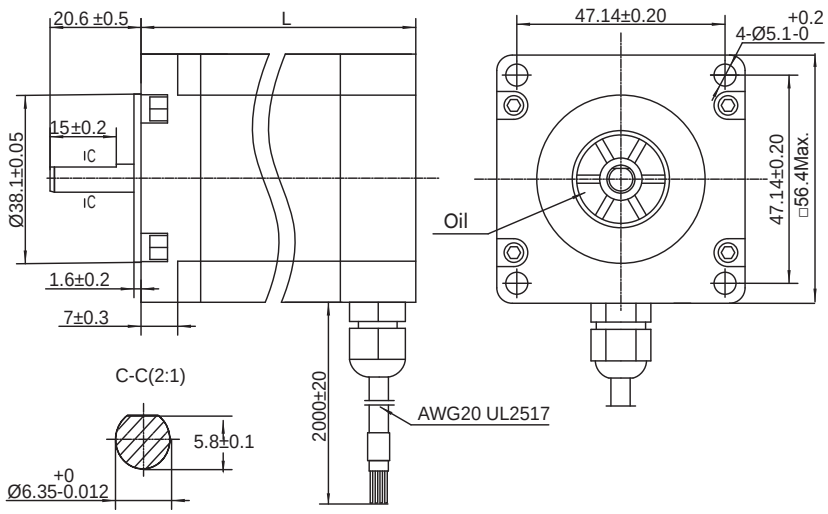
RoHS Compliant

Parameters

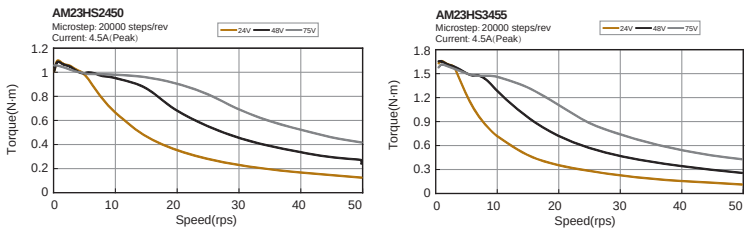
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM23HS2450-03	Single Shaft	A	4	61.7	1.25	3.7	0.63	260.0	0.6	500VAC 1 minute
AM23HS3455-05				83.7	2.2		0.75	460.0	1	

* Wiring Diagram A See Page 245

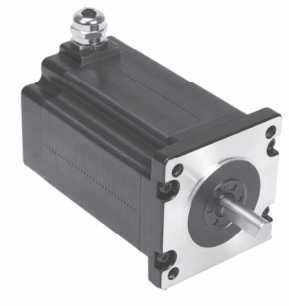
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SR or ST)



NEMA24(□60mm) 2-phase DC1.8°- 24HS Series IP65 Type



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	65
Operating Temp	−20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

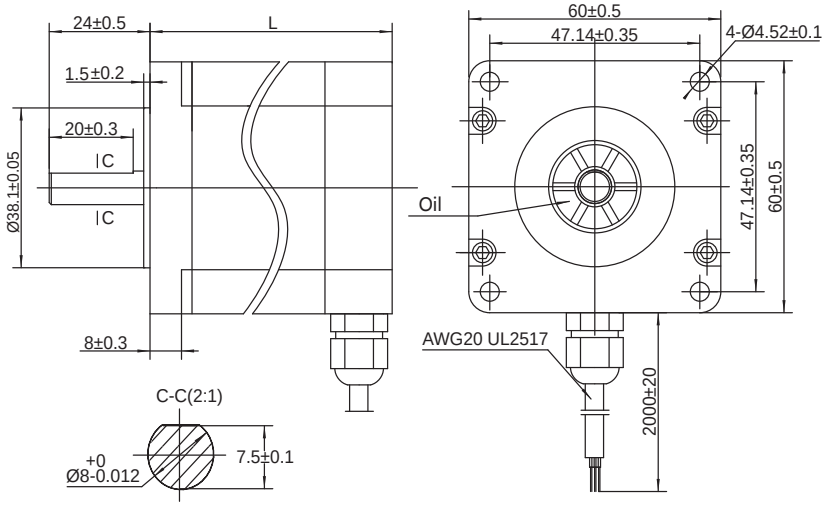
RoHS Compliant

Parameters

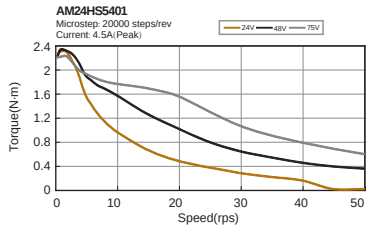
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM24HS5401-44N	Single Shaft	A	4	94.5	3.2	4.0	0.7	900.0	1.4	500VAC 1 minute

* Wiring Diagram A See Page 245

Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SR or ST)



NEMA34(□86mm) 2-phase DC1.8°- 34HD Series IP65 Type

Phases	2
Steps / Revolution	±5%
Step Accuracy	65 N (15 Lbs.)Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	65
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

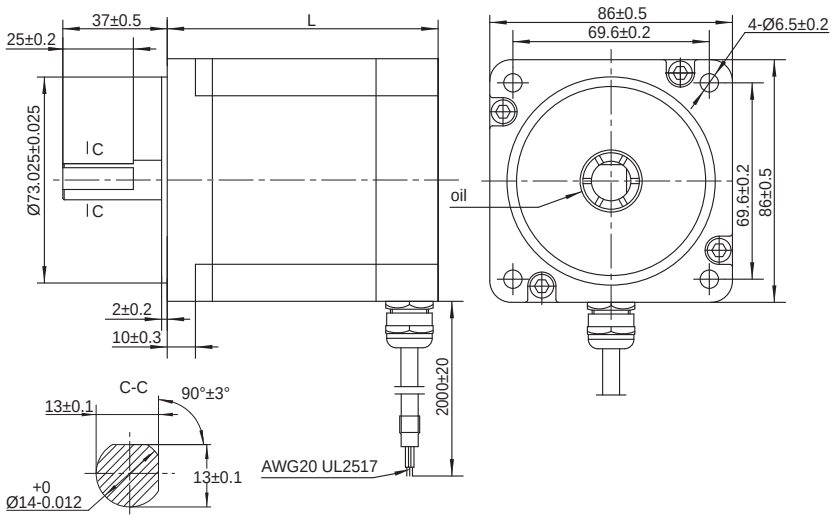
RoHS Compliant

■ Parameters

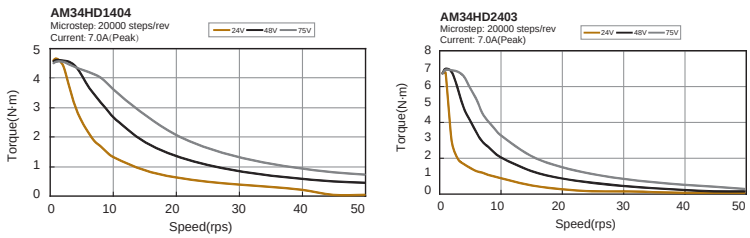
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
AM34HD1404-13	Single Shaft	A	4	98	6.7	6.3	0.45	1850.0	2.7	500VAC 1 minute
AM34HD2403-13				127.5	9.4	5.6	0.62	2750.0	3.8	

* Wiring Diagram A See Page 245

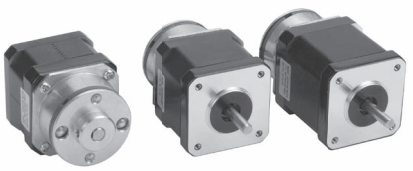
■ Dimensions (Unit: mm)



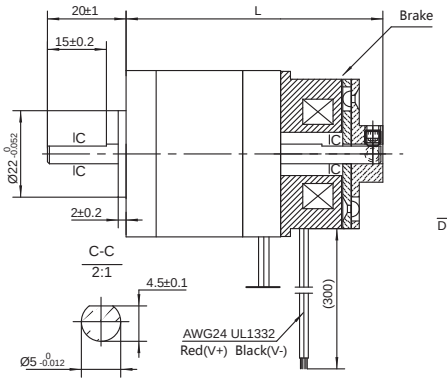
■ Torque Curves (Recommended Driver: SR or ST)

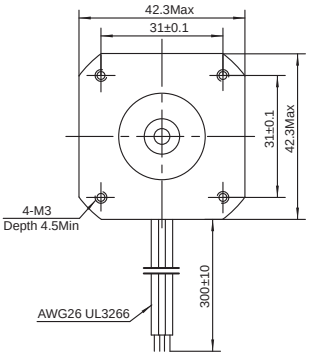


NEMA17(□42mm) 2-phase DC1.8°- 17HD Series Brake type



RoHS Compliant



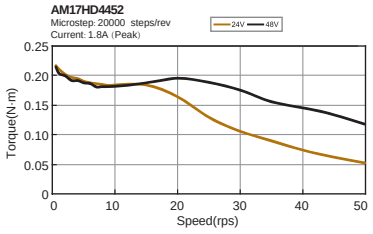


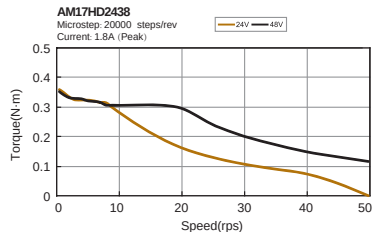
Parameters

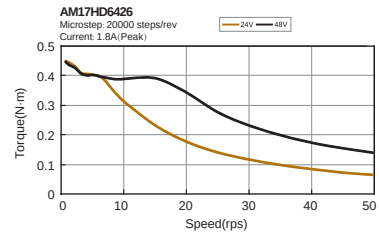
Model	Shaft	Wiring	Leads	Length "L"	Holding Torque	Current	Resistance	Rotor Inertia	Brake Torque	Brake Power	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	N.m	V(W)	Kg	
AM17HD4452-BR01	Single Shaft	A	4	60.3	0.285	1.5	1.5	38.0	0.6	24(10)	0.38	500VAC 1 minute
AM17HD2438-BR01				65.8	0.46	1.5	1.9	57.0	0.6	24(10)	0.43	
AM17HD6426-BR01				74.3	0.59	1.5	2.3	82.0	0.6	24(10)	0.51	
AM17HDB410-BR01				85.8	0.85	1.4	3.2	123.0	0.6	24(10)	0.75	

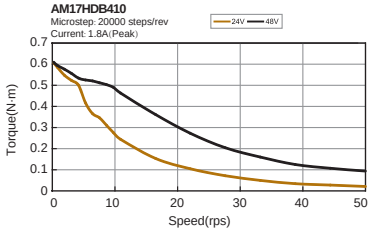
* Wiring Diagram A See Page 245

Torque Curves (Recommended Driver: SR or ST)

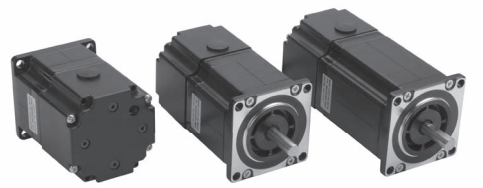




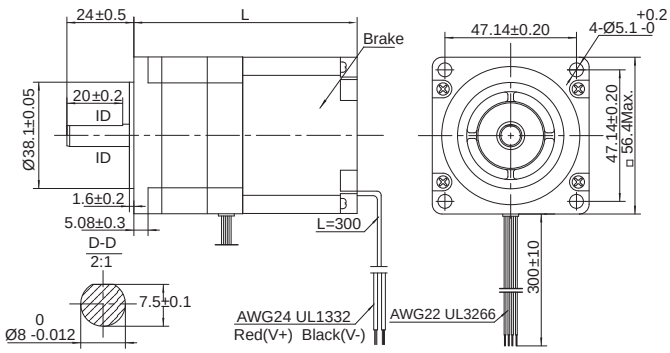




NEMA23(□56mm) 2-phase DC1.8°- 23HS Series Brake type



RoHS Compliant

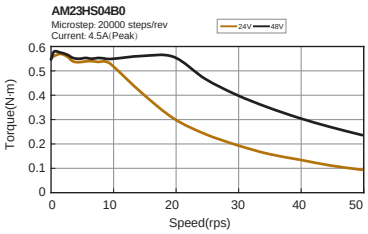


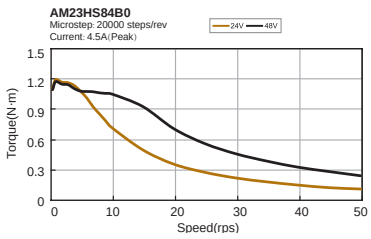
■ Parameters

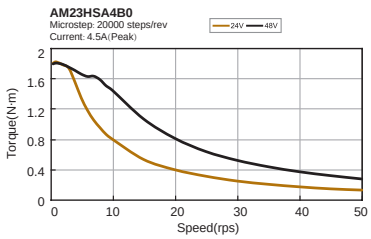
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Brake Torque	Brake Power	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	N.m	V(W)	Kg	
AM23HS04B0-BR01	Single Shaft	A	4	80	0.82	3.7	0.48	105.0	1.5	24(15)	0.62	500VAC 1 minute
AM23HS84B0-BR01				96	1.5		0.63	215.0	1.5	24(15)	0.8	
AM23HSA4B0-BR01				118	2.3		0.75	365.0	1.5	24(15)	1.2	

* Wiring Diagram A See Page 245

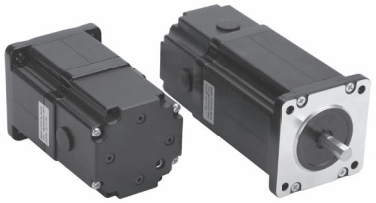
■ Torque Curves (Recommended Driver: SR or ST)



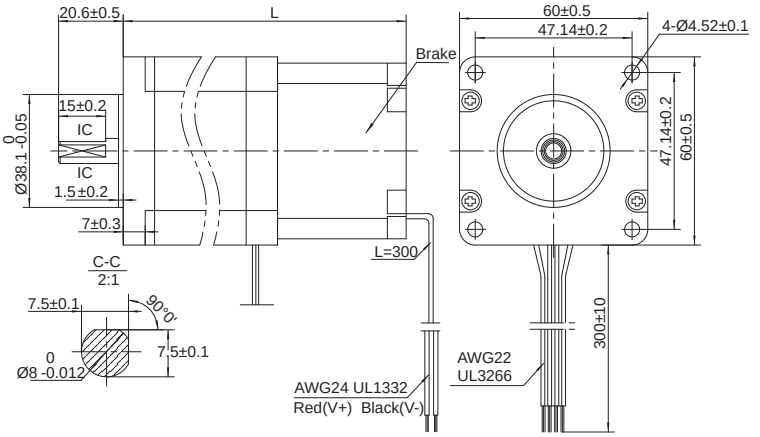




NEMA24(□60mm) 2-phase DC1.8°- 24HS Series Brake type



RoHS Compliant

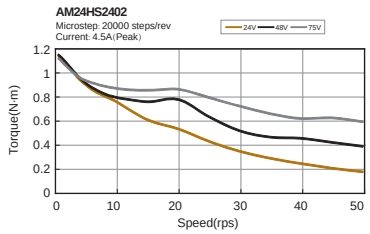


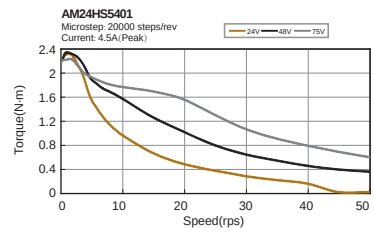
Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Brake Torque	Brake Power	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	N.m	V(W)	Kg	
AM24HS2402-BR01	Single Shaft	A	4	95	1.57	4.0	0.43	450.0	1.5	24(15)	1.03	500VAC 1 minute
AM24HS5401-BR01				126	3.2		0.65	900.0			1.6	

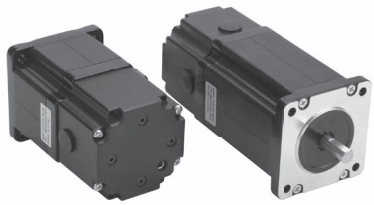
* Wiring Diagram A See Page 245

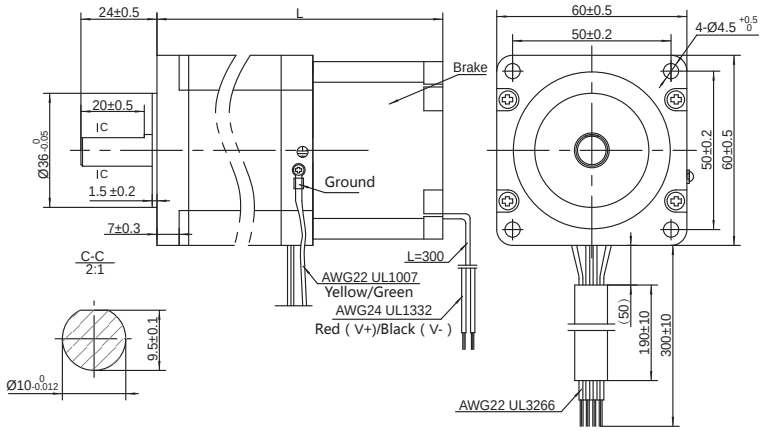
Torque Curves (Recommended Driver: SR or ST)





NEMA24(□60mm) 2-phase AC1.8°- 24HS Series Brake type



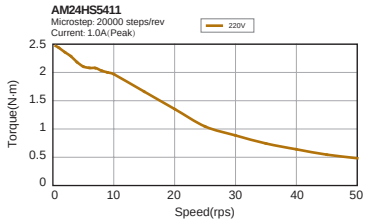


Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Brake Torque	Brake Power	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm^2	N.m	V(W)	Kg	
AM24HS5411-BR01	Single Shaft	A	4	126	3.1	0.8	15.4	900.0	1.5	24(15)	1.6	1500VAC 1 minute

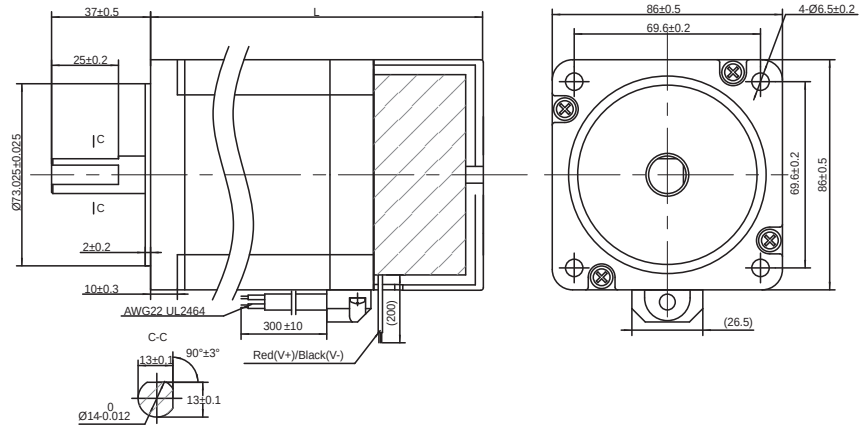
* Wiring Diagram A See Page 245

Torque Curves (Recommended Driver: SRAC or STAC)



NEMA34(□86mm) 2-phase DC1.8°/ 2-phase AC1.8°-34HD Series Brake type

RoHS Compliant

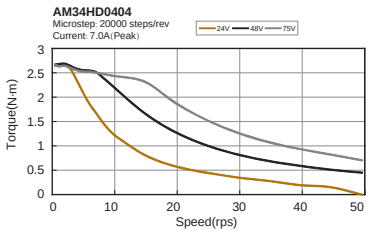


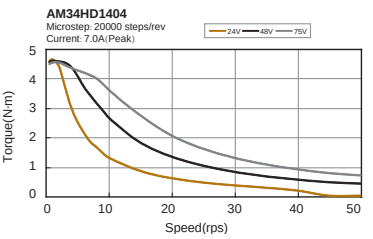
Parameters

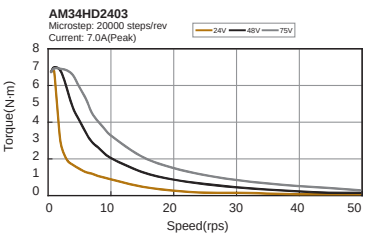
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Brake Torque	Brake Power	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	N.m	V(W)	Kg	
AM34HD0404-BR01	Single Shaft	A	4	118.5	3.7	6.3	0.25	1100	6	24(30)	2.2	500VAC 1 minute
AM34HD1404-BR01	Single Shaft			148	6.7		0.35	1850			3.3	
AM34HD2403-BR01	Single Shaft			177.5	9.4	5.6	0.49	2750			4.4	
AM34HD0802-BR01	Single Shaft	C	8	118.5	4.2	1.8 (220V Series connection)	3.4 (Series onnection)	1100	6	24(30)	2.2	1500VAC 1 minute
AM34HD1802-BR01	Single Shaft			148	7.6		3.6 (Series onnection)	1850			3.3	
AM34HD2805-BR01	Single Shaft			177.5	8.7		4.2 (Series onnection)	2750			4.4	

⋆ Wiring Diagram A/C See Page 245

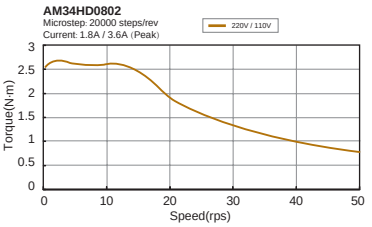
Torque Curves (Recommended Driver: SR or ST)

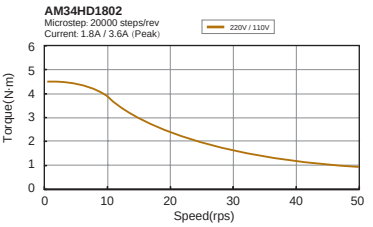


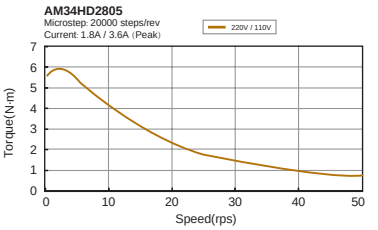




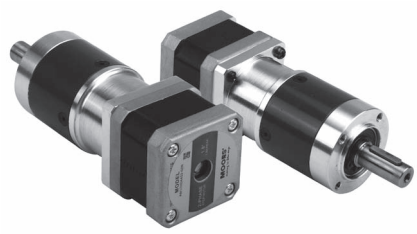
Torque Curves (Recommended Driver: SRAC or STAC)

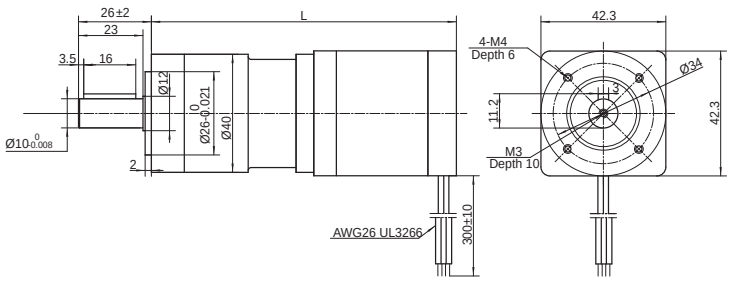






Dimensions (Unit: mm)





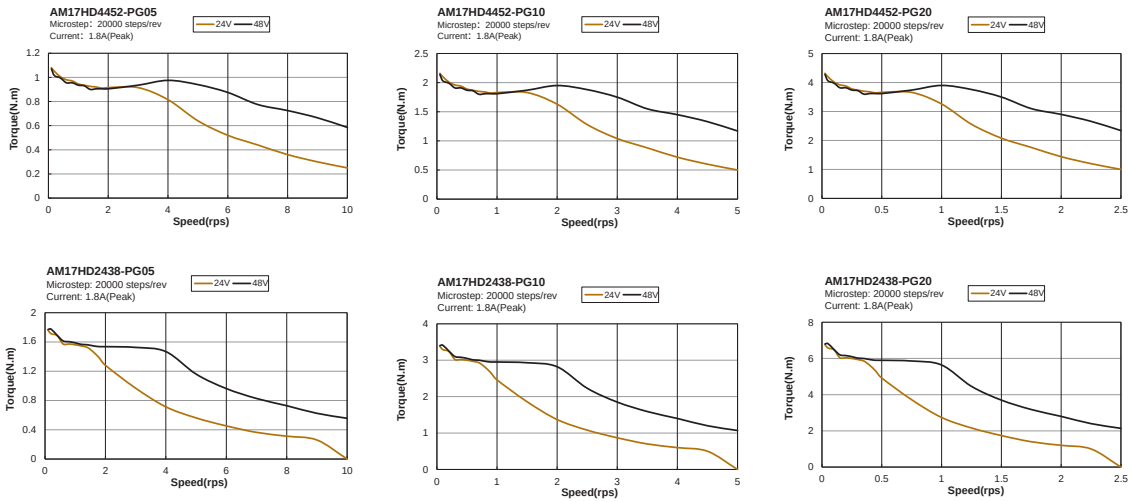
RoHS Compliant

Parameters

Model	Wiring	Length"L"	Current	Series	Reduction ratio	Accuracy	Maximum output torque	Maximum load torque	Rotor Inertia	Efficiency	Noise	Mass
		mm	A/Phase			arc-min	N.m	N.m	g.cm^2		dB	Kg
AM17HD4452-PG05	A	101.8	1.5	1	5	12	1.25	6	950	96%	<60	0.55
AM17HD4452-PG10		101.8		1	10	12	2.5	4	3800	96%		0.55
AM17HD4452-PG20		114.8		2	20	15	5	20	15200	94%		0.63
AM17HD2438-PG05		107.3		1	5	12	2	6	1425	96%		0.6
AM17HD2438-PG10		107.3		1	10	12	4	4	5700	96%		0.6
AM17HD2438-PG20		120.3		2	20	15	8	20	22800	94%		0.68

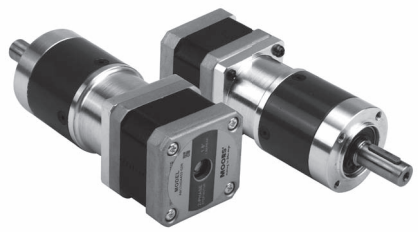
* Wiring Diagram A See Page 245

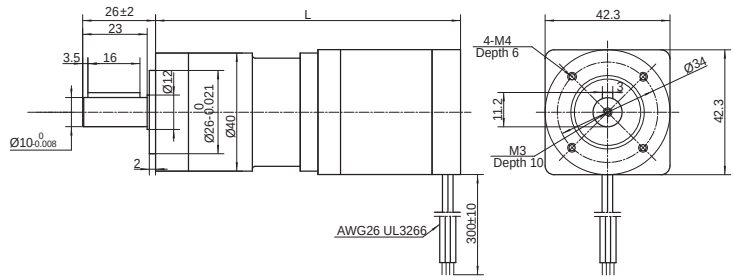
Torque Curves (Recommended Driver: SR or ST)



NEMA17(□42mm) 2-phase DC1.8° - 17HD Series Planetary Reducer Motor Type

Dimensions (Unit: mm)





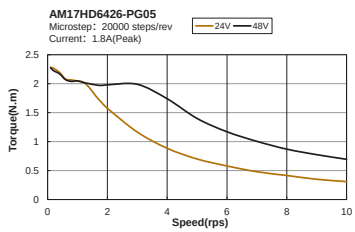
RoHS Compliant

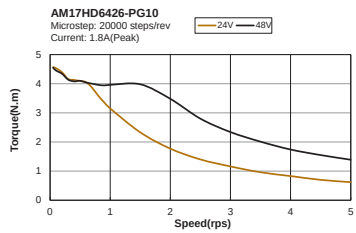
Parameters

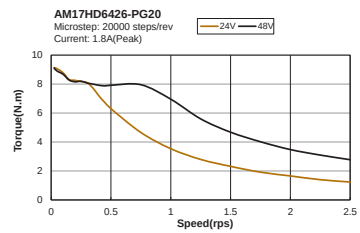
Model	Wiring	Length"L"	Current	Series	Reduction ratio	Accuracy	Maximum output torque	Maximum load torque	Rotor Inertia	Efficiency	Noise	Mass
		mm	A/Phase			arc-min	N.m	N.m	g.cm^2		dB	Kg
AM17HD6426-PG05	A	115.8	1.5	1	5	12	2.5	6	2050	96%	<60	0.68
AM17HD6426-PG10		115.8		1	10	12	5	4	8200	96%		0.68
AM17HD6426-PG20		128.8		2	20	15	10	20	32800	94%		0.76
AM17HDB410-PG05		130.3	1.4	1	5	12	4.25	6	3075	96%		0.92
AM17HDB410-PG10		130.3		1	10	12	8.5	4	12300	96%		0.92
AM17HDB410-PG20		143.3		2	20	15	17	20	49200	94%		1

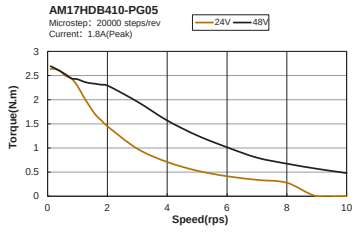
* Wiring Diagram A See Page 245

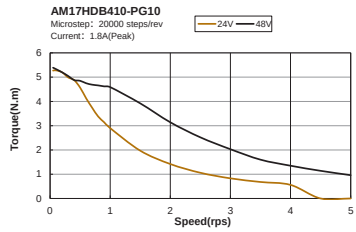
Torque Curves (Recommended Driver: SR or ST)

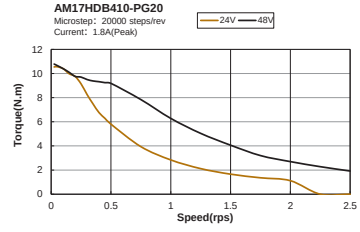




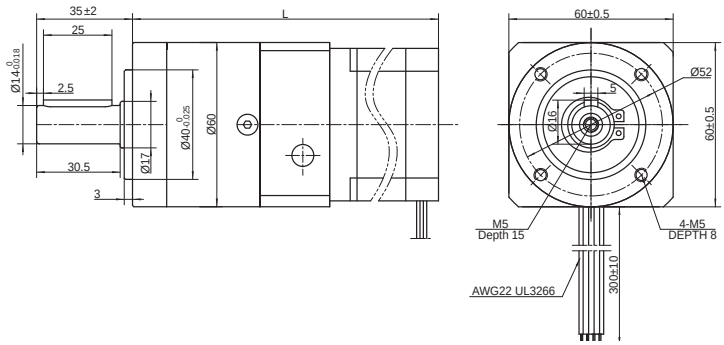








Dimensions (Unit: mm)



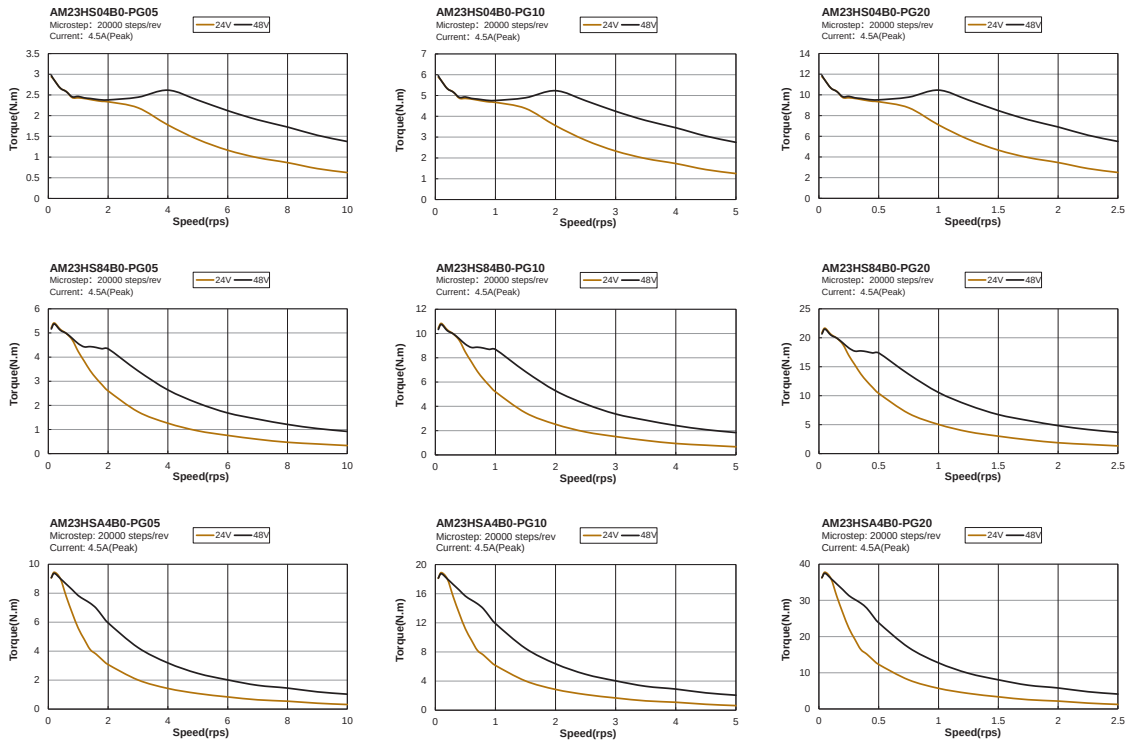
RoHS Compliant

Parameters

Model	Wiring	Length"L"	Current	Series	Reduction ratio	Accuracy	Maximum output torque	Maximum load torque	Rotor Inertia	Efficiency	Noise	Mass
		mm	A/Phase			arc-min	N.m	N.m	g.cm^2		dB	Kg
AM23HS04B0-PG05	A	112.5	3.7	1	5	10	4.1	16	2625	96%	<65	1.23
AM23HS04B0-PG10		112.5		1	10	10	8.2	12	10500	96%	<65	1.23
AM23HS04B0-PG20		125.5		2	20	15	16.4	44	42000	94%	<60	1.44
AM23HS84B0-PG05		128.5		1	5	10	7.5	16	5375	96%	<65	1.43
AM23HS84B0-PG10		128.5		1	10	10	15	12	21500	96%	<65	1.43
AM23HS84B0-PG20		141.5		2	20	15	30	44	86000	94%	<60	1.64
AM23HSA4B0-PG05		150.5		1	5	10	11.5	16	9125	96%	<65	1.83
AM23HSA4B0-PG10		150.5		1	10	10	23	12	36500	96%	<65	1.83
AM23HSA4B0-PG20		163.5		2	20	15	46	44	146000	94%	<60	2.07

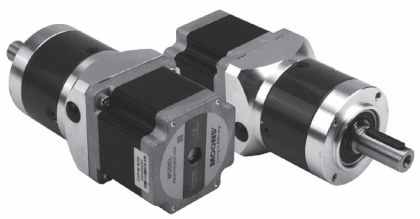
* Wiring Diagram A See Page 245

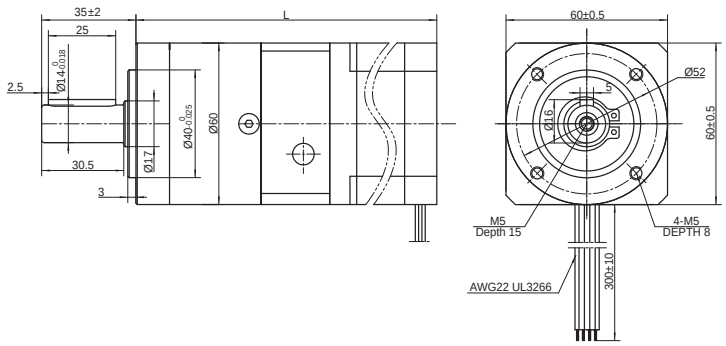
Torque Curves (Recommended Driver: SR or ST)



NEMA24(□60mm) 2-phase DC1.8° - 24HS Series Planetary Reducer Motor Type

Dimensions (Unit: mm)





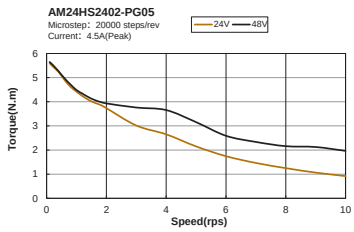
RoHS Compliant

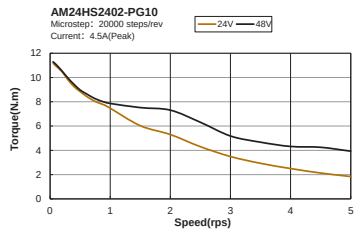
Parameters

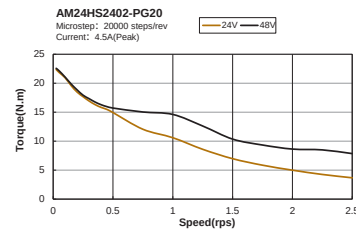
Model	Wiring	Length"L"	Current	Series	Reduction ratio	Accuracy	Output torque	Load torque	Rotor Inertia	Efficiency	Noise	Mass
		mm	A/Phase			arc-min	N.m	N.m	g.cm^2		dB	Kg
AM24HS2402-PG05	A	127.5	4.0	1	5	10	6	16	11250	96%	<65	1.66
AM24HS2402-PG10		127.5		1	10	10	12	12	45000	96%	<65	1.66
AM24HS2402-PG20		140.5		2	20	15	24	44	180000	94%	<60	1.87
AM24HS5401-PG05		158.5		1	5	10	12.5	16	22500	96%	<65	2.23
AM24HS5401-PG10		158.5		1	10	10	25	12	90000	96%	<65	2.23
AM24HS5401-PG20		171.5		2	20	15	50	44	360000	94%	<60	2.44

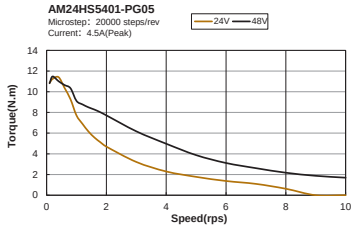
* Wiring Diagram A See Page 245

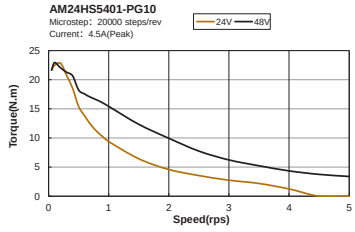
Torque Curves (Recommended Driver: SR or ST)

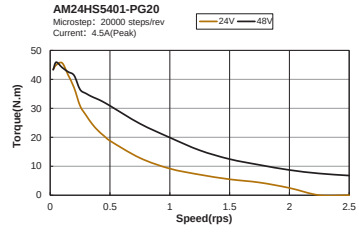




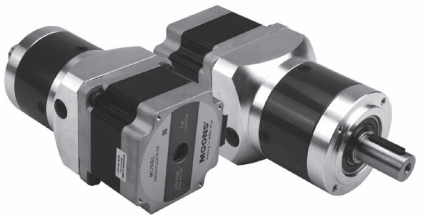


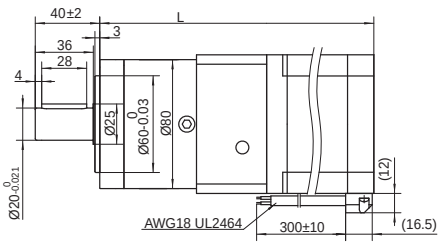


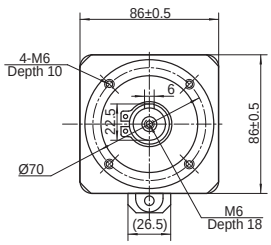




Dimensions (Unit: mm)







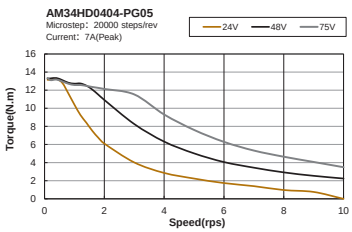
RoHS Compliant

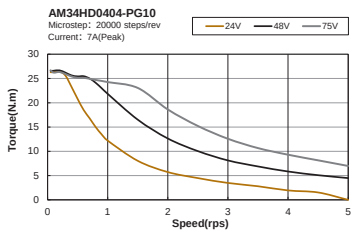
Parameters

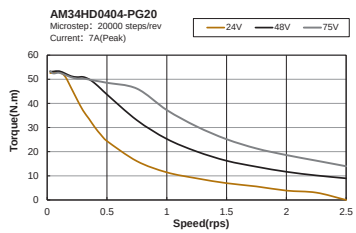
Model	Wiring	Length"L"	Current	Series	Reduction ratio	Accuracy	Maximum output torque	Maximum load torque	Rotor Inertia	Efficiency	Noise	Mass
		mm	A/Phase			arc-min	N.m	N.m	g.cm^2		dB	Kg
AM34HD0404-PG05		170.5		1	5	10	15	50	27500	96%		3.71
AM34HD0404-PG10		170.5		1	10	10	30	40	110000	96%		3.71
AM34HD0404-PG20		188.5		2	20	15	60	120	440000	94%		4.21
AM34HD1404-PG05		200	6.3	1	5	10	25	50	46250	96%		4.81
AM34HD1404-PG10	A	200		1	10	10	50	40	185000	96%	<60	4.81
AM34HD1404-PG20		218		2	20	15	100	120	740000	94%		5.31
AM34HD2403-PG05		229.5		1	5	10	35.5	50	68750	96%		5.91
AM34HD2403-PG10		229.5	5.6	1	10	10	71	40	275000	96%		5.91
AM34HD2403-PG20		247.5		2	20	15	142	120	1100000	94%		6.41

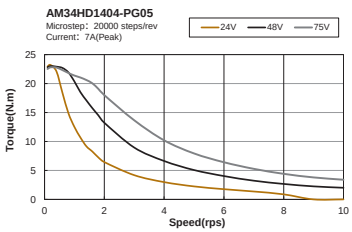
* Wiring Diagram A See Page 245

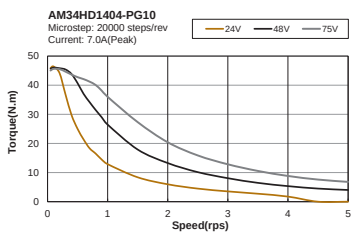
Torque Curves (Recommended Driver: SR or ST)

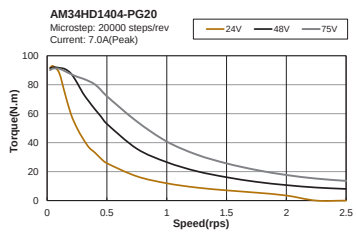


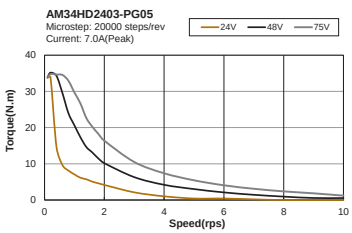


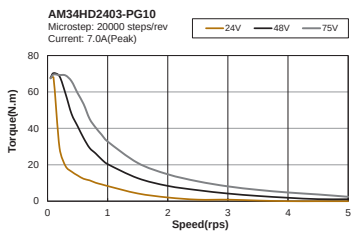


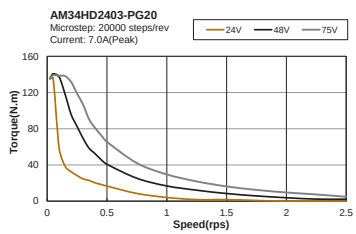






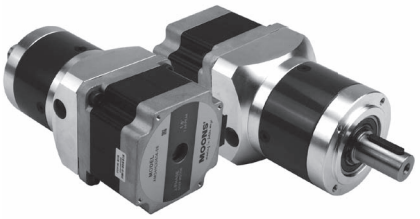


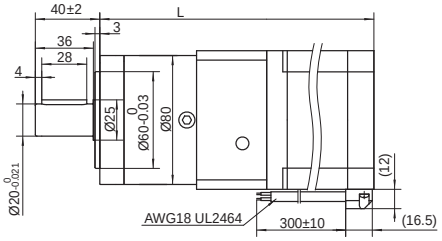


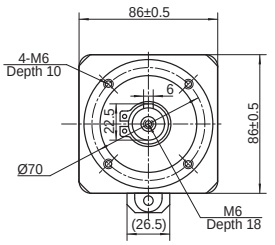


NEMA34(□86mm) 2-phase AC1.8° - 34HD Series Planetary Reducer Motor Type

Dimensions (Unit: mm)







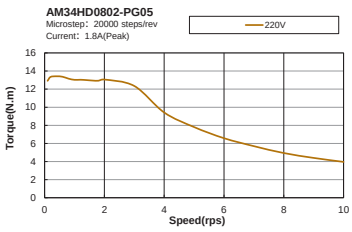
RoHS Compliant

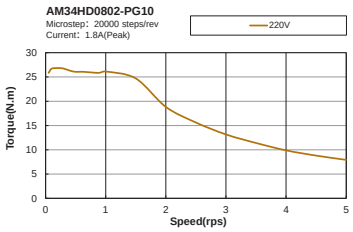
Parameters

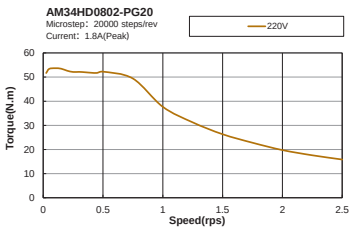
Model	Wiring	Length"L"	Current	Series	Reduction ratio	Accuracy	Maximum output torque	Maximum load torque	Rotor Inertia	Efficiency	Noise	Mass
		mm	A/Phase			arc-min	N.m	N.m	g.cm^2		dB	Kg
AM34HD0802-PG05	B(Parallel) C(Series)	170.5	1.8 (Series connection)	1	5	10	15	50	27500	96%	<60	3.71
AM34HD0802-PG10		170.5		1	10	10	30	40	110000	96%		3.71
AM34HD0802-PG20		188.5		2	20	15	60	120	440000	94%		4.21
AM34HD1802-PG05		200		1	5	10	25	50	46250	96%		4.81
AM34HD1802-PG10		200		1	10	10	50	40	185000	96%		4.81
AM34HD1802-PG20		218		2	20	15	100	120	740000	94%		5.31
AM34HD2805-PG05		229.5		1	5	10	35.5	50	68750	96%		5.91
AM34HD2805-PG10		229.5		1	10	10	71	40	275000	96%		5.91
AM34HD2805-PG20		247.5		2	20	15	142	120	1100000	94%		6.41

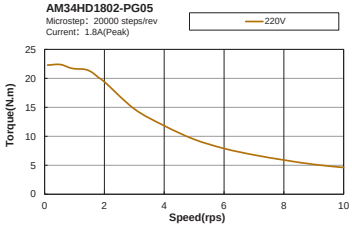
* Wiring Diagram B/C See Page 245

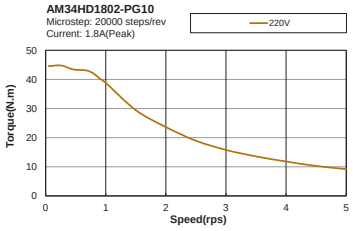
Torque Curves (Recommended Driver: SRAC or STAC)

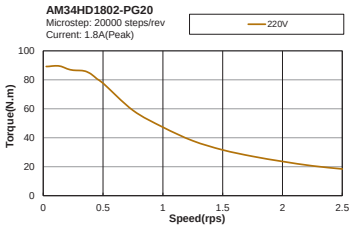


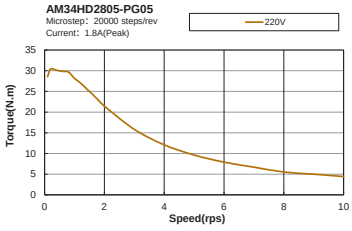


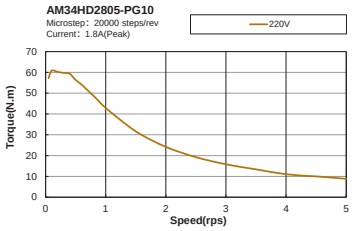


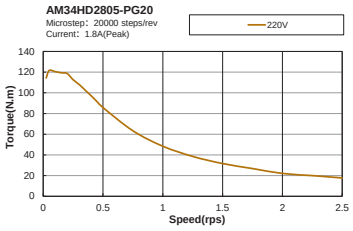




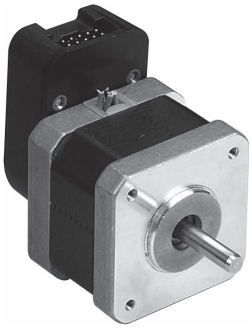


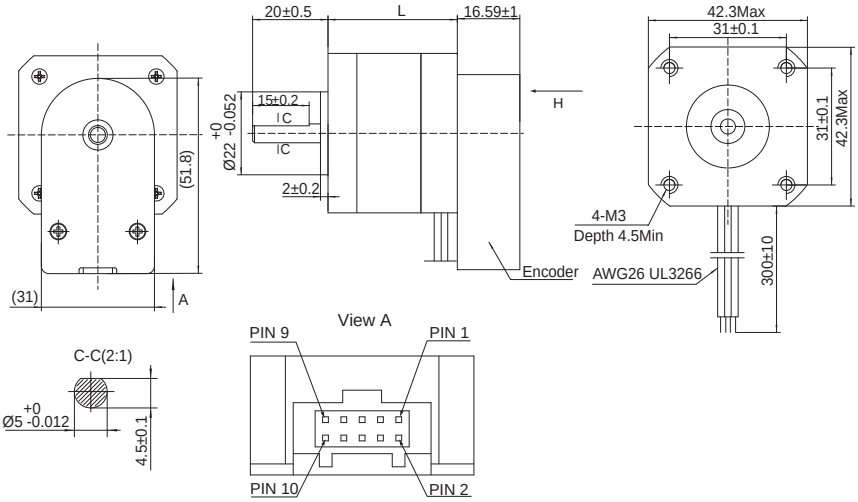






Dimensions (Unit: mm)





RoHS Compliant

Encode Electrical Specification

Resolution	4000 Counts/Rev(1000 Line)
Supply Current (no load)	Typ 56mA/Max 59mA
Output Voltage Low	0.4V@20mA Max.
Output Voltage High	2.4V@-20mA Min.

Pin.	9	7	5	3	1
Signal	CH B-	+5V	CH A-	Index-	GND
Pin.	**10**	**8**	**6**	**4**	**2**
Signal	CH B+	+5V	CH A+	Index+	GND

A leads B for clockwise shaft rotation, and B leads A for counterclockwise rotation viewed from direction H

Mating Connectors

Housing: Molex# 15-04-5104
Crimp: Molex# 14-60-0058
Crimp Tool: Molex# 62100-0700
Component model: E5-Connector

Accessories(Sold Separately)

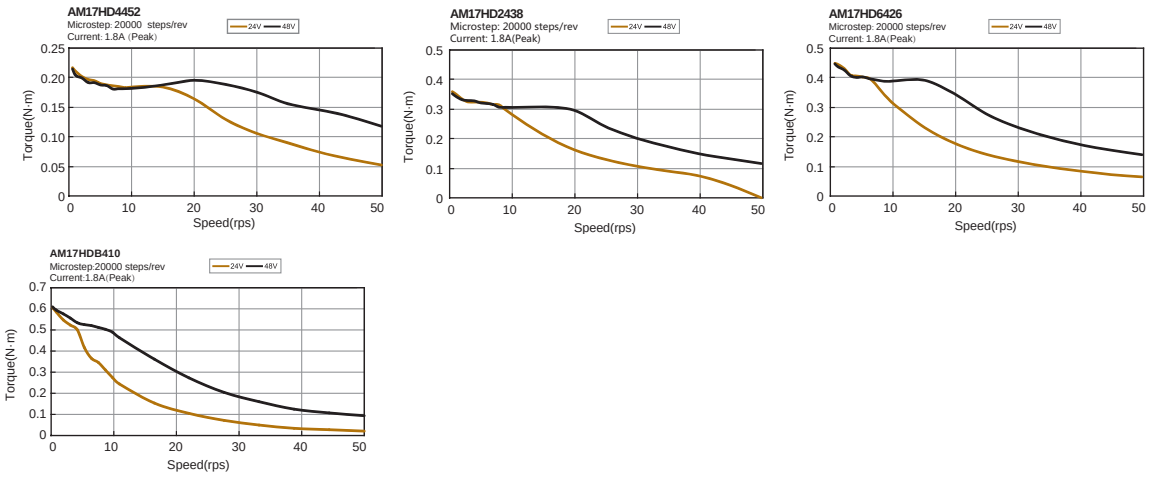
General encoder Cable
P/N: 1001-100 Length: 1m
P/N: 1009-500 Length: 5m
Encoder cable used with MOONS'drive
P/N: 2005-200 Length: 2m
P/N: 2011-200 Length: 5m

Parameters

Model	Wiring	Leads	Length"L"	Minimum Holding Torque	Current	Resistance	Rotor Inertia	Motor Mass	Dielectric Strength
			mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM17HD4452-E1000D	A	4	34.3	0.285	1.5	1.5	38.0	0.23	500VAC 1 minute
AM17HD2438-E1000D			39.8	0.46	1.5	1.9	57.0	0.28	
AM17HD6426-E1000D			48.3	0.59	1.5	2.3	82.0	0.36	
AM17HDB410-E1000D			62.8	0.85	1.4	3.2	123	0.6	

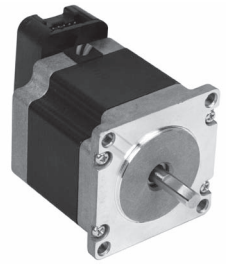
* Wiring Diagram A See Page 245

Torque Curves (Recommended Driver: SR or ST)

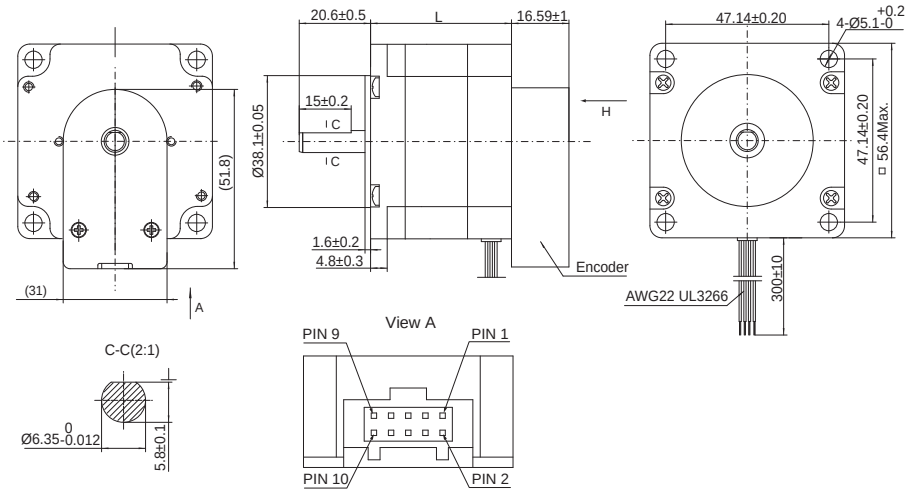


NEMA23(☐ 56mm) 2-phase DC 1.8°- 23HS Series Encoder Type

Dimensions (Unit: mm)



RoHS Compliant



Encode Electrical Specification

Resolution	4000 Counts/Rev(1000 Line)
Supply Current (no load)	Typ 56mA/Max 59mA
Output Voltage Low	0.4V@20mA Max.
Output Voltage High	2.4V@-20mA Min.

Pin.	9	7	5	3	1
Signal	CH B-	+5V	CH A-	Index-	GND
Pin.	**10**	**8**	**6**	**4**	**2**
Signal	CH B+	+5V	CH A+	Index+	GND

A leads B for clockwise shaft rotation, and B leads A for counterclockwise rotation viewed from direction H

Mating Connectors

Housing: Molex# 15-04-5104
Crimp: Molex# 14-60-0058
Crimp Tool: Molex# 62100-0700
Component model: E5-Connector

Accessories(Sold Separately)

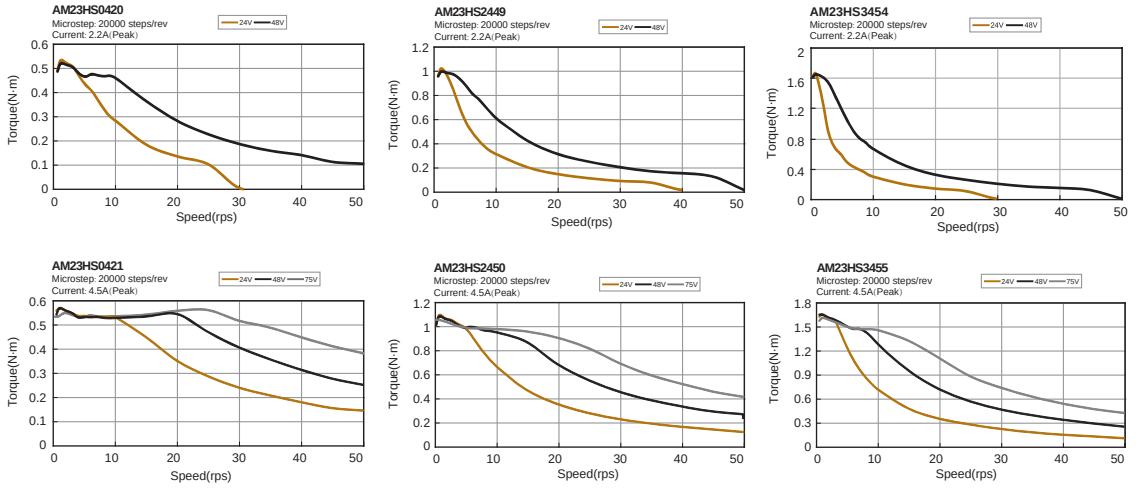
General encoder Cable
P/N: 1001-100 Length: 1m
P/N: 1009-500 Length: 5m
Encoder cable used with MOONS'drive
P/N: 2005-200 Length: 2m
P/N: 2011-200 Length: 5m

arameters

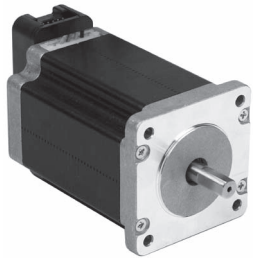
Model	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Motor Mass	Dielectric Strength
			mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM23HS0420-E1000D	A	4	41.0	0.72	1.8	1.8	135.0	0.42	500VAC 1 minute
AM23HS2449-E1000D			54.0	1.25		2.4	260.0	0.6	
AM23HS3454-E1000D			76.0	2.1		2.9	460.0	1.0	
AM23HS0421-E1000D			41.0	0.72	3.7	0.48	135.0	0.42	
AM23HS2450-E1000D			54.0	1.25		0.63	260.0	0.6	
AM23HS3455-E1000D			76.0	2.1		0.75	460.0	1.0	

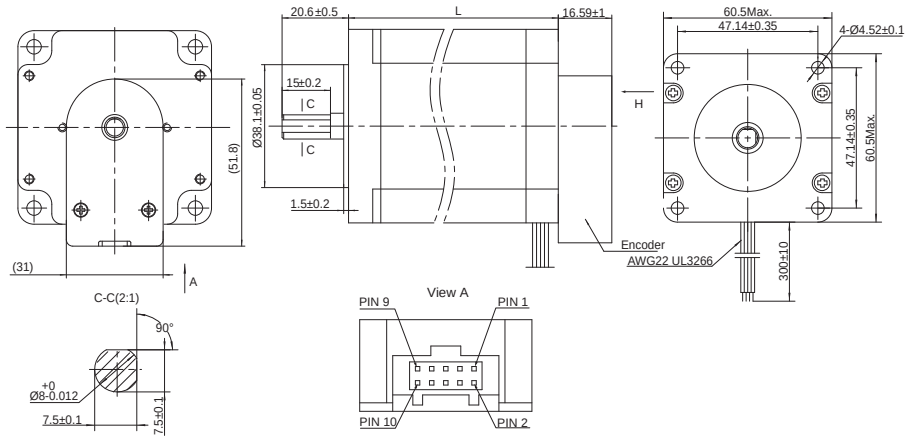
* Wiring Diagram A See Page 245

Torque Curves (Recommended Driver: SR or ST)



Dimensions (Unit: mm)





RoHS Compliant

Encode Electrical Specification

Resolution	4000 Counts/Rev(1000 Line)
Supply Current (no load)	Typ 56mA/Max 59mA
Output Voltage Low	0.4V@20mA Max.
Output Voltage High	2.4V@-20mA Min.

Pin.	9	7	5	3	1
Signal	CH B-	+5V	CH A-	Index-	GND
Pin.	**10**	**8**	**6**	**4**	**2**
Signal	CH B+	+5V	CH A+	Index+	GND

A leads B for clockwise shaft rotation, and B leads A for counterclockwise rotation viewed from direction H

Mating Connectors

Housing: Molex# 15-04-5104
Crimp: Molex# 14-60-0058
Crimp Tool: Molex# 62100-0700
Component model: E5-Connector

Accessories(Sold Separately)

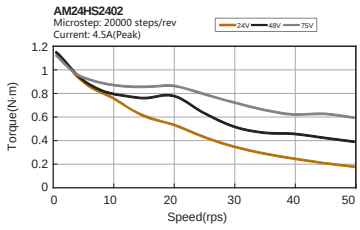
General encoder Cable
P/N: 1001-100 Length: 1m
P/N: 1009-500 Length: 5m
Encoder cable used with MOONS'drive
P/N: 2005-200 Length: 2m
P/N: 2011-200 Length: 5m

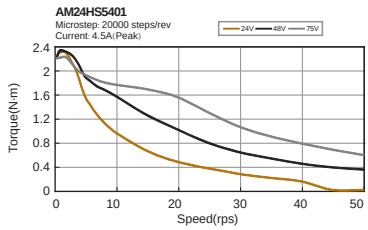
Parameters

Model	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Motor Mass	Dielectric Strength
			mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM24HS2402-E1000D	A	4	54.0	1.57	4.0	0.43	450.0	0.83	500VAC 1 minute
AM24HS5401-E1000D			85.0	3.2	4.0	0.65	900.0	1.4	

★ Wiring Diagram A See Page 245

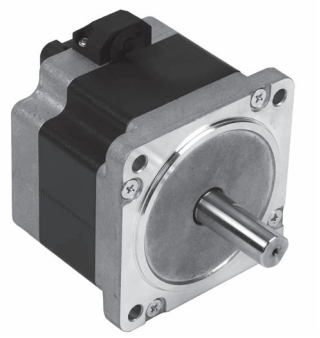
Torque Curves (Recommended Driver: ST or SR)



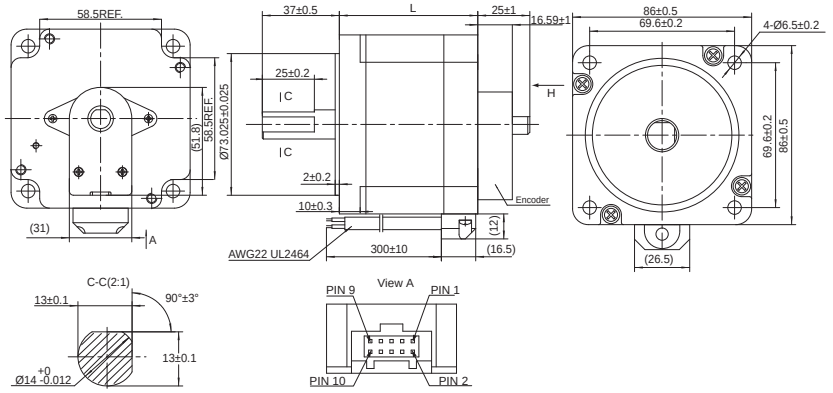


NEMA34(□ 86mm) 2-phase DC1.8°- 34HD Series Encoder Type

Dimensions (Unit: mm)



RoHS Compliant



Encode Electrical Specification

Resolution	4000 Counts/Rev(1000 Line)
Supply Current (no load)	Typ 56mA/Max 59mA
Output Voltage Low	0.4V@20mA Max.
Output Voltage High	2.4V@-20mA Min.

A leads B for clockwise shaft rotation, and B leads A for counterclockwise rotation viewed from direction H

Mating Connectors

Housing: Molex# 15-04-5104
Crimp: Molex# 14-60-0058
Crimp Tool: Molex# 62100-0700
Component model: E5-Connector

Pin.	9	7	5	3	1
Signal	CH B-	+5V	CH A-	Index-	GND
Pin.	**10**	**8**	**6**	**4**	**2**
Signal	CH B+	+5V	CH A+	Index+	GND

Accessories(Sold Separately)

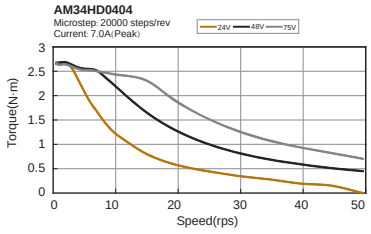
General encoder Cable
P/N: 1001-100 Length: 1m
P/N: 1009-500 Length: 5m
Encoder cable used with MOONS'drive
P/N: 2005-200 Length: 2m
P/N: 2011-200 Length: 5m

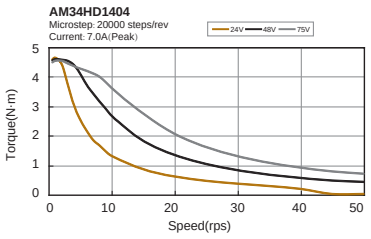
Parameters

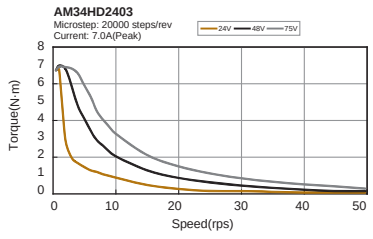
Model	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Motor Mass	Dielectric Strength
			mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM34HD0404-E1000D	A	4	66.5	3.7	6.3	0.25	1100.0	1.6	500VAC 1 minute
AM34HD1404-E1000D			96.0	6.7		0.35	1850.0	2.7	
AM34HD2403-E1000D			125.5	9.4	5.6	0.49	2750.0	3.8	

* Wiring Diagram A See Page 245

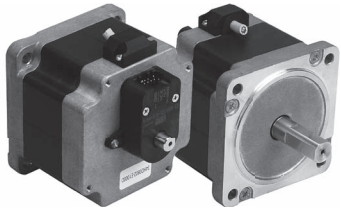
Torque Curves (Recommended Driver: ST or SR)



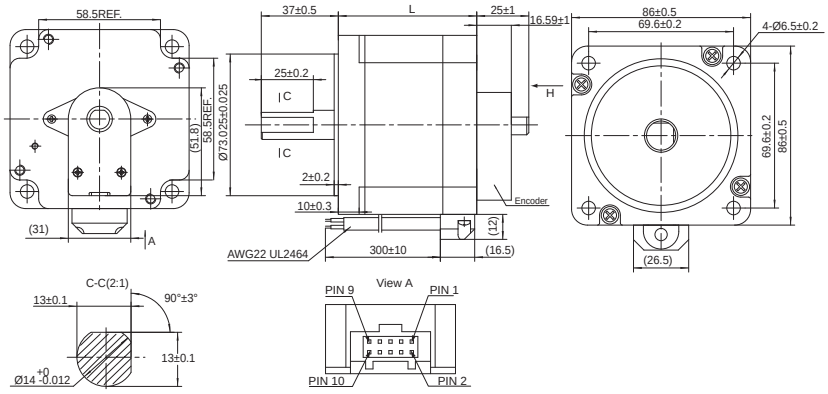




Dimensions (Unit: mm)



RoHS Compliant



Encode Electrical Specification

Resolution	4000 Counts/Rev(1000 Line)
Supply Current (no load)	Typ 56mA/Max 59mA
Output Voltage Low	0.4V@20mA Max.
Output Voltage High	2.4V@-20mA Min.

A leads B for clockwise shaft rotation, and B leads A for counterclockwise rotation viewed from direction H

Mating Connectors

Housing: Molex# 15-04-5104
Crimp: Molex# 14-60-0058
Crimp Tool: Molex# 62100-0700
Component model: E5-Connector

Pin.	9	7	5	3	1
Signal	CH B-	+5V	CH A-	Index-	GND
Pin.	**10**	**8**	**6**	**4**	**2**
Signal	CH B+	+5V	CH A+	Index+	GND

Accessories(Sold Separately)

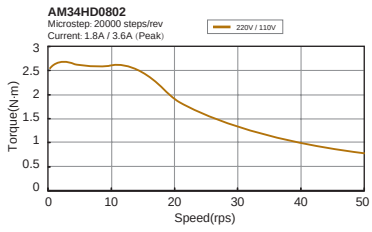
General encoder Cable
P/N: 1001-100 Length: 1m
P/N: 1009-500 Length: 5m
Encoder cable used with MOONS'drive
P/N: 2005-200 Length: 2m
P/N: 2011-200 Length: 5m

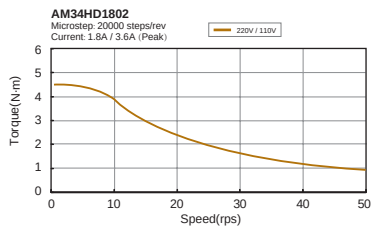
Parameters

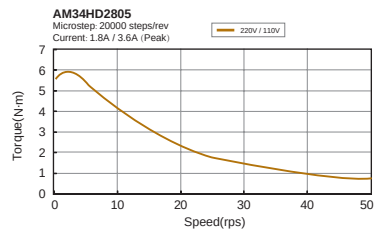
Model	Wiring	Leads	Length"L"	Holding Torque	Current (A/Phase)		Resistance (Ω/Phase)		Rotor Inertia	Motor Mass	Dielectric Strength
			mm	N·m	Series	Parallel	Series	Parallel	g·cm²	Kg	
AM34HD0802-E1000D	B(Parallel) C(Series)	8	66.5	4.2	1.8(When drive by 220VAC)	3.6(When drive by 110VAC)	3.4	0.9	1100.0	1.6	1500VAC 1 minute
AM34HD1802-E1000D			96.0	7.3			3.6	0.9	1850.0	2.7	
AM34HD2805-E1000D			125.5	8.7			4.2	1.1	2750.0	3.8	

★ Wiring Diagram B/C See Page 245

Torque Curves (Recommended Driver: SRAC or STAC)







NEMA17(□42mm) 3-phase DC 1.2°- 17HC Series

Phases	3
Steps / Revolution	±5%
Step Accuracy	25 N (5.6 Lbs.) Push 65 N (15 Lbs.) Pull
Radial	29 N (6.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

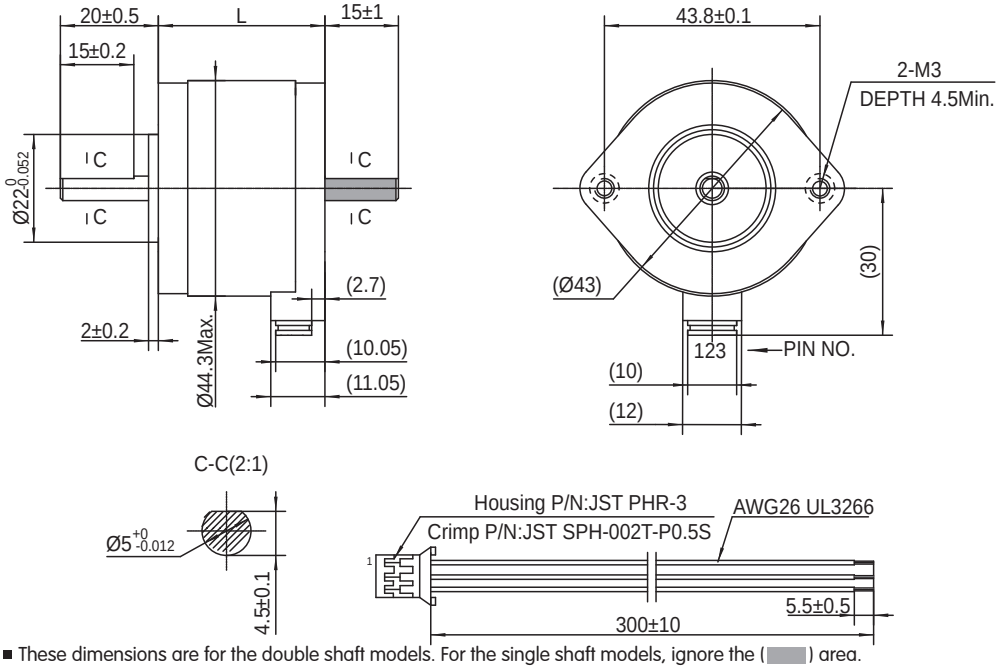
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM17HC20A0-01N	Single Shaft	D	3	34	0.4	2.2	3.9	57.0	0.25	500VAC 1 minute
AM17HC20A0-02N	Double Shaft									
AM17HC60A0-01N	Single Shaft			43	0.52		5	82.0	0.35	
AM17HC60A0-02N	Double Shaft									

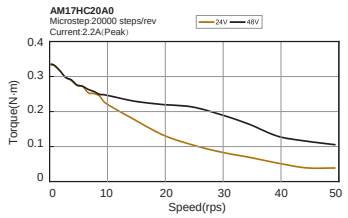
* Wiring Diagram D See Page 245

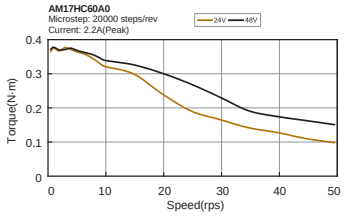
Dimensions (Unit: mm)



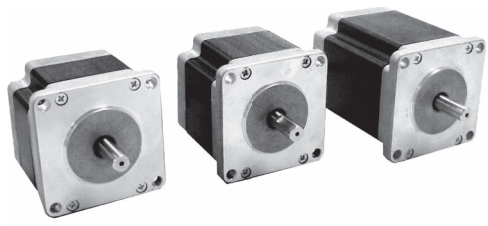
■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: 3ST or 3SR)





NEMA24(□60mm) 3-phase DC1.2°- 24HC Series 57 Flange Demension



Phases	3
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.) Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

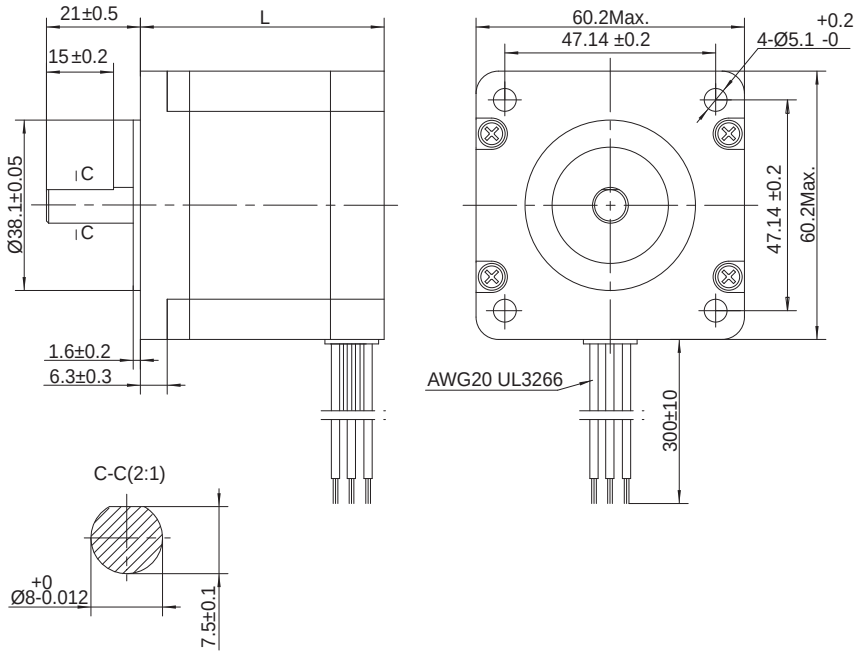
RoHS Compliant

Parameters

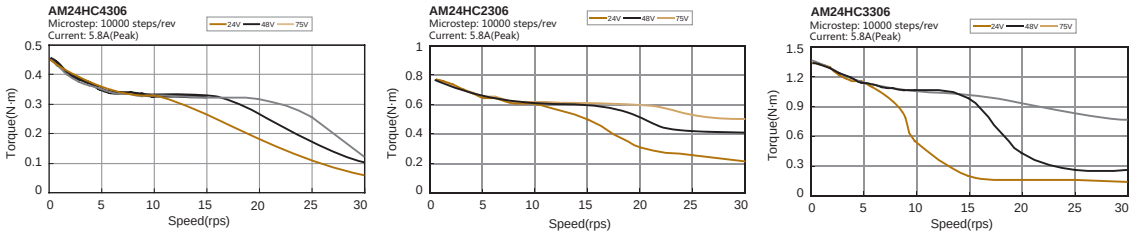
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM24HC4306-01	Single Shaft	D	3	45.5	0.58	5.8	0.33	180.0	0.5	500VAC 1 minute
AM24HC2306-01				54.5	0.9		0.4	260.0	0.8	
AM24HC3306-03				76.5	1.7		0.63	460.0	1.3	

* Wiring Diagram D See Page 245

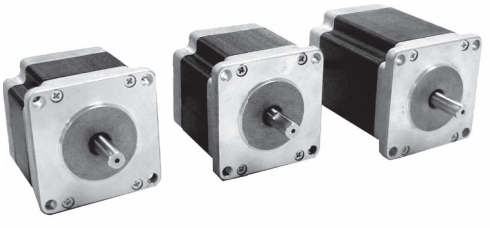
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: 3ST or 3SR)



NEMA24(□60mm) 3-phase DC1.2°- 24HC Series 60 Flange Demension



Phases	3
Steps / Revolution	±5%
Step Accuracy	40 N (9 Lbs.) Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

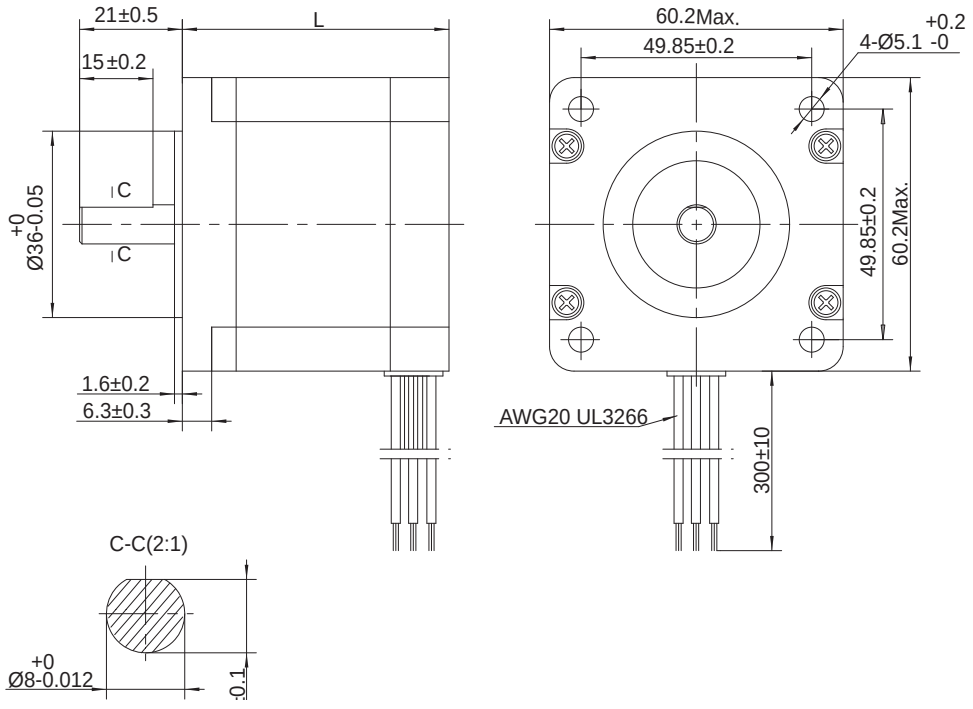
RoHS Compliant

Parameters

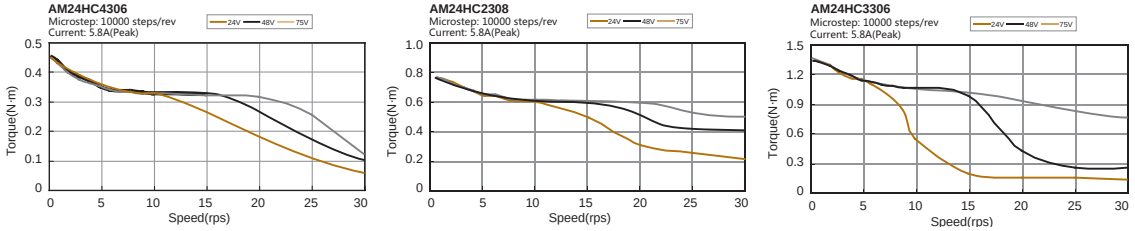
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM24HC4306-03	Single Shaft	D	3	45.5	0.58	5.8	0.33	180.0	0.5	500VAC 1 minute
AM24HC2308-02				54.5	0.9		0.4	260.0	0.8	
AM24HC3306-07				76.5	1.7		0.63	460.0	1.3	

* Wiring Diagram D See Page 245

Dimensions (Unit: mm)



Torque Curves (Recommended Driver: 3ST or 3SR)



NEMA34(□86mm) 3-phase DC1.2°- 34HC Series

Phases	3
Steps / Revolution	±5%
Step Accuracy	65 N (15 Lbs.) Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

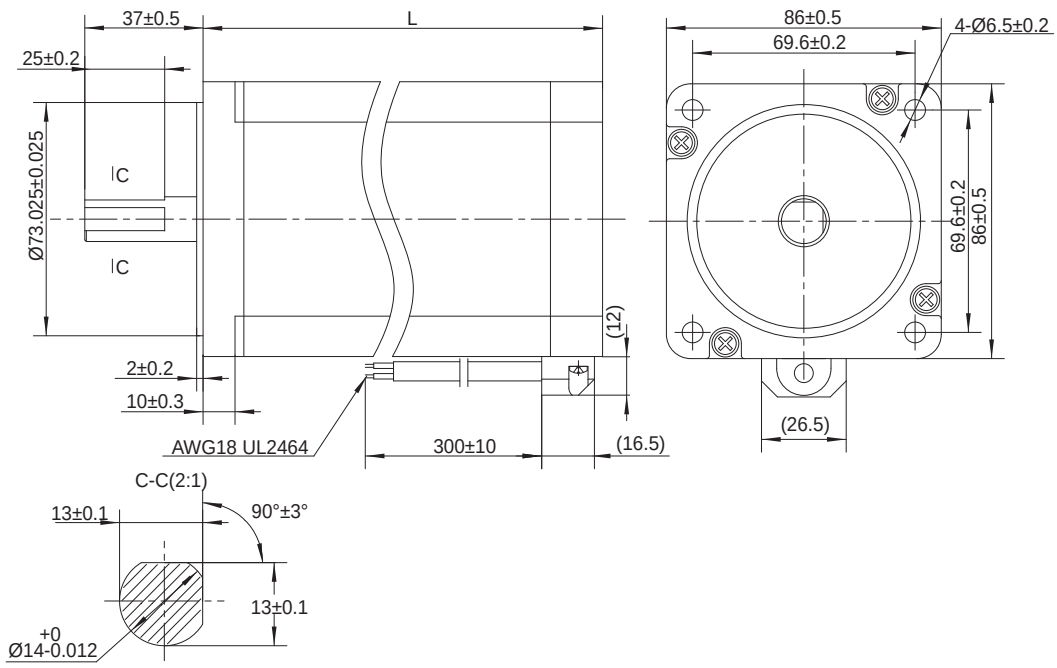
RoHS Compliant

Parameters

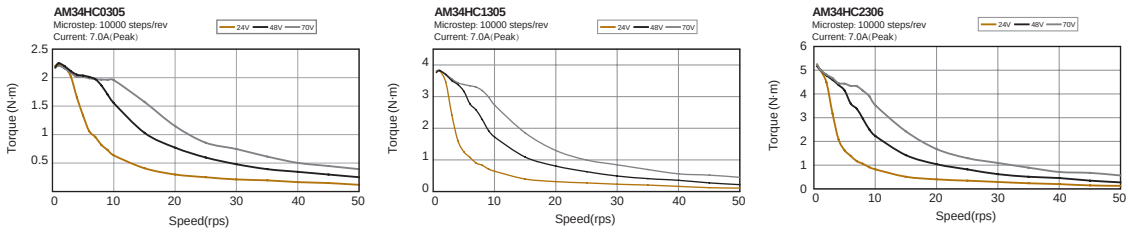
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM34HC0305-01	Single Shaft	D	3	66.5	2.4	5.8	0.53	1100.0	1.6	500VAC 1 minute
AM34HC1305-01				96	4.3		0.58	1850.0	2.7	
AM34HC2306-01				125.5	6.1		0.9	2750.0	3.8	

* Wiring Diagram D See Page 245

Dimensions (Unit: mm)



Torque Curves (Recommended Driver: 3ST or 3SR)



NEMA34(□86mm) 3-phase AC 1.2°- 34HC Series

Phases	3
Steps / Revolution	±5%
Step Accuracy	65 N (15 Lbs.) Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

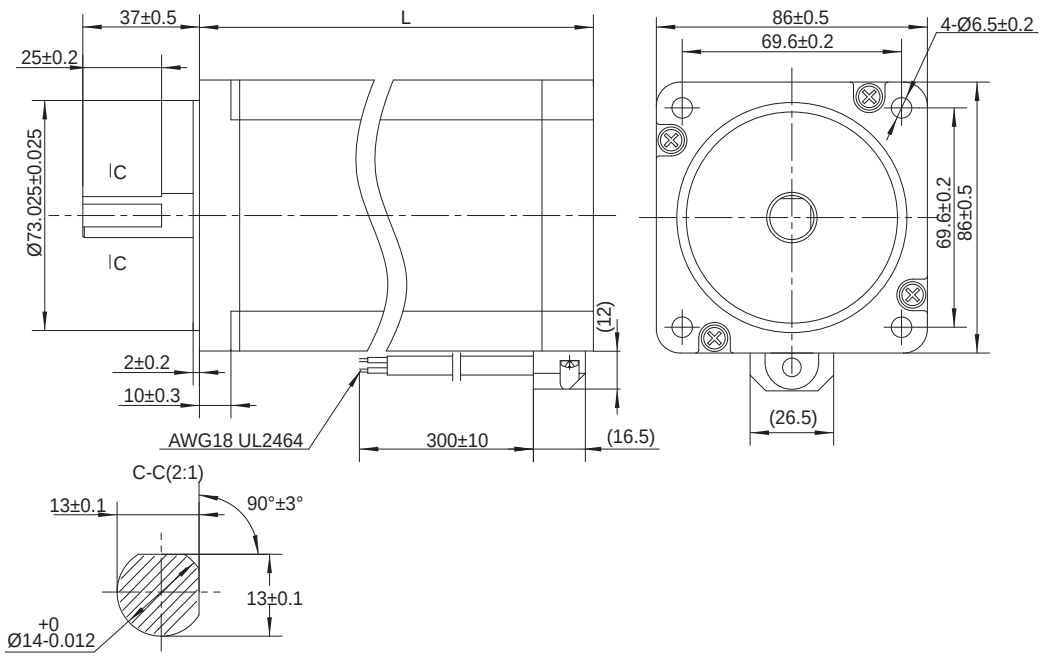
RoHS Compliant

Parameters

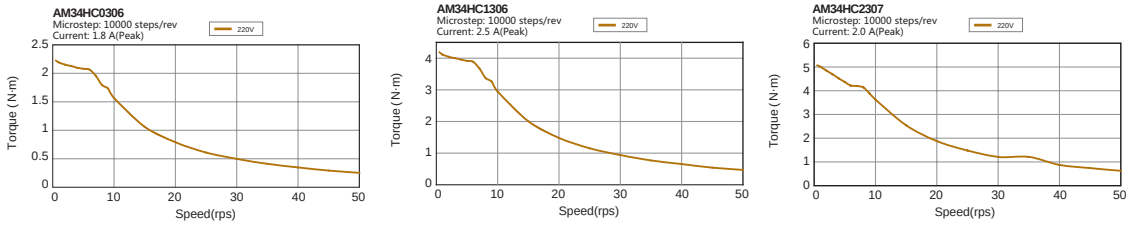
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
AM34HC0306-01	Single Shaft	D	3	66.5	2.6	1.2	12.8	1100.0	1.6	1500VAC 1 minute
AM34HC1306-01				96	5.15	2.0	7	1850.0	2.7	
AM34HC2307-01				125.5	5.6	2.0	6	2750.0	3.8	

* Wiring Diagram D See Page 245

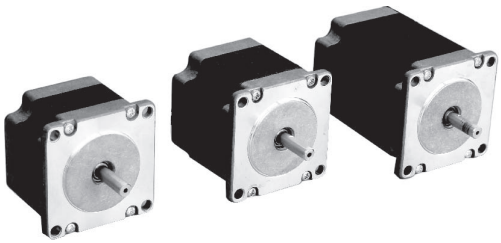
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: 3SRAC)



NEMA23(□ 56mm) 2-phase DC 1.8° - 23HS UL Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push
	130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

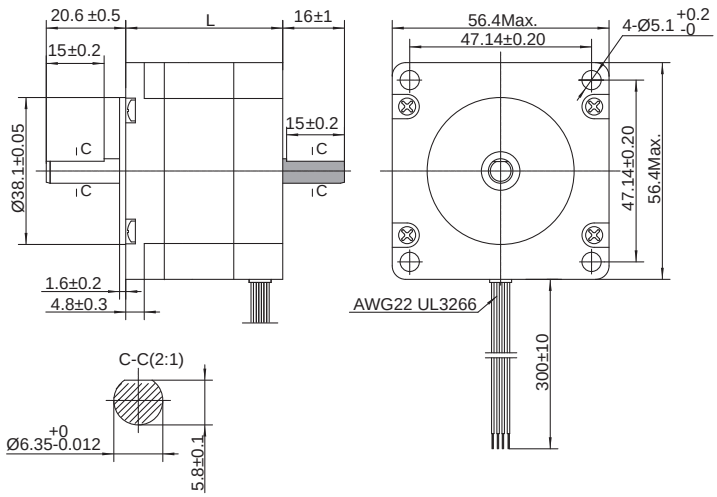
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
MS23HS0L418A-01	Single Shaft	A	4	41.0	0.72	1.8	1.8	135.0	0.42	500VAC 1 minute
MS23HS0L418A-02	Double Shaft									
MS23HS8L418A-01	Single Shaft			54.0	1.25		2.4	260.0	0.6	
MS23HS8L418A-02	Double Shaft									
MS23HSAL418A-01	Single Shaft			76.0	2.1		2.9	460.0	1.0	
MS23HSAL418A-02	Double Shaft									
MS23HS0l437A-01	Single Shaft			41.0	0.72	3.7	0.48	135.0	0.42	
MS23HS0L437A-02	Double Shaft									
MS23HS8L437A-01	Single Shaft			54.0	1.25		0.63	260.0	0.6	
MS23HS8L437A-02	Double Shaft									
MS23HSAL437A-01	Single Shaft			76.0	2.1		0.75	460.0	1.0	
MS23HSAL437A-02	Double Shaft									

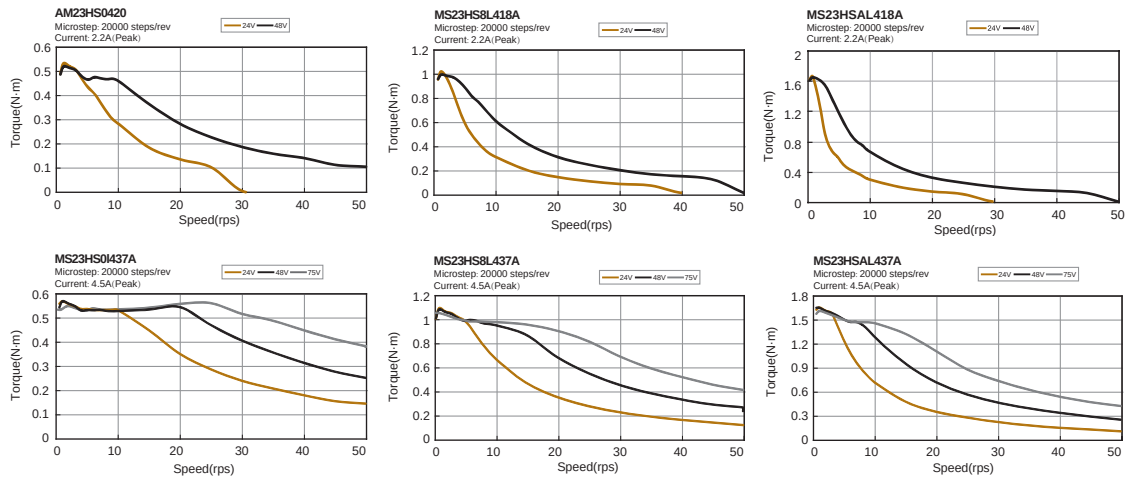
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

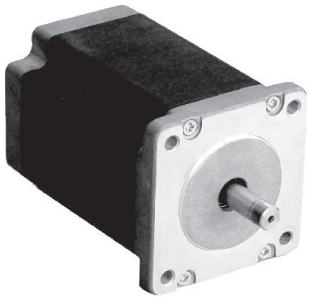


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA24(□60mm) 2-phase DC 1.8° - 24HS UL Series



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.)At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

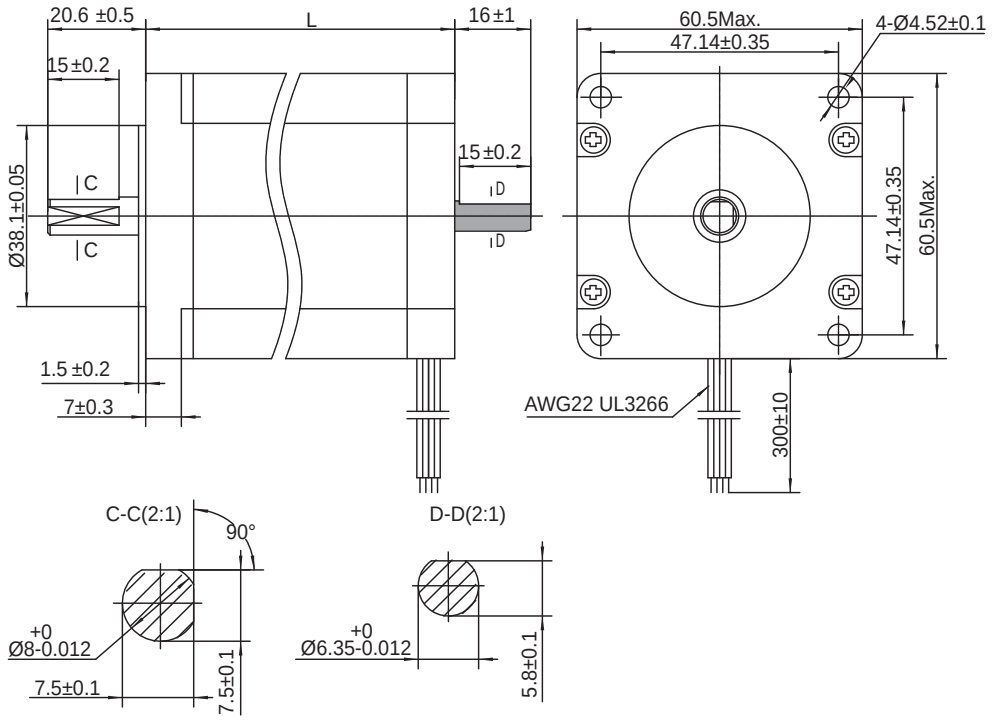
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N·m	Current A/Phase	Resistance Ω/Phase	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
MS24HS2L440A-01	Single Shaft	A	4	54.0	1.57	4.0	0.43	450.0	0.83	500VAC 1 minute
MS24HS2L440A-02	Double Shaft									
MS24HS5L440A-01	Single Shaft			85.0	3.2		0.65	900.0	1.4	
MS24HS5L440A-02	Double Shaft									

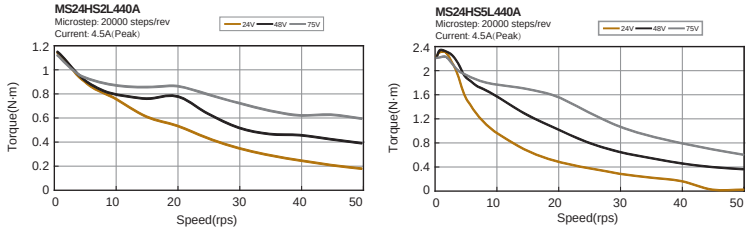
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

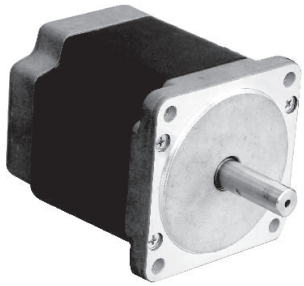


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA34(□86mm) 2-phase DC 1.8°- 34HD UL Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	65 N (15 Lbs.)Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

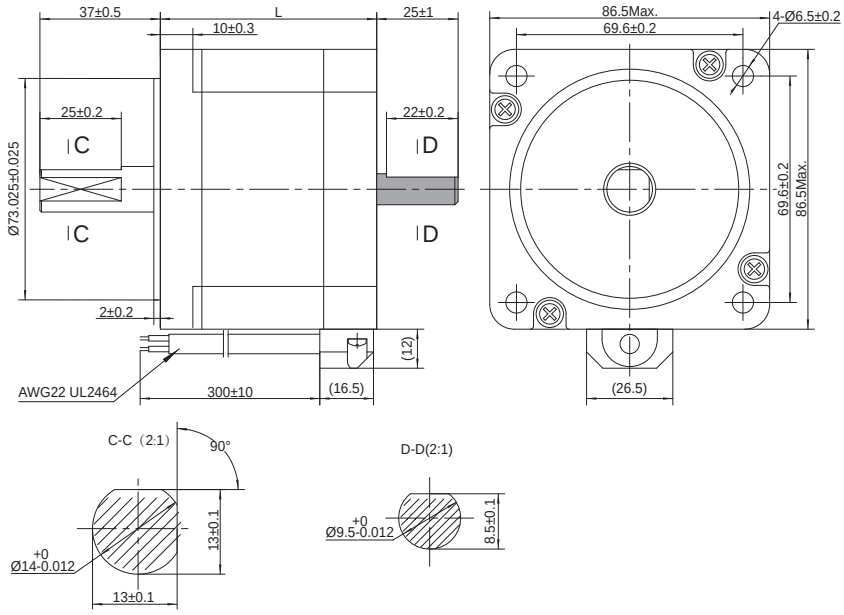
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L" mm	Holding Torque N·m	Current A/Phase	Resistance Ω/Phase	Rotor Inertia g·cm²	Mass Kg	Dielectric Strength
MS34HD0L4770-01	Single Shaft	A	4	66.5	3.7	6.3	0.25	1100.0	1.6	500VAC 1 minute
MS34HD0L4770-02	Double Shaft									
MS34HD1L4750-01	Single Shaft			96.0	6.7		0.35	1850.0	2.7	
MS34HD1L4750-02	Double Shaft									
MS34HD2L4660-01	Single Shaft			125.5	9.4	5.6	0.49	2750.0	3.8	
MS34HD2L4660-02	Double Shaft									

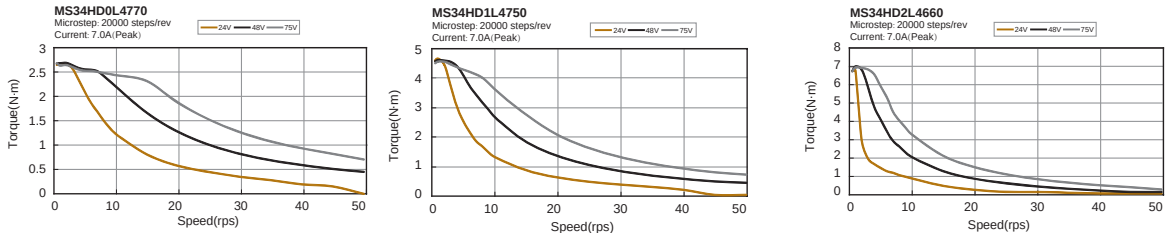
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

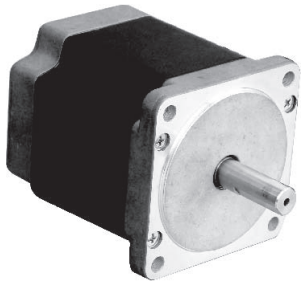


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA34(□86mm) 2-phase AC 1.8°- 34HD UL Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	65 N (15 Lbs.)Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

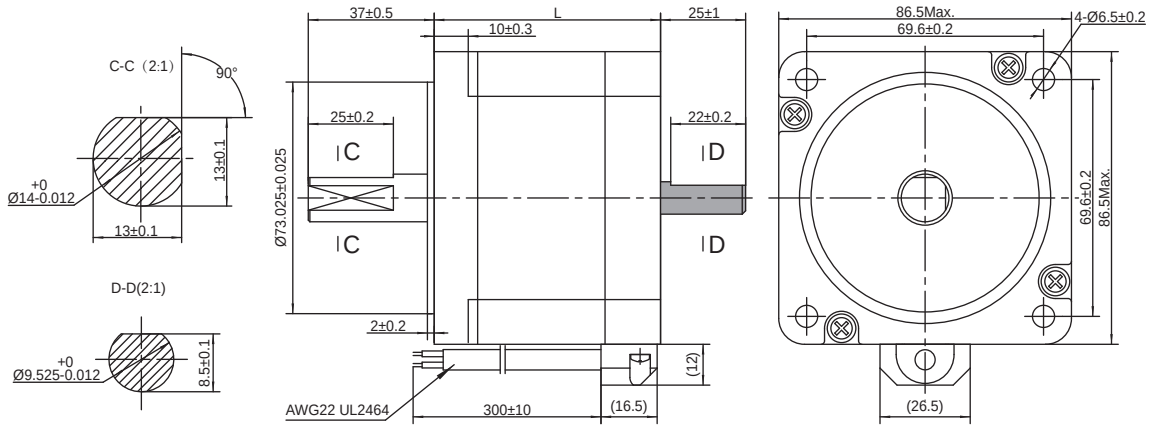
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase (Series connection)	g·cm²	Kg	
MS34HD0L8250-01	Single Shaft	B(Parallel) C(Series)	8	66.5	4.2	1.8 (220V Series connection) / 3.6 (110V Parallel connection)	3.4	1100.0	1.6	1500VAC 1 minute
MS34HD0L8250-02	Double Shaft									
MS34HD4L8250-01	Single Shaft			75	4.7		3.6	1350.0	1.9	
MS34HD1L8250-01	Single Shaft			96	7.3		3.6	1850.0	2.7	
MS34HD1L8250-02	Double Shaft									
MS34HD6L8250-01	Single Shaft			115	7.6		4	2400.0	3.5	
MS34HD2L8180-01	Single Shaft			125.5	8.7		4.2	2750.0	3.8	
MS34HD2L8180-02	Double Shaft									

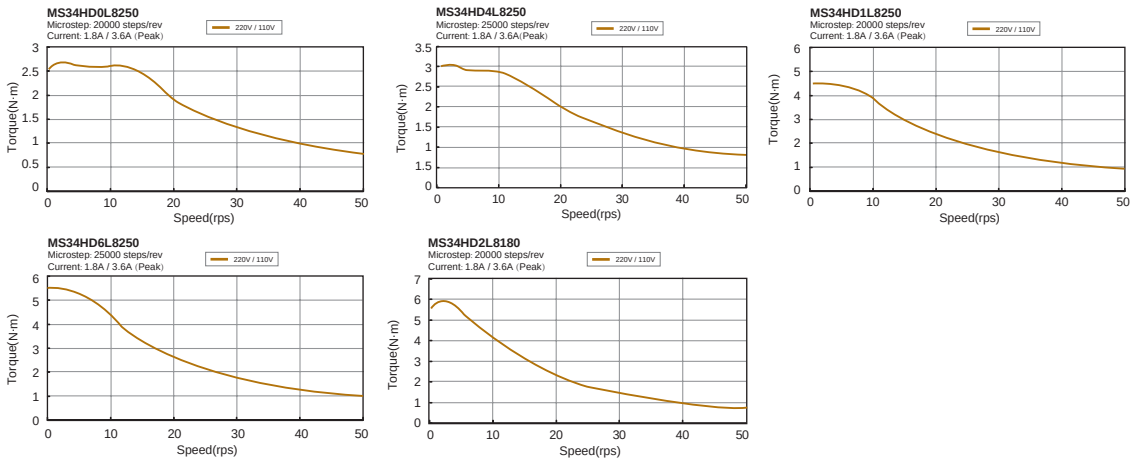
⋆ Wiring Diagram B / C See Page 245

Dimensions (Unit: mm)

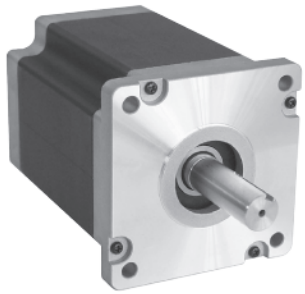


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SRAC or STAC)



NEMA42(□110mm) 2-phase AC 1.8° - 42HS UL Series



Phases	2
Steps / Revolution	±5%
Step Accuracy	250 N (56 Lbs.)Push
	250 N (26 Lbs.) Pull
Radial	450 N (100 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

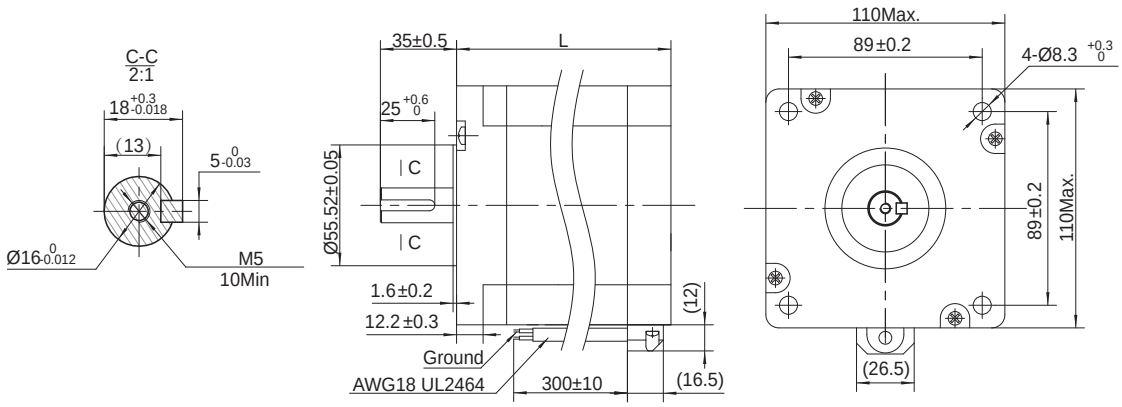
RoHS Compliant

Parameters

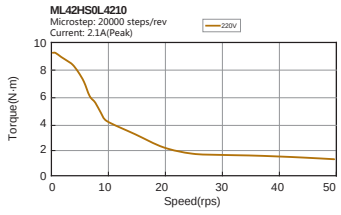
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
ML42HS0L4210-02	Single Shaft	A	4	98.5	12	2.1	4.2	5500	4.8	1500VAC 1 minute
ML42HS2L4240-02	Single Shaft			149.5	21	2.4	4.4	10900	8	
ML42HS3L4270-02	Single Shaft			201	30	2.7	4.4	16200	11.6	

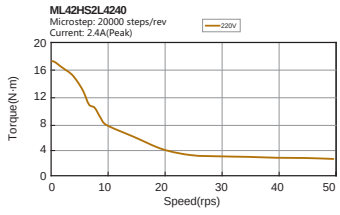
* Wiring Diagram A See Page 245

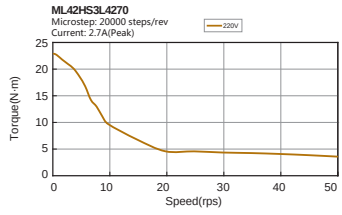
Dimensions (Unit: mm)



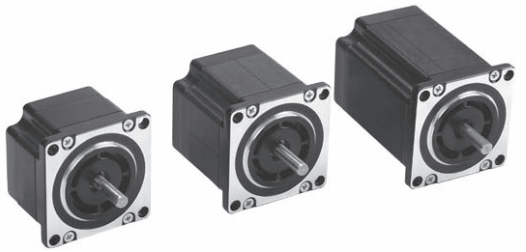
Torque Curves (Recommended Driver: SRAC or STAC)







NEMA23(□56mm) 2-phase DC 1.8°- 23HS PowerPlus UL Series (6.35mm Shaft)



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

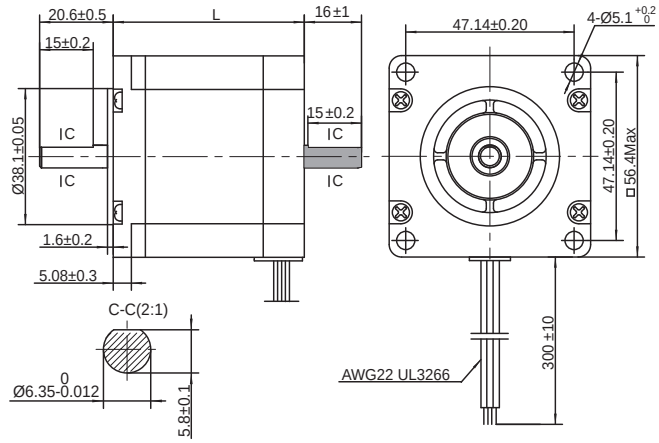
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
ML23HS0L4180-06	Single Shaft	A	4	39	0.82	1.8	1.8	105.0	0.4	500VAC 1 minute
ML23HS0L4180-05	Double Shaft									
ML23HS8L4180-04	Single Shaft			55	1.5		2.4	215.0	0.6	
ML23HS8L4180-03	Double Shaft									
ML23HSAL4180-04	Single Shaft			77	2.3		3	365.0	1.0	
ML23HSAL4180-06	Double Shaft									
ML23HS0L4370-06	Single Shaft			39	0.82	3.7	0.48	105.0	0.4	
ML23HS0L4370-07	Double Shaft									
ML23HS8L4370-09	Single Shaft			55	1.5		0.63	215.0	0.6	
ML23HS8L4370-10	Double Shaft									
ML23HSAL4370-14	Single Shaft			77	2.3		0.75	365.0	1.0	
ML23HSAL4370-15	Double Shaft									

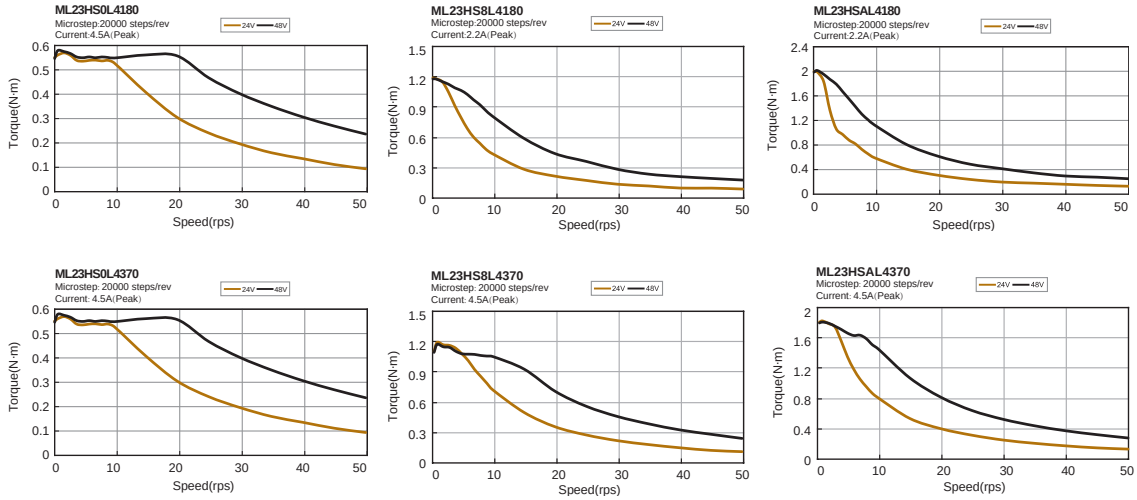
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)



■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA23(□56mm) 2-phase DC 1.8°- 23HS PowerPlus UL Series (8mm Shaft)

Phases	2
Steps / Revolution	±5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	40
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

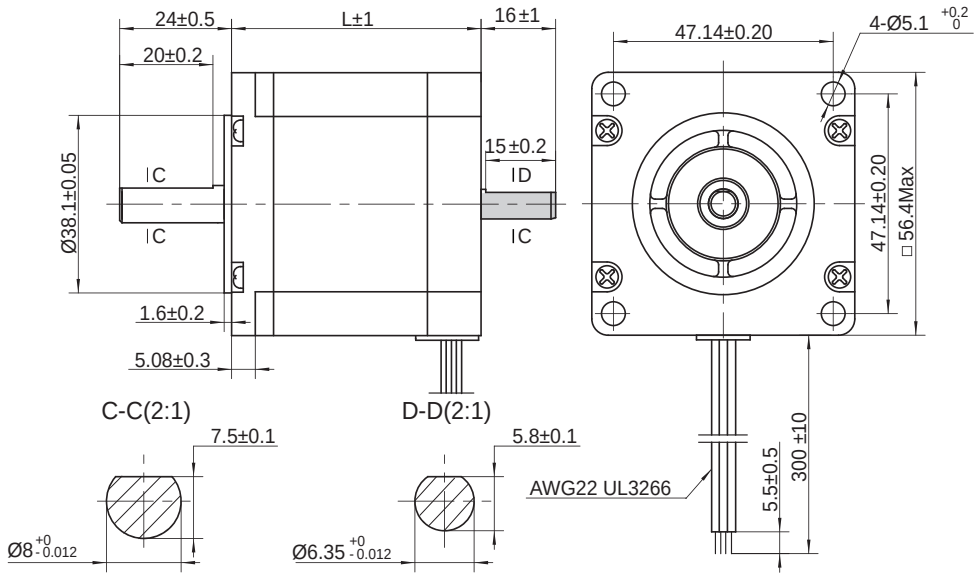
RoHS Compliant

Parameters

Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N·m	A/Phase	Ω/Phase	g·cm²	Kg	
ML23HS0L4370-08	Single Shaft	A	4	39	0.82	3.7	0.48	105.0	0.4	500VAC 1 minute
ML23HS0L4370-09	Double Shaft									
ML23HS8L4370-11	Single Shaft			55	1.5		0.63	215.0	0.6	
ML23HS8L4370-12	Double Shaft									
ML23HSAL4370-17	Single Shaft			77	2.3		0.75	365.0	1.0	
ML23HSAL4370-16	Double Shaft									

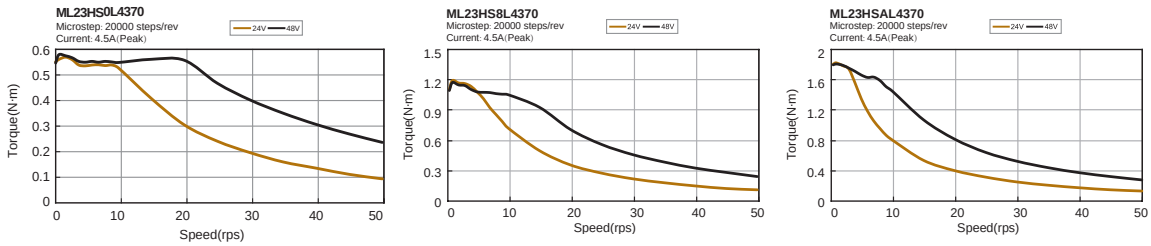
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)

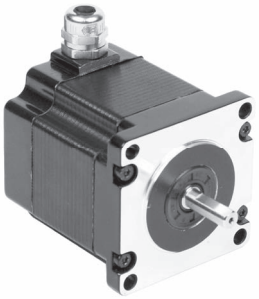


■ These dimensions are for the double shaft models. For the single shaft models, ignore the ( ) area.

Torque Curves (Recommended Driver: SR or ST)



NEMA23(□56mm) 2-phase DC1.8°- 23HS UL Series IP65 Type



Phases	2
Steps / Revolution	± 5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	65
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

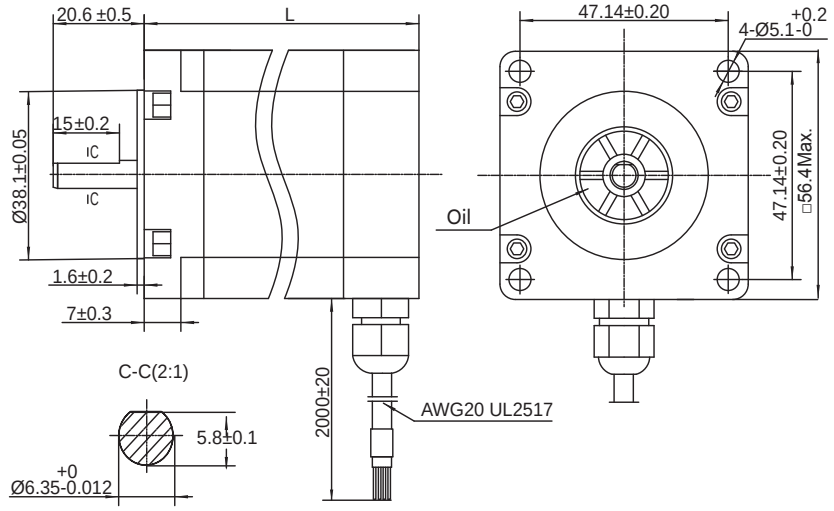
RoHS Compliant

Parameters

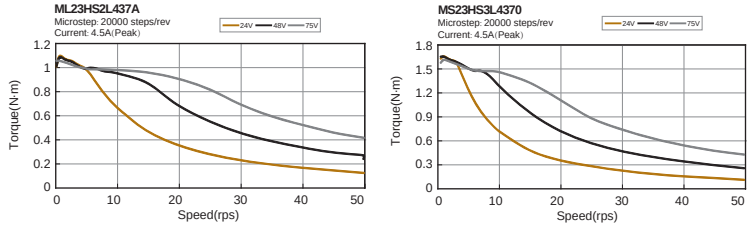
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
ML23HS2L437A-01	Single Shaft	A	4	61.7	1.25	3.7	0.63	260.0	0.6	500VAC 1 minute
MS23HS3L4370-01				83.7	2.2		0.75	460.0	1	

* Wiring Diagram A See Page 245

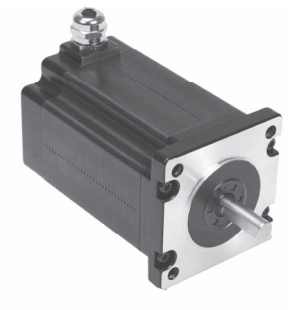
Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SR or ST)



NEMA24(□60mm) 2-phase DC1.8°- 24HS UL Series IP65 Type



Phases	2
Steps / Revolution	±5%
Step Accuracy	40 N (9 Lbs.)Push 130 N (30 Lbs.) Pull
Radial	70 N (15.5 Lbs.) At Flat Center
IP Rating	65
Operating Temp	−20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

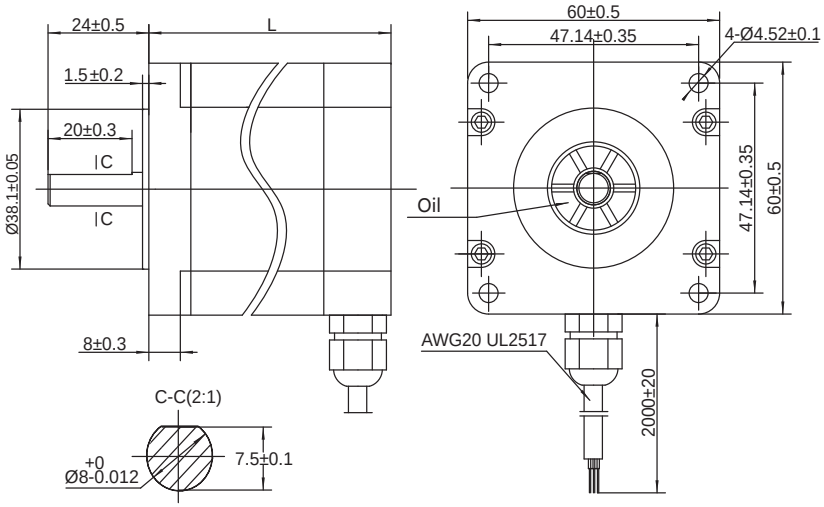
RoHS Compliant

Parameters

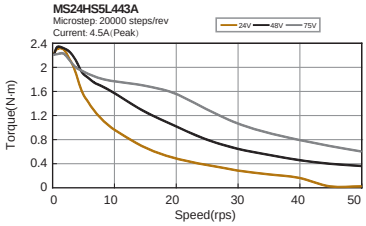
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
MS24HS5L443A-01	Single Shaft	A	4	94.5	3.2	4.0	0.65	900.0	1.4	500VAC 1 minute

* Wiring Diagram A See Page 245

Dimensions (Unit: mm)



Torque Curves (Recommended Driver: SR or ST)



NEMA34(□86mm) 2-phase DC1.8°- 34HD UL Series IP65 Type

Phases	2
Steps / Revolution	± 5%
Step Accuracy	65 N (15 Lbs.)Push 155 N (35 Lbs.) Pull
Radial	220 N (50 Lbs.) At Flat Center
IP Rating	65
Operating Temp	–20°C to +50°C
Insulation Class	B, 130°C
Insulation Resistance	100 MegOhms

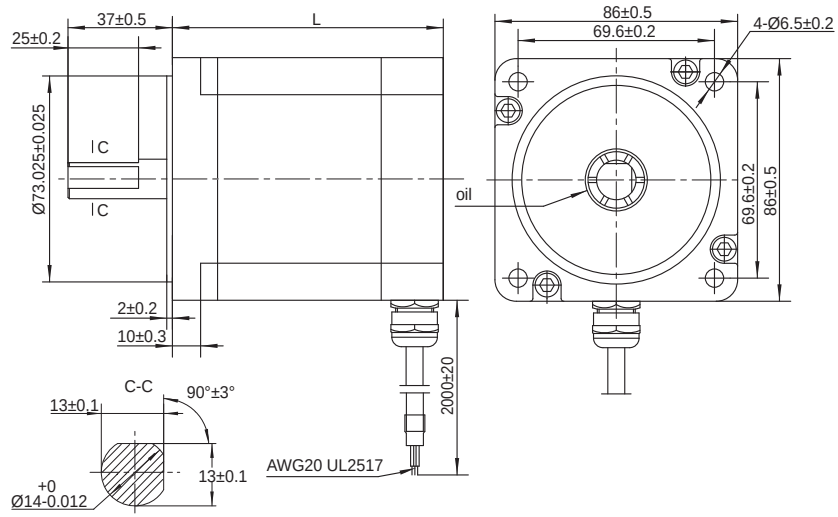
RoHS Compliant

Parameters

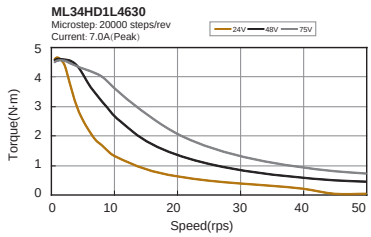
Model	Shaft	Wiring	Leads	Length"L"	Holding Torque	Current	Resistance	Rotor Inertia	Mass	Dielectric Strength
				mm	N.m	A/Phase	Ω/Phase	g·cm²	Kg	
ML34HD1L4630-02	Single Shaft	A	4	98	6.7	6.3	0.45	1850.0	2.7	500VAC 1 minute
ML34HD2L4560-02				127.5	9.4	5.6	0.62	2750.0	3.8	

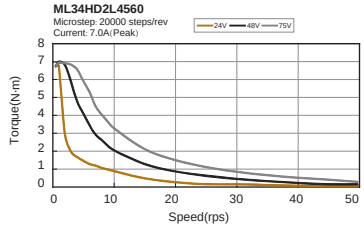
* Wiring Diagram A See Page 245

Dimensions (Unit: mm)



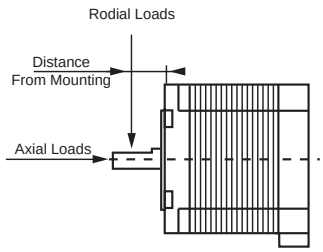
Torque Curves (Recommended Driver: SR or ST)





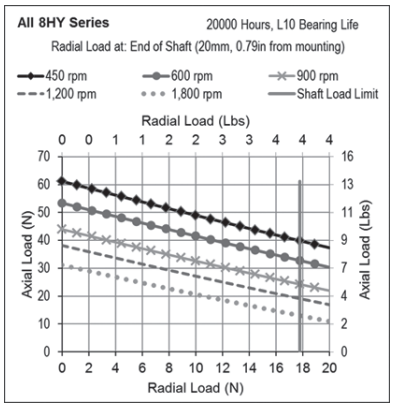
Bearing Life & Shaft Loading

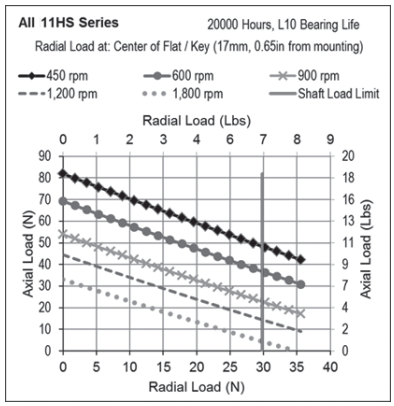
Moons' uses heavy duty long life bearings for long life from every motor. Most motors can be provided with larger bearings and custom construction to meet the most demanding applicatons.

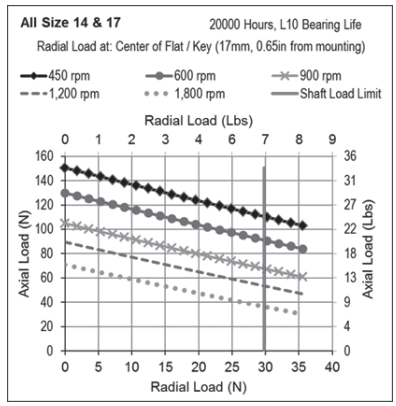


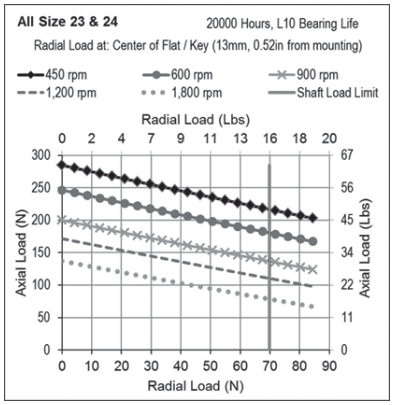
These bearing life curves represent the maximum axial and radial loads for 20,000 hours L10 bearing life at various speeds. The shaft radial load limit (and bearing load ratings) are highly dependent on the the distance from the mounting face where the load is appliced. These curves were calculated with the radial load applied at the distance from the mounting face shown on the curve (usually the center of the flat / keyway).

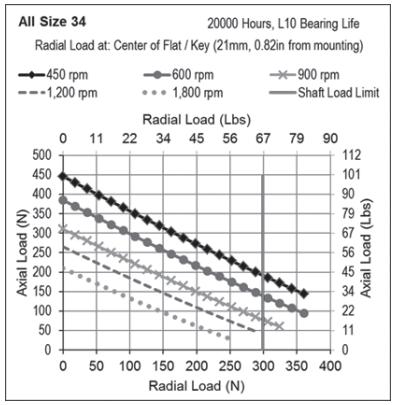
A common cause for shaft (and bearing) failure, are high radial loads that are created when a pulley is attached to the motor shaft at a large distance from the motor mounting face, and the belt has high tension. To avoid this condition mount pulleys and gears as close to the face of the motor as possible, and avoid over tightening belts. This will dramatically reduce the shaft stress, and increases the life of the bearings.

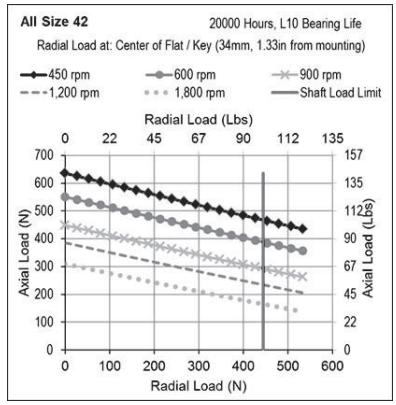










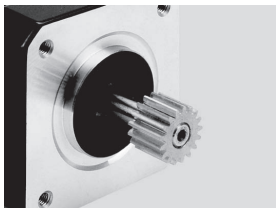


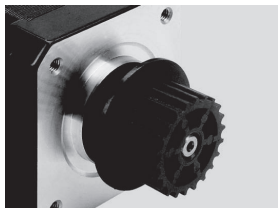
Configurations and Options

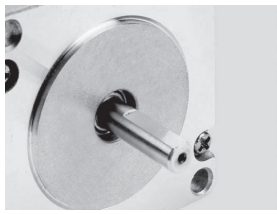
Besides all standard motors above, we also provide all kinds of customized motors per request.

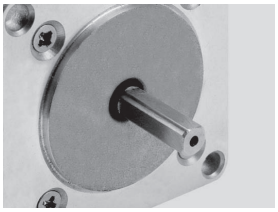
Shaft Configuration

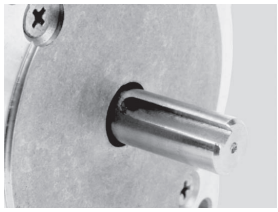

Cross Drilled Shaft

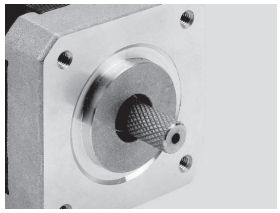

Gear

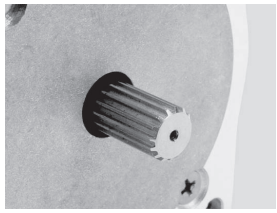

Plastic Pulley

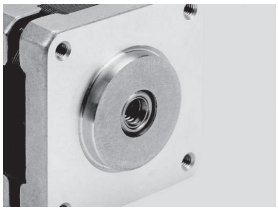

Single Flat

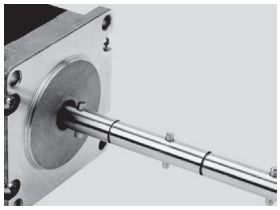

Double Flat

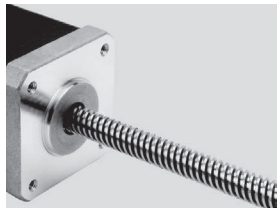

Key Way

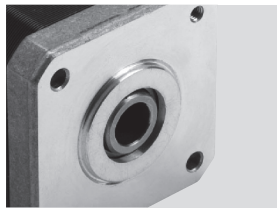

Knurl


Hobbed Gear

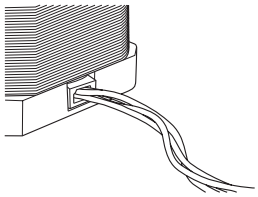

Screw Hollow Shaft

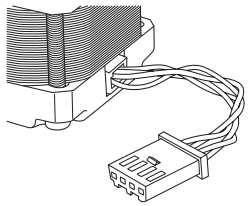

Dowel

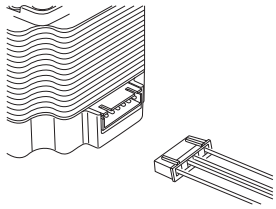

Worm Shaft


Hollow Shaft

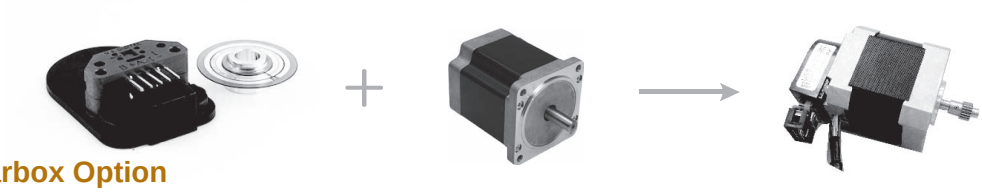
Connection Configuration


Lead Wire

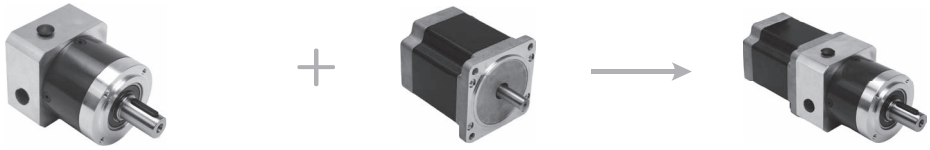

Lead Wire with Connector


Connector with harness

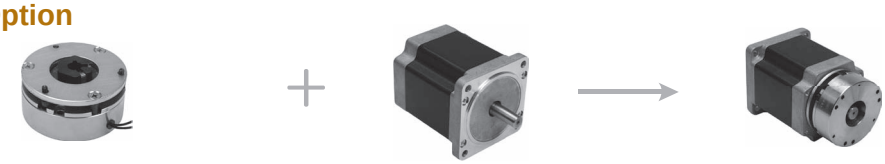
Encoder Option



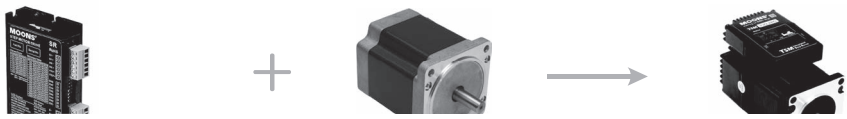
Gearbox Option



Brake Option



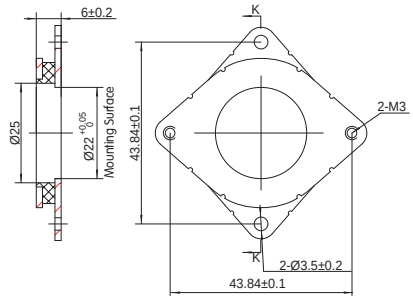
Integrated



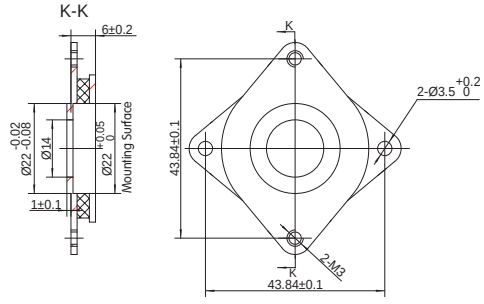
Accessory

42 Flange Demension	Model	Application of screw	Maximum Load	Scope Of Application
	AMJZ17-01	M3(2X)	490N(50kgf)	NEMA17
	AMJZ17-02		490N(50kgf)	NEMA17

AMJZ17-01

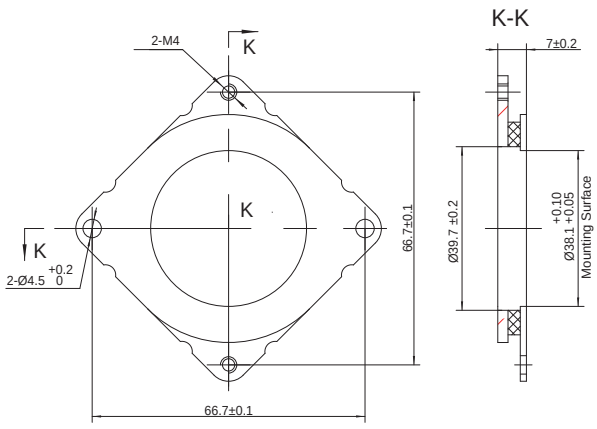


AMJZ17-02

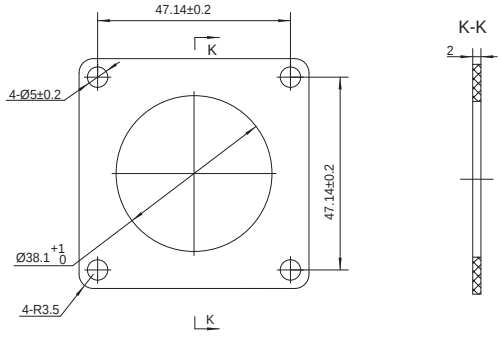


60 Flange Demension	Model	Application of screw	Maximum Load	Scope Of Application
	AMJZ23-01	M4(2X)	490N(50kgf)	NEMA23/NEMA24(2-phase)
	AMJZ23-02		490N(50kgf)	NEMA23/NEMA24(2-phase)

AMJZ23-01



AMJZ23-02



Instructions for use: reducing mechanical noise