

Hetai 合泰

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CHANGZHOU HETAI ELECTRIC MOTORS&APPLIANCE CO., LTD.

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COMPANY PROFILE



World-leading Motor Supplier

Keep Creating Value for Customers

Improving the Life Quality for Staff

Keep Elevating Shareholder's Equity

» ChangZhou Hetai (Stock code:834300) is a leading manufacturer with advanced technology and innovative management mode. Hetai specializes in producing servo motors, DC Motors, hybrid stepping motors, drivers and so on.

Hetai dedicates to professional electrical integration and automation strategies for customers. The products are almost applied in robots, packing machinery, textile machinery, medical instruments, printing machinery, intelligent logistics equipment... Hetai also sends its products to USA, Europe, Southeast Asia and all-around China.

Hetai is located in ChangZhou, JiangSu province and its workshop area is over 35,000. Since Hetai reformed in 1998, the specialization, scale of production has ensured to manufacture 3,000,000 motors every year.

» In the year 2003, Hetai was qualified by ISO9001/TS 16949 Certificate, and passed supervision successfully. The company also attained import and export right of external trade of self-management.

» In 2005, Hetai has qualified by EU Type Examination Certificate and get four Invention Patent, seven Utility Patent, and one Appearance Design Patent.

» Hetai was quoted on the stock market in 2015.

Hetai was authenticated by safety standardization management system in next year.

The company was qualified as high-tech enterprise in 2018.



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BRUSHLESS DC MOTOR

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*The unit of Mechanical Dimension is mm without any special notification.

22BL

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	10N (10mm from front flange)
Max Axial Force	2N

Technical Specifications

Model	No. of Poles	No. of Phase	Rated Voltage	Rated Torque	Rated Speed	Rated Current	Output Power	Peak Torque	Peak Current	Torque Constant	Back EMF Constant	Motor Height L	Motor Weight
			(VDC)	(N.m)	(RPM)	(Amps)	(Watts)	(N.m)	(Amps)	(N.m/Amps)	(V/kRPM)	(mm)	(kg)
22BL201-001	8	3	24	0.02	3800	0.6	8.0	0.06	1.8	0.033	3.5	68	0.11

* Products can be customized by special request.

28BL

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	15N (10mm from front flange)
Max Axial Force	10N

Technical Specifications

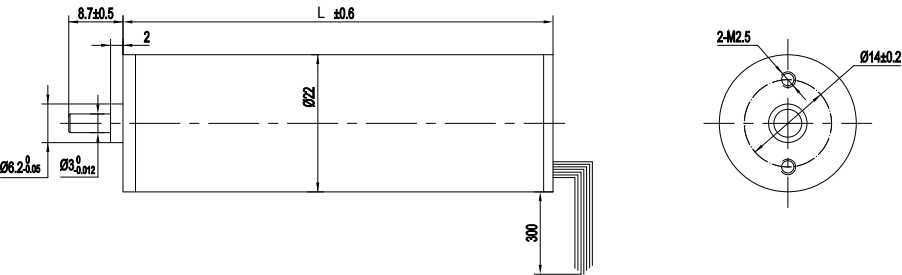
Model	No. of Poles	No. of Phase	Rated Voltage	Rated Torque	Rated Speed	Rated Current	Output Power	Peak Torque	Peak Current	Torque Constant	Back EMF Constant	Motor Height L	Motor Weight
			(VDC)	(N.m)	(RPM)	(Amps)	(Watts)	(N.m)	(Amps)	(N.m/Amps)	(V/kRPM)	(mm)	(kg)
28BL01F	4	3	12	0.015	3000	0.60	4.7	0.045	1.80	0.025	2.6	40.5	0.20
28BL02A-001			24	0.02	3000	0.36	6.3	0.06	1.07	0.056	5.7	53	0.15
28BL03E-001			24	0.05	3000	0.96	15.7	0.15	2.88	0.052	5.3	78	0.25

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

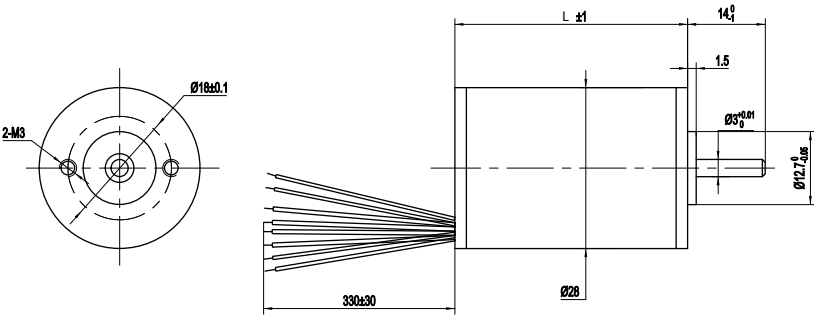
ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
TP	ORANGE	橙	UL1061 26AWG
GND	BLACK	黑	UL1332 28AWG
PHASE A	BROWN	棕	
PHASE B	WHITE	白	
PHASE C	PURPLE	紫	
+5V	RED	红	
HALL A	YELLOW	黄	
HALL B	GRENN	绿	
HALL C	BLUE	蓝	



Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	GREEN	绿	
HALL B	BLUE	蓝	
HALL C	WHITE	白	
GND	BLACK	黑	
PHASE A	ORANGE	橙	
PHASE B	YELLOW	黄	
PHASE C	BROWN	棕	



33BL

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	10N (10mm from front flange)
Max Axial Force	10N

Technical Specifications

Model	No. of Poles	No. of Phase	Rated Voltage	Rated Torque	Rated Speed	Rated Current	Output Power	Peak Torque	Peak Current	Torque Constant	Back EMF Constant	Motor Height L	Motor Weight
			(VDC)	(N.m)	(RPM)	(Amps)	(Watts)	(N.m)	(Amps)	(N.m/Amps)	(V/kRPM)	(mm)	(kg)
33BL01C	4	3	24	0.02	4000	0.43	8.3	0.06	1.3	0.045	4.8	42.5	0.16

* Products can be customized by special request.

36BL

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	15N (10mm from front flange)
Max Axial Force	10N

Technical Specifications

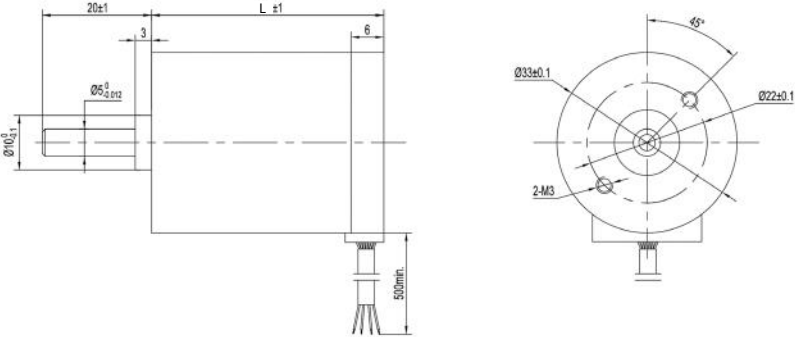
Model	No. of Poles	No. of Phase	Rated Voltage	Rated Torque	Rated Speed	Rated Current	Output Power	Peak Torque	Peak Current	Torque Constant	Back EMF Constant	Motor Height L	Motor Weight
			(VDC)	(N.m)	(RPM)	(Amps)	(Watts)	(N.m)	(Amps)	(N.m/Amps)	(V/kRPM)	(mm)	(kg)
36BLY01	4	3	24	0.03	3000	2.0	9.4	0.09	6	0.015	1.6	42	0.16

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

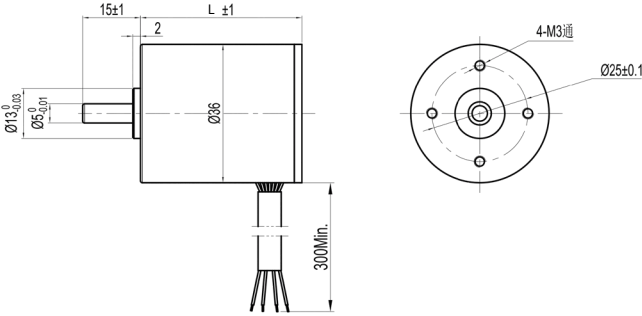
ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		UL1007 26AWG
+5V	RED	红	
HALL A	GREEN	绿	
HALL B	BLUE	蓝	
HALL C	WHITE	白	
GND	BLACK	黑	
PHASE A	YELLOW	黄	
PHASE B	ORANGE	橙	
PHASE C	BROWN	棕	



Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		UL1007 26AWG
+5V	RED	红	
HALL A	GREEN	绿	
HALL B	BLUE	蓝	
HALL C	WHITE	白	
GND	BLACK	黑	
PHASE A	BROWN	棕	
PHASE B	YELLOW	黄	
PHASE C	ORANGE	橙	



42BLF

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	28N (10mm from front flange)
Max Axial Force	10N



Technical Specifications

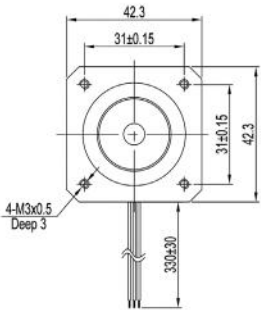
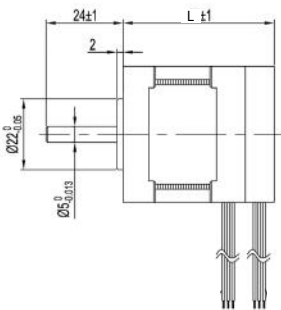
Model	No. of Poles	No. of Phase	Rated Voltage (VDC)	Rated Torque (N.m)	Rated Speed (RPM)	Rated Current (Amps)	Output Power (Watts)	Peak Torque (N.m)	Peak Current (Amps)	Torque Constant (N.m/Amps)	Back EMF Constant (V/kRPM)	Motor Height L (mm)	Motor Weight (kg)
42BLF01	8	3	24	0.063	4000	1.50	26	0.189	4.5	0.042	4.4	47	0.30
42BLF02			24	0.130	4000	3.10	54	0.390	9.3	0.042	4.4	63	0.45
42BLF03			24	0.188	4000	4.17	78	0.560	12.5	0.045	4.8	79	0.60

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL3265 22AWG
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	



42BLFX

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	28N (10mm from front flange)
Max Axial Force	10N



Technical Specifications

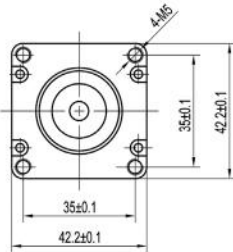
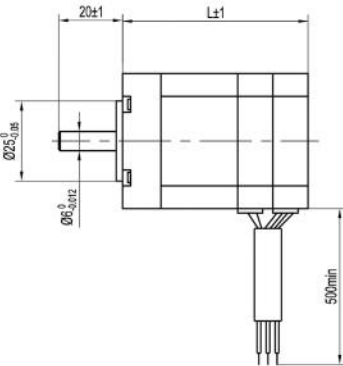
Model	No. of Poles	No. of Phase	Rated Voltage (VDC)	Rated Torque (N.m)	Rated Speed (RPM)	Rated Current (Amps)	Output Power (Watts)	Peak Torque (N.m)	Peak Current (Amps)	Torque Constant (N.m/Amps)	Back EMF Constant (V/kRPM)	Motor Height L (mm)	Motor Weight (kg)
42BLFX01	8	3	48	0.13	4400	2.0	60	0.39	6.0	0.064	6.7	59.2	0.39
42BLFX02			48	0.22	4600	3.5	106	0.66	10.5	0.063	7.1	84.2	0.59

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL3265 22AWG
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	



42BLY

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	15N (10mm from front flange)
Max Axial Force	10N



Technical Specifications

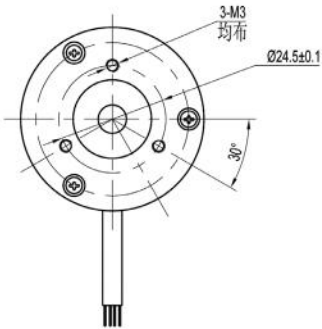
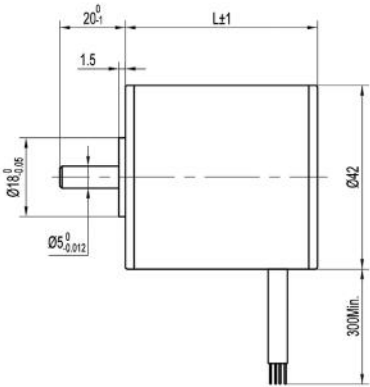
Model	No. of Poles	No. of Phase	Rated Voltage	Rated Torque	Rated Speed	Rated Current	Output Power	Peak Torque	Peak Current	Torque Constant	Back EMF Constant	Motor Height L	Motor Weight
			(VDC)	(N.m)	(RPM)	(Amps)	(Watts)	(N.m)	(Amps)	(N.m/Amps)	(V/kRPM)	(mm)	(kg)
42BLY01C	4	3	24	0.035	3000	0.63	11	0.105	1.9	0.054	5.7	42	0.25
42BLY02			24	0.08	3000	1.77	25	0.24	5.3	0.045	4.7	60	0.38
42BLY302-001			24	0.13	3000	2.53	41	0.39	7.6	0.051	5.3	78	0.56

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL3265 22AWG
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	



57BL

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	75N (10mm from front flange)
Max Axial Force	15N



Technical Specifications

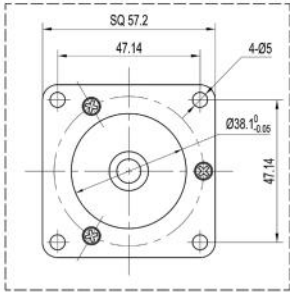
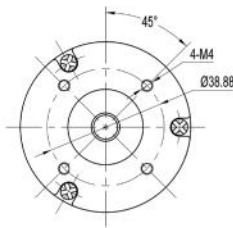
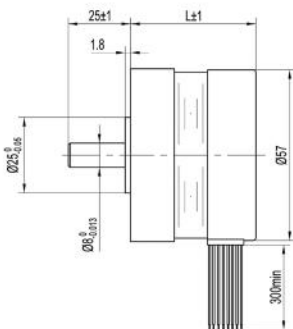
Model	No. of Poles	No. of Phase	Rated Voltage	Rated Torque	Rated Speed	Rated Current	Output Power	Peak Torque	Peak Current	Torque Constant	Back EMF Constant	Motor Height L	Motor Weight
			(VDC)	(N.m)	(RPM)	(Amps)	(Watts)	(N.m)	(Amps)	(N.m/Amps)	(V/kRPM)	(mm)	(kg)
57BL01G	4	3	24	0.057	2500	0.77	15	0.17	2.3	0.074	7.75	41.5	0.35
57BL02A			24	0.11	3000	1.87	34.5	0.33	5.6	0.059	6.2	46.5	0.44
57BL03B			24	0.18	3000	3.17	56	0.54	9.5	0.057	5.9	56.5	0.56
57BL04A			24	0.22	3000	3.67	69	0.66	11	0.060	6.3	66.5	0.67
57BL05A			24	0.33	3000	5.33	104	0.99	16	0.062	6.5	86.5	0.95
57BL06			24	0.44	3000	7.00	138	1.32	21	0.063	6.6	106.5	1.18

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL1015 20AWG
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	



57BLF

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	115N (10mm from front flange)
Max Axial Force	45N



Technical Specifications

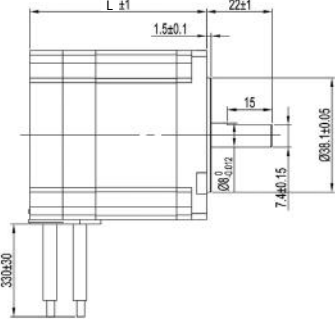
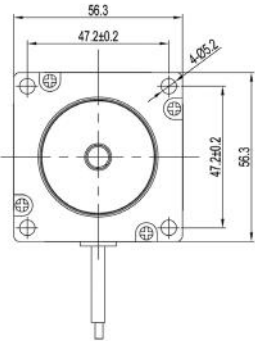
Model	No. of Poles	No. of Phase	Rated Voltage (VDC)	Rated Torque (N.m)	Rated Speed (RPM)	Rated Current (Amps)	Output Power (Watts)	Peak Torque (N.m)	Peak Current (Amps)	Torque Constant (N.m/Amps)	Back EMF Constant (V/kRPM)	Motor Height L (mm)	Motor Weight (kg)
57BLF01	8	3	24	0.2	3800	3.33	80	0.6	10.0	0.06	6.3	59	0.61
57BLF02			24	0.4	3000	6.67	125	1.2	20.0	0.06	6.3	80	0.94
57BLF03			24	0.6	3000	10.0	188	1.8	30.0	0.06	6.3	101	1.25
57BLF04A-001			36	0.8	3000	8.87	251	2.4	26.6	0.09	9.47	122	1.59

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL1015 20AWG
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	

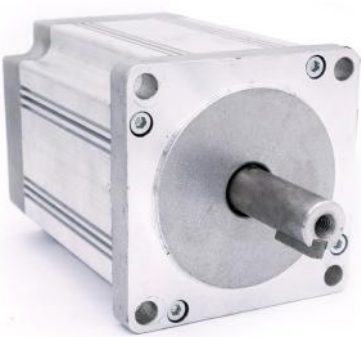


80BL

BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	220N (10mm from front flange)
Max Axial Force	60N



Technical Specifications

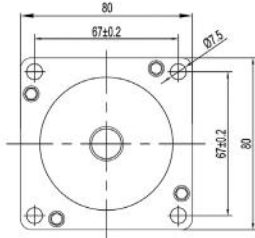
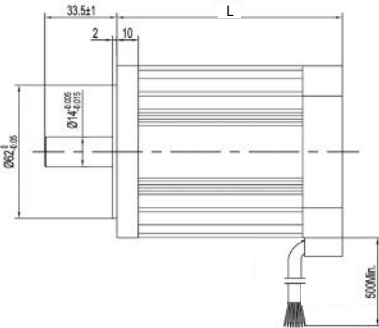
Model	No. of Poles	No. of Phase	Rated Voltage (VDC)	Rated Torque (N.m)	Rated Speed (RPM)	Rated Current (Amps)	Output Power (Watts)	Peak Torque (N.m)	Peak Current (Amps)	Torque Constant (N.m/Amps)	Back EMF Constant (V/kRPM)	Motor Height L (mm)	Motor Weight (kg)
80BL01A	4	3	48	0.7	3000	6.36	220	2.1	19.0	0.11	12	105.0	2.19
80BL02A			48	1.2	3000	11.0	376	3.6	33.0	0.11	12	132.5	2.80
80BL03A			310	1.8	3000	2.43	565	5.4	7.3	0.74	77.5	160.0	3.50

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	AF0.75
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	



86BLF



BRUSHLESS DC MOTOR

General Specifications

Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	600VAC 1 minute
Max Radial Force	220N (10mm from front flange)
Max Axial Force	60N

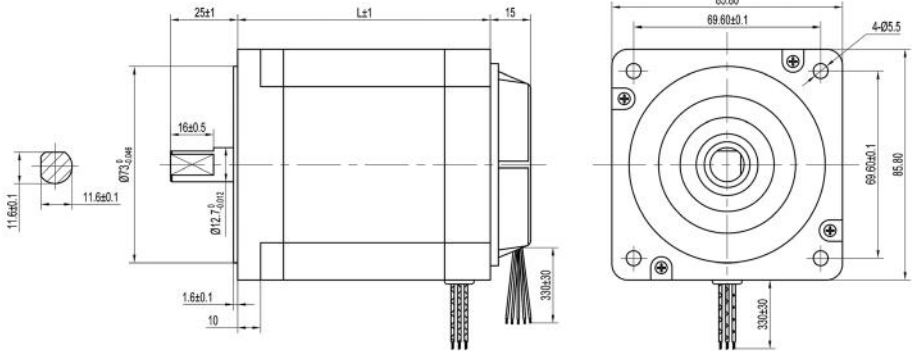
Technical Specifications

Model	No. of Poles	No. of Phase	Rated Voltage (VDC)	Rated Torque (N.m)	Rated Speed (RPM)	Rated Current (Amps)	Output Power (Watts)	Peak Torque (N.m)	Peak Current (Amps)	Torque Constant (N.m/Amps)	Back EMF Constant (V/kRPM)	Motor Height L (mm)	Motor Weight (kg)
86BLF01	8	3	48	1.40	3000	12.17	439	4.20	36.5	0.115	12.0	94.0	2.99
86BLF02A			48	1.05	3000	8.67	329	3.15	26.0	0.121	12.6	80.5	2.44
86BLF03			48	0.70	3000	5.33	220	2.10	16.0	0.130	13.7	67.0	1.78
86BLF06C			48	1.80	3000	16.33	565	5.40	49.0	0.110	12.0	107.5	3.39
86BLF07			48	2.10	3000	19.67	660	6.30	59.0	0.106	11.2	124.0	4.07

* Products can be customized by special request.

Wiring Diagram

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	WHITE	白	UL1007 26AWG
HALL A	RED	红	
HALL B	YELLOW	黄	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL1015 18AWG
PHASE A	RED	红	
PHASE B	YELLOW	黄	
PHASE C	BLUE	蓝	



110BLF



BRUSHLESS DC MOTOR

General Specifications

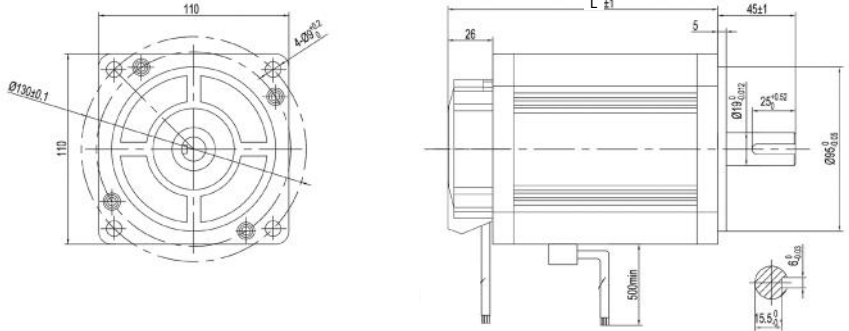
Winding Type	Star
Hall effect angle	120° Electrical angle
Insulation Class	B
Ambient Temperature	-20°C~+50°C
Insulation Resistance	100MΩ Min.500VC DC
Dielectric Strength	1500VAC 1 minute
Max Radial Force	330N (10mm from front flange)
Max Axial Force	100N

Technical Specifications

Model	No. of Poles	No. of Phase	Rated Voltage (VDC)	Rated Torque (N.m)	Rated Speed (RPM)	Rated Current (Amps)	Output Power (Watts)	Peak Torque (N.m)	Peak Current (Amps)	Torque Constant (N.m/Amps)	Back EMF Constant (V/kRPM)	Motor Height L (mm)	Motor Weight (kg)
110BLF01C	8	3	310	3.5	3000	4.72	1100	10.5	14.0	0.74	77.5	156.0	5.08
110BLF02C			310	4.5	3000	6.10	1413	13.5	18.3	0.74	77.5	177.0	6.06
110BLF03C			310	6.5	3000	8.77	2040	19.5	26.3	0.74	77.5	216.0	7.88

Wiring Diagram

ELECTRICAL CONNECTION TABLE/接线表			
FUNCTION/功能	COLOR/颜色		
+5V	RED	红	UL1007 26AWG
HALL A	YELLOW	黄	
HALL B	GREEN	绿	
HALL C	BLUE	蓝	
GND	BLACK	黑	UL1330 16AWG
PHASE A	YELLOW	黄	
PHASE B	GREEN	绿	
PHASE C	BLUE	蓝	



PLANETARY
GEARBOX 28/11 (inch)



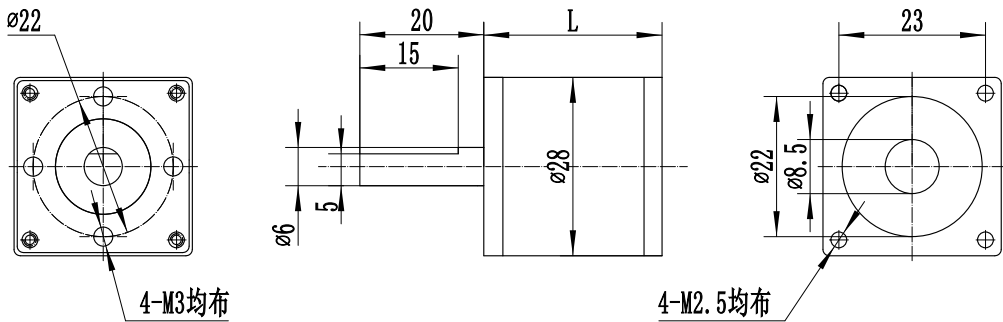
Product Specification

Housing Material	Bearing at output	Radial load (10mm from flange) (N)	Shaft axial load (N)	Shaft press fit force max (N)	Radial play of shaft (mm)	Thrust play of shaft (mm)	Backlash at no-load
Metal	Ball Bearing	≤20	≤10	≤60	≤0.08	≤0.3	≤1.5°

Pinion Specification

Module	No of teeth	Pressure Angle (°)	Hole Diameter (mm)	Reduction Ratio
0.5	10	20	Φ2.5	1/6

Mechanical Dimension



PLANETARY
GEARBOX 36/14 (inch)



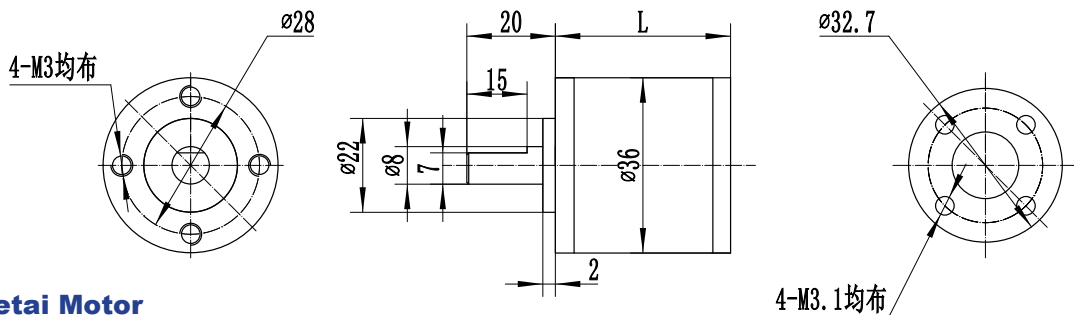
Product Specification

Housing Material	Bearing at output	Radial load (10mm from flange) (N)	Shaft axial load (N)	Shaft press fit force max (N)	Radial play of shaft (mm)	Thrust play of shaft (mm)	Backlash at no-load
Metal	Ball Bearing	≤50	≤30	≤120	≤0.07	≤0.3	≤1.5°

Pinion Specification

Module	No of teeth	Pressure Angle (°)	Hole Diameter (mm)	Reduction Ratio
0.6	10	20	Φ4	1/5 1/20 1/25 1/76 1/94 1/117
0.6	13	20	Φ4	1/16 1/62

Mechanical Dimension



PLANETARY
GEARBOX 42/17 (inch)



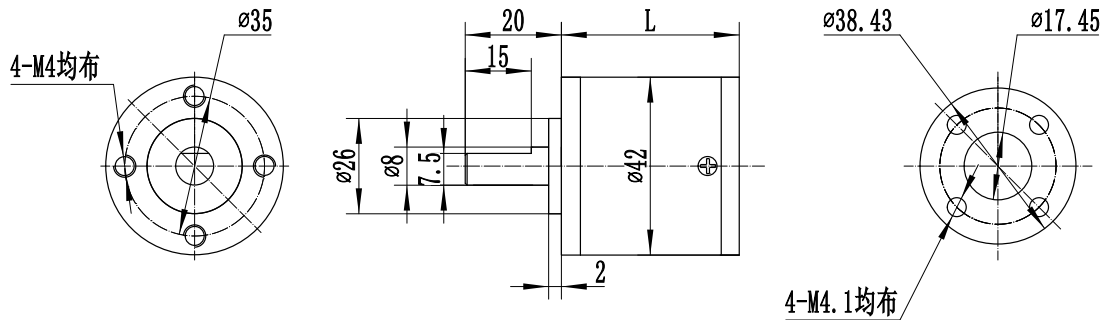
Product Specification

Housing Material	Bearing at output	Radial load (10mm from flange) (N)	Shaft axial load (N)	Shaft press fit force max (N)	Radial play of shaft (mm)	Thrust play of shaft (mm)	Backlash at no-load
Metal	Ball Bearing	≤80	≤30	≤150	≤0.06	≤0.3	≤1.5°

Pinion Specification

Module	No of teeth	Pressure Angle (°)	Hole Diameter (mm)	Reduction Ratio
0.54	18	20	Φ5	1/4 1/15 1/18 1/54 1/65 1/81
0.54	12	20	Φ4	1/6 1/21 1/25 1/36 1/73 1/90 1/112 1/126 1/155 1/216

Mechanical Dimension



PLANETARY
GEARBOX 52/20 (inch)



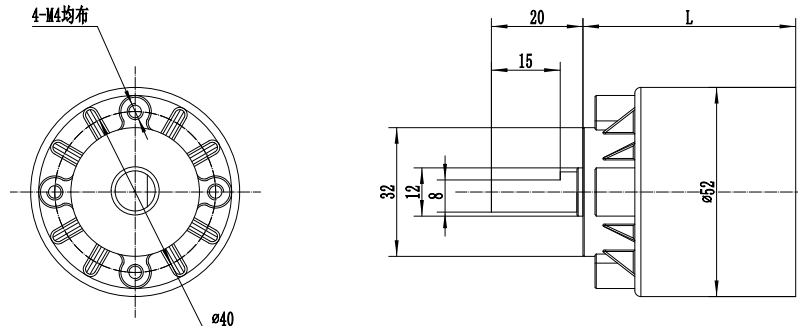
Product Specification

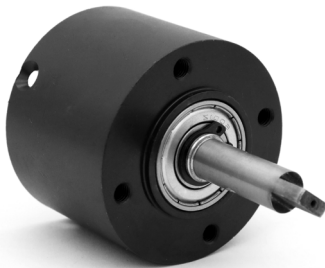
Housing Material	Bearing at output	Radial load (10mm from flange) (N)	Shaft axial load (N)	Shaft press fit force max (N)	Radial play of shaft (mm)	Thrust play of shaft (mm)	Backlash at no-load
Metal	Ball Bearing	≤250	100	≤300	≤0.08	≤0.43	≤1.5°

Pinion Specification

Module	No of teeth	Helical Angle (°)	Reduction Ratio
0.8 Short teeth	4	18	1/13

Mechanical Dimension





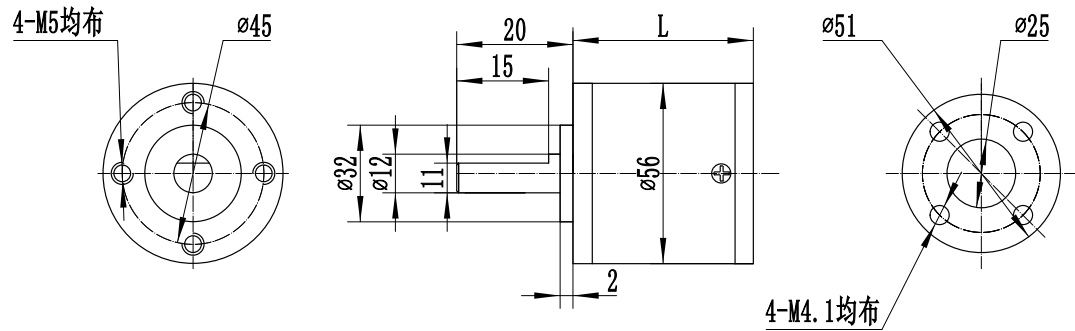
Product Specification

Housing Material	Bearing at output	Radial load (10mm from flange) (N)	Shaft axial load (N)	Shaft press fit force max (N)	Radial play of shaft (mm)	Thrust play of shaft (mm)	Backlash at no-load
Metal	Ball Bearing	≤50	≤30	≤120	≤0.07	≤0.3	≤1.5°

Pinion Specification

Module	No of teeth	Pressure Angle (°)	Hole Diameter (mm)	Reduction Ratio	
1.05	8	20	Φ4	1/6	1/26
1.05	12	20	Φ6	1/15	1/18

Mechanical Dimension



*Planetary GearBox of 28, 36, 42, 52, 56 (mm) external diameter can match with Hybrid Stepping Motor Series and DC Brushless Motor Series.

*To find out more details please read HeTai Planetary Gearbox Brochure.

*Products can be customized by special request.

Servo Motor Series

Model Naming Rules

ES Series	60 Seat NO.	05 Polar logarithm	A Voltage	-100 Power	D Inertia	30 Speed	A Encoder	I Structure	-001 Derivation of the same
-----------	-------------	--------------------	-----------	------------	-----------	----------	-----------	-------------	-----------------------------

For example: ES6005A-100D30A1

Series	Code	Meaning
Series	ES	High efficiency servo motor

Series	Code	Meaning
Series	40	40*40mm
	60	60*60mm
	80	80*80mm
	110	110*110mm
	130	130*130mm

Polar logarithm	Code	Meaning
Polar logarithm	04	4对极
	05	5对极
	08	8对极

Voltage	Code	Meaning
Voltage	A	310VDC(220VAC)
	B	380VAC
	C	155VDC(110VAC)
	D	110VDC
	E	80VDC
	F	60VDC
	G	48VDC
	H	36VDC
	K	24VDC

Power	Code	Meaning
Power	10	100W
	20	200W
	40	400W
	75	750W
	95	950W
	100	1KW
	120	1.2KW
	135	1.35KW
	150	1.5KW
	180	1.8KW
	200	2KW
	240	2.4KW
	300	3KW
	330	3.3KW
	400	4KW
	420	4.2KW
	500	5KW
	510	5.1KW

Inertia	Code	Meaning
Inertia	S	Small inertia
	D	Medium inertia
	E	Large inertia
	H	Increase of inertia

Speed	Code	Meaning
Speed	6	600rpm
	10	1000rpm
	15	1500rpm
	20	2000rpm
	30	3000rpm
	Other	code*100

Encoder	Code	Meaning
Encoder	A	Tamagawa single ring absolute value 17 bit (When the incremental 17 bit is used)
	B	Incremental 2500ppr (Optical encoder)
	L	Tamagawa single ring absolute value 17bit
	M	Rotary transformer
	Y	Yuheng multi ring absolute value 17bit
	No letter or K	No encoders
	P	Tamagawa single ring absolute value 23bit
	N	Nikon multi ring absolute value 24bit

Structure	Code	Meaning
Structure	1	Key shaft, Oil seal, No brake
	2	Key shaft, Oil seal, Brake
	3	Key shaft, NO oil seal, No brake
	4	Key shaft, NO oil seal, Brake
	5	Optic axis, Oil seal, No brake
	6	Optic axis, Oil seal, Brake
	7	Optic axis, NO oil seal, No brake
	8	Optic axis, NO oil seal, Brake

Connection Details

1.1 40;60;80 Series

Motor Wire: 4 PIN

PIN	FUNCTION	COLOUR
1	U	Red
2	V	White
3	W	Black
4	GND	Yellow/Green



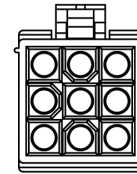
4 PIN



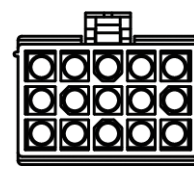
6 PIN

Motor Wire with Brake: 6 PIN

PIN	FUNCTION	COLOUR
1	U	Red
2	V	White
3	W	Black
4	GND	Yellow/Green
5	Brake	Yellow
6	Brake	Blue

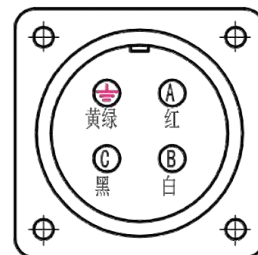


9 PIN



15 PIN

4 PIN (Resolver)



1.2 130 Series

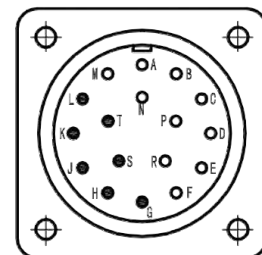
Motor Wire: 4 PIN

PIN	FUNCTION	COLOUR
A	U	Red
B	V	White
C	W	Black
⏏	Motor PE	Yellow/Green

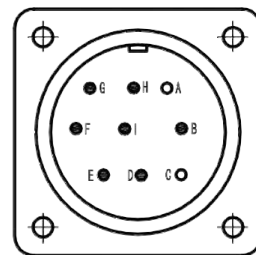
Motor Wire + Brake : 9 PIN

PIN	FUNCTION	COLOUR
F	U	Red
I	V	White
B	W	Black
H	Brake	Black
G	Brake	Black
E	Motor PE	Yellow/Green
D	Motor PE	Yellow/Green

17 PIN (Encoder)



9 PIN (Resolver)



2. Encoder Connection

Encoder Type A: 6 PIN

PIN	FUNCTION	COLOUR
1	NC	
2	SD	Blue
3	SD-	Purple
4	Vcc	White
5	GND	Black
6	Shield	/

Encoder Type B: 15 PIN

PIN	FUNCTION	COLOUR
1	Shield	NC
2	DC+5V	Red
3	GND	Black
4	B	Green
5	Z-	Yellow/White
6	U	Brown
7	Z	Yellow
8	U-	Brown/White
9	A	Grey
10	W	Orange
11	V	Blue
12	W-	Orange/White
13	A-	Grey/White
14	B-	Green/White
15	V-	Blue/White

Encoder Type L: 9 PIN

PIN	FUNCTION	COLOUR
1	OV	Black
2		/
3		Blue
4	+5V	Red
5	BAT-	Brown/Black
6	BAT+	Brown
7	SD-	Blue/Black
8		/
9	GND	Grey (Shield)

Encoder Type L: 17 PIN

PIN	FUNCTION	COLOUR
H	+5V	Red
G	0V	Black
T	BAT+	Brown
S	BAT-	Brown/Black
K	SD+	Blue
L	SD-	Blue/Black
J	GND	Grey

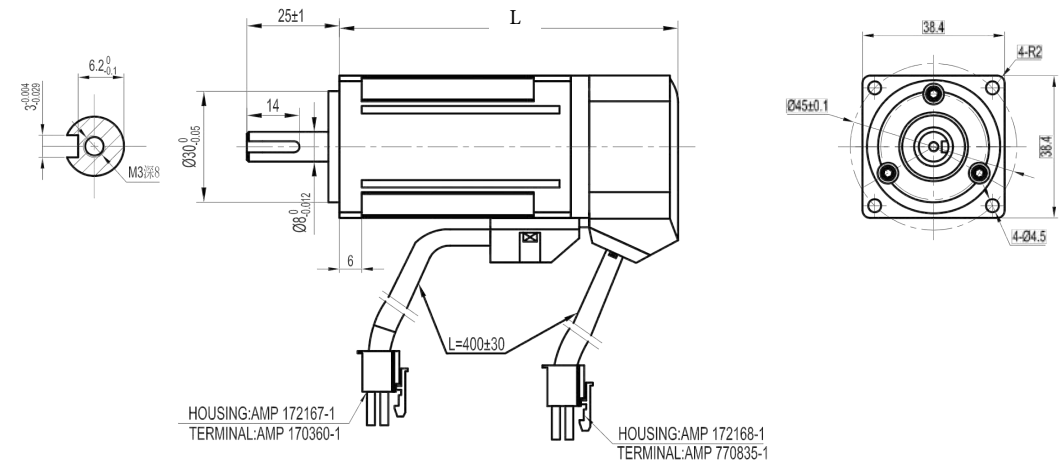
Encoder Type N: 9 PIN

PIN	FUNCTION	COLOUR
1	SD+	Blue
2	SD-	Purple
3	BAT+	Orange
4		/
5		/
6	+5V	White
7	0V	Black
8	BAT-	Brown
9	Shield	Shield

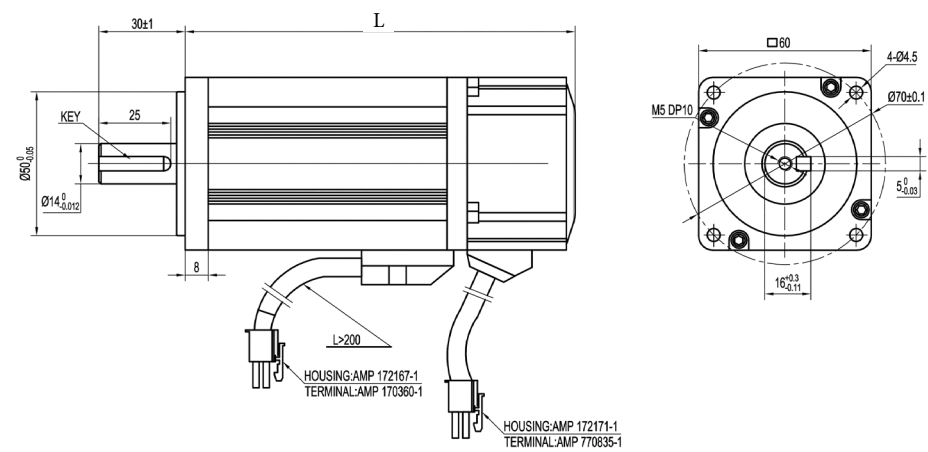
Mechanical Dimension

1.Without Brake Series

40 Series



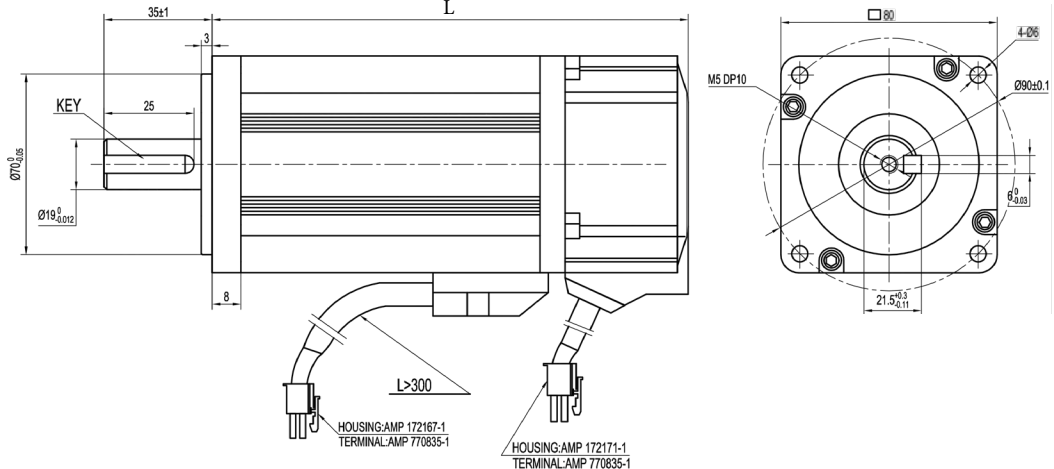
60 Series



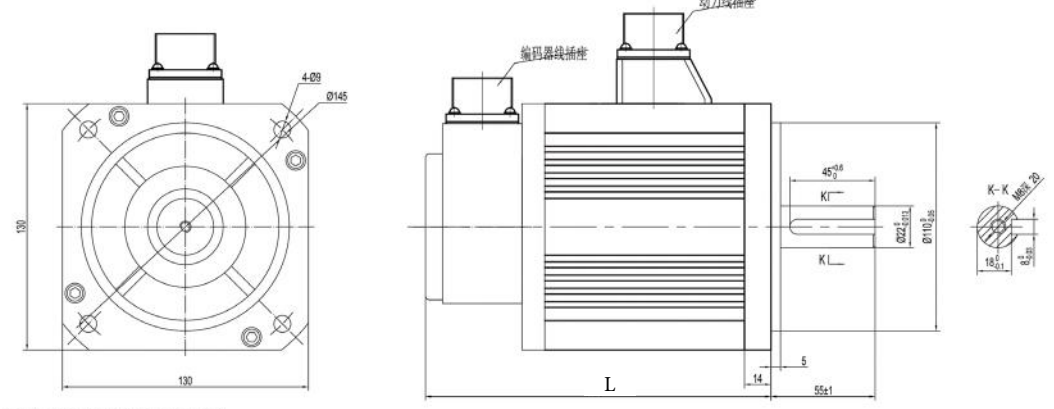
Type		40		60	
Encoder	Power	50W	100W	200W	400W
	Motor Length L (mm)				
	A		91.5	101	121
	B				136
	L		97	116	136
	N	65	85	81	

Type		40		60	
Encoder	Power	50W	100W	200W	400W
	Motor Weight (Kg)				
	A		0.48	0.98	1.28
	B				1.35
	L		0.52	1.05	1.42
	N	0.34	0.45	0.86	

80 Series



130 Series

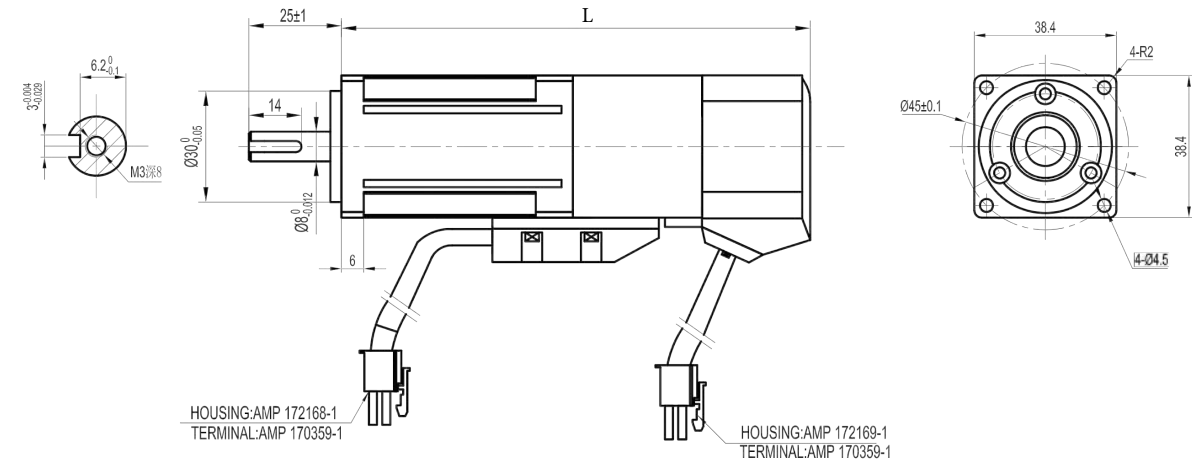


Type		80	130			
Encoder	Power	750W	1kW	1.5kW	2kW	4kW
	Motor Length L (mm)					
	A	125				
	B	141				
	L	141	143.5	157	171	226
	N					

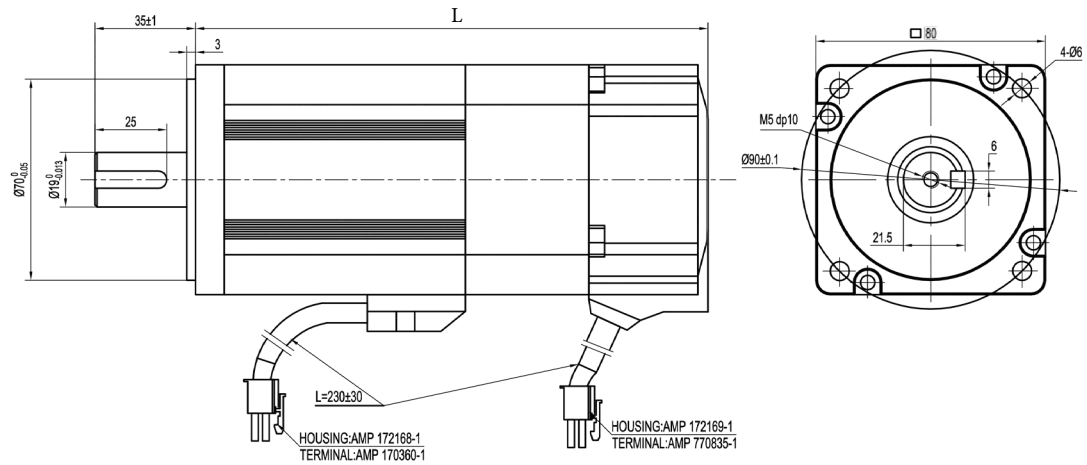
Type		80	130			
Encoder	Power	750W	1kW	1.5kW	2kW	4kW
	Motor Weight (Kg)					
	A	2.42				
	B	2.43				
	L	2.43	5	6.09	7.2	11.4
	N					

2.With Brake Series

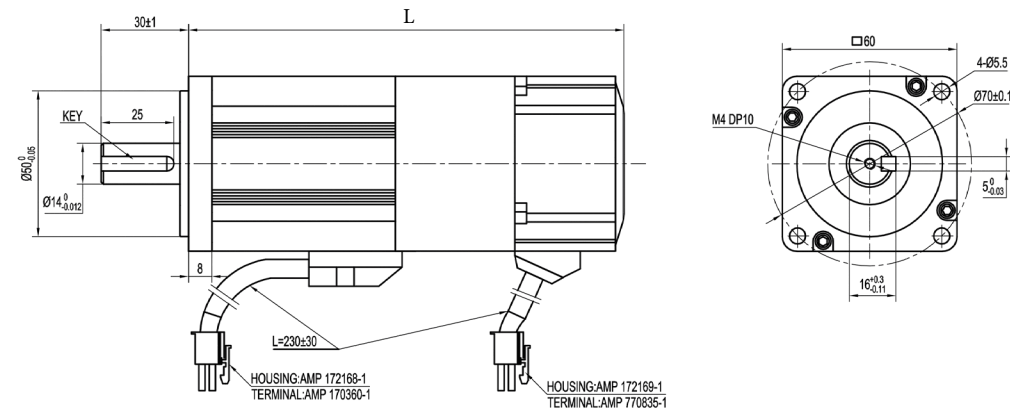
40 Series



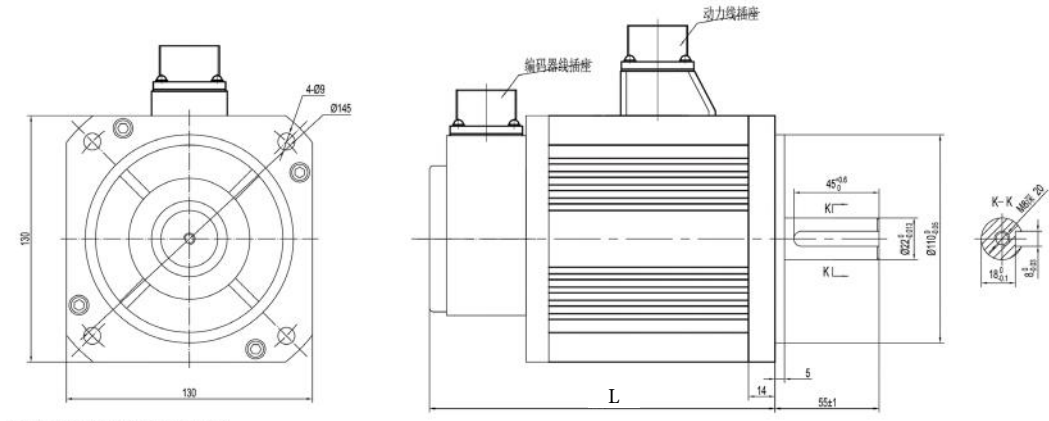
80 Series



60 Series



130 Series



Type		40		60	
Encoder	Power	50W	100W	200W	400W
	Motor Length L (mm)				
	A		127	135	155
	B				169
	L		127	150	170
	N	95	115	113	

Type		40		60	
Encoder	Power	50W	100W	200W	400W
	Motor Weight (Kg)				
	A		0.72	1.46	1.85
	B				1.80
	L		0.72	1.47	1.86
	N	0.58	0.76	1.23	

Type		80	130			
Encoder	Power	750W	1kW	1.5kW	2kW	4kW
	Motor Length L (mm)					
	A	125.5				
	B	172				
	L	179	182.5	196	210	262
	N					

Type		80	130			
Encoder	Power	750W	1kW	1.5kW	2kW	4kW
	Motor Weight (Kg)					
	A	3.47				
	B	2.45				
	L	3.49	7.26	8.34	9.47	13.6
	N					

40 Series

» SERVO MOTOR

General Specifications



Insulation Class	F
Protection Level	IP65
Environment Requirement	Work: 0°C~+55°C Preserve: 20°C~80°C Work or Preserve: 90%RH (No Condensation) Above Sea Level 1000m Vibration: 5.88/S 2.10-60Hz

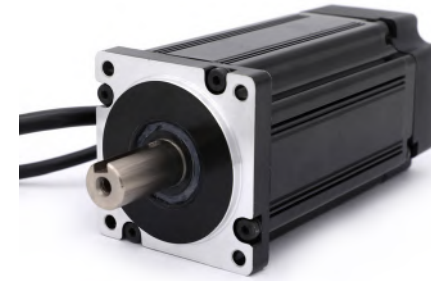
Technical Specifications

Model	ES4004A-10D30A1 ES4004A-10D30N1 ES4004A-10D30A2	ES4004A-10D30N2-001 ES4004A-10D30L1 ES4004A-10D30L2	ES4005A-05S30N1-001 ES4005A-05S30N2-001
Rated Power (Watts)	100		50
Rated Voltage (VDC)	310		310
Rated Current (Amps)	1.2		0.56
Rated Speed (RPM)	3000		3000
Rated Torque (N.m)	0.32		0.16
Peak Torque (N.m)	0.96		0.48
Back EMF Constant (V/kRPM)	16		16
Torque Coefficient (N.M/Amps)	0.265		0.265
Rotor Inertia (Kg.cm²)	0.045		0.03
Line-line Resistance (Ω)	11		23
Line-line Inductance (mH)	8		16
Mechanical time-constant (Ms)	0.86		0.86

60 Series

» SERVO MOTOR

General Specifications

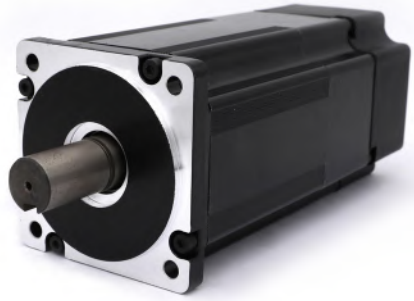


Insulation Class	F
Protection Level	IP65
Environment Requirement	Work: 0°C~+55°C Preserve: 20°C~80°C Work or Preserve: 90%RH (No Condensation) Above Sea Level 1000m Vibration: 5.88/S 2.10-60Hz

Technical Specifications

Model	ES6004A-40S30B1 ES6004A-40S30B2	ES6005A-40D30A2 ES6005A-40D30L1	ES6005A-40D30L2 ES6005A-40D30A1	ES6005A-20S30N1-T ES6005A-20S30N2-T ES6005A-20D30L1	ES6005A-20D30L2 ES6005A-20D30A1 ES6005A-20D30A2
Rated Power (Watts)	400			200	
Rated Voltage (VDC)	310				
Rated Current (Amps)	2.65			1.6	
Rated Speed (RPM)	3000				
Rated Torque (N.m)	1.27			0.64	
Peak Torque (N.m)	3.81			1.91	
Back EMF Constant (V/kRPM)	32				
Torque Coefficient (N.M/Amps)	0.48			0.45	
Rotor Inertia (Kg.cm²)	0.67			0.42	
Line-line Resistance (Ω)	3.5	3.7		8.8	
Line-line Inductance (mH)	8.0	12.0		24.0	
Mechanical time-constant (Ms)	1.3				

80 Series



» SERVO MOTOR

General Specifications

Insulation Class	F
Protection Level	IP65
Environment Requirement	Work: 0°C~+55°C Preserve: 20°C~80°C Work or Preserve: 90%RH (No Condensation) Above Sea Level 1000m Vibration: 5.88/S 2.10-60Hz

Technical Specifications

Model	ES8004A-75S30B1	ES8005A-75D30A1	ES8005A-75D30A2	ES8005A-75D30B2	ES8005A-75D30L1	ES8005A-75D30L2
Rated Power (Watts)			750			
Rated Voltage (VDC)			310			
Rated Current (Amps)			4.0			
Rated Speed (RPM)			3000			
Rated Torque (N.m)			2.4			
Peak Torque (N.m)			7.2			
Back EMF Constant (V/kRPM)			39			
Torque Coefficient (N.M/Amps)			0.6			
Rotor Inertia (Kg.cm²)			1.51			
Line-line Resistance (Ω)	1.4			1.5		
Line-line Inductance (mH)	9.0			11.0		

130 Series



» SERVO MOTOR

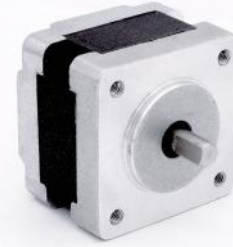
General Specifications

Insulation Class	F
Protection Level	IP65
Environment Requirement	Work: 0°C~+55°C Preserve: 20°C~80°C Work or Preserve: 90%RH (No Condensation) Above Sea Level 1000m Vibration: 5.88/S 2.10-60Hz

Technical Specifications

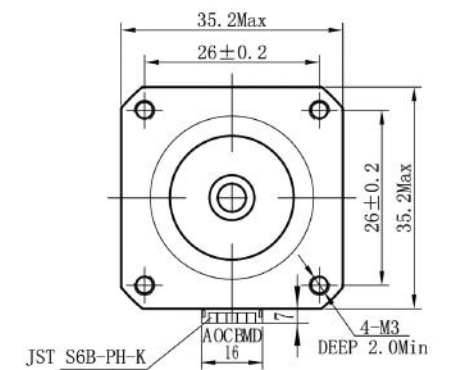
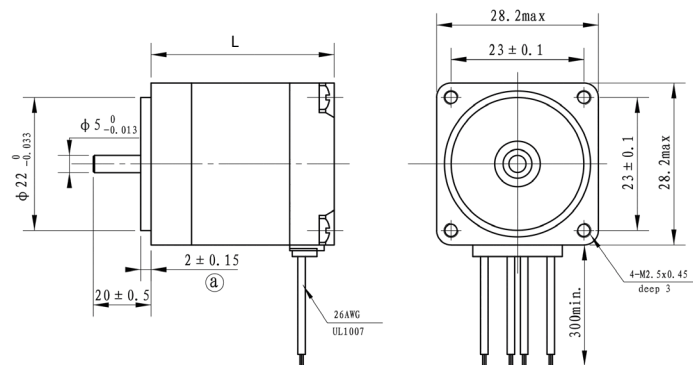
Model	ES13005A-100D20L1	ES13005A-100D20L2	ES13005A-150D20L1	ES13005A-150D20L2	ES13005A-200D20L1	ES13005A-200D20L2	ES13005A-400D10L1	ES13005A-400D10L2
Rated Power (Watts)	1000		1500		2000		2000	
Rated Voltage (VDC)	310							
Rated Current (Amps)	5.5		8.8		12.0		9.5	
Rated Speed (RPM)	2000						1000	
Rated Torque (N.m)	4.70		8.80		9.55		20.00	
Peak Torque (N.m)	14.70		21.60		28.65		40.00	
Back EMF Constant (V/kRPM)	55		62		80	55	153	
Torque Coefficient (N.M/Amps)	0.6				0.79	0.6	1.5	
Rotor Inertia (Kg.cm²)	4.5		6.7		8.9			17.8
Line-line Resistance (Ω)	1.20		0.80		0.50	0.46	1.10	
Line-line Inductance (mH)	12.0		8.4		5.4	6.5	13.7	

HYBRID STEPPING MOTOR



Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	28N (20mm from front flange)
Max Axial Force	10N

Model	Step Angle	Lead Wire	Voltage	Current	Resistance	Inductance	Holding Torque	Motor Height	Motor Weight
	(°/Step)	(NO.)	(V)	(A/Phase)	(Ω/Phase)	(mH/	(g.cm)	L (mm)	(Kg)
35BYGX001A	1.8	4	10.4	0.4	26	17	500	23	0.12
35BYGX200A			4.20	1	4.2	5.5	1250	29	0.12
35BYGX201A			1.45	0.5	2.9	2.6	500	29	0.13
35BYGX401A			3.20	1	3.2	3.8	1400	34	0.16



39BYGX

» HYBRID STEPPING MOTOR



General Specifications

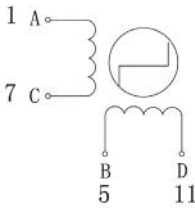
Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	28N (20mm from front flange)
Max Axial Force	10N

Technical Specifications

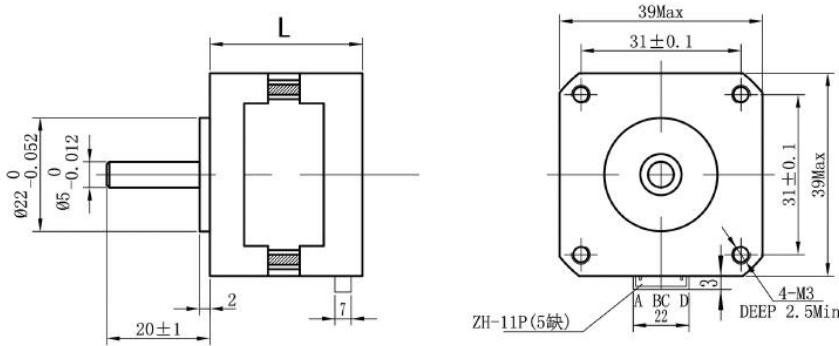
Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (g.cm)	Motor Height L (mm)	Motor Weight (Kg)
39BYGX001A	1.8	4	13.44	0.48	28	21	1000	20	0.10
39BYGX002A			8.4	0.7	12	11	1200	20	0.10
39BYGX100A			12	0.4	30	20	1300	22	0.12
39BYGX200A			14.4	0.4	36	33	1700	25	0.14

* Products can be customized by special request.

Wiring Diagram



Mechanical Dimension



42BYGH

» HYBRID STEPPING MOTOR



General Specifications

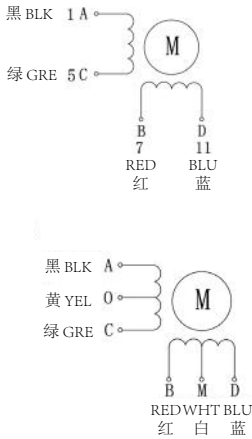
Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	28N (20mm from front flange)
Max Axial Force	10N

Technical Specifications

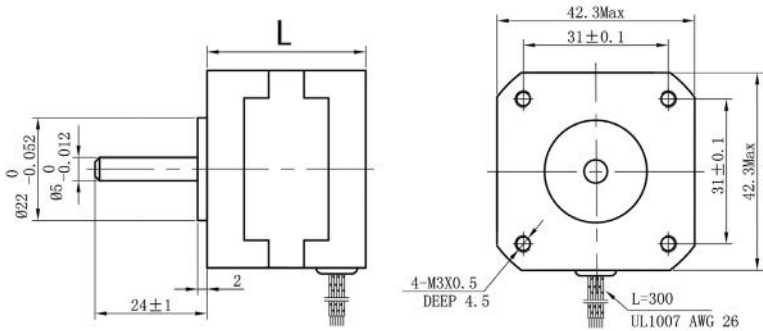
Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (g.cm)	Motor Height L (mm)	Motor Weight (Kg)
42BYGH208-52A	1.8	4	12	0.4	30	42	2500	34	0.20
42BYGH243-03		4	2.6	1	2.6	3.2	1800	34	0.20
42BYGH622-28A		4	4.8	1	4.8	6.0	2900	40	0.24
42BYGH613-68A		4	2.5	1.7	1.5	2.5	3500	40	0.24
42BYGH705-07		4	12	0.3	40	80	4000	44	0.30
42BYGH721A		6	10	0.25	40	36	2000	44	0.30
42BYGH801-36		6	12	0.4	30	22	3800	48	0.34
42BYGH872A		4	2.8	1.7	1.65	2.8	4500	48	0.34
42BYGH910-02		4	4.8	1.5	3.2	8.0	8500	60	0.49
42BYGH905-13		4	3.15	1.5	2.1	5.0	6800	60	0.49

* Products can be customized by special request.

Wiring Diagram



Mechanical Dimension



42BYGHM

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	28N (20mm from front flange)
Max Axial Force	10N

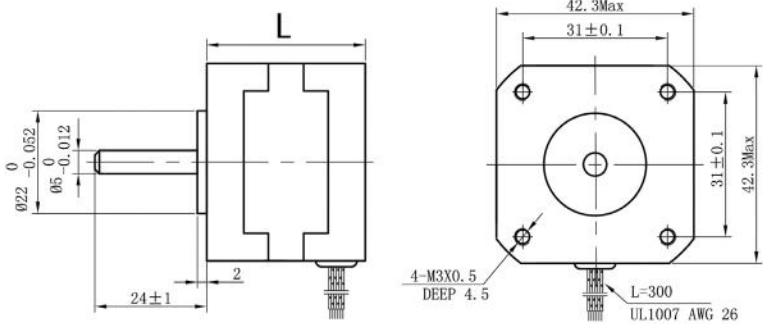
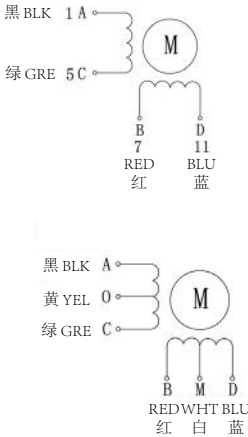
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (g.cm)	Motor Height L (mm)	Motor Weight (Kg)
42BYGHM203	0.9	4	10	0.5	20	40	2100	34	0.20
42BYGHM213-07A			8	1	8.0	13	2200	34	0.20
42BYGHM607-16			2.6	1.7	1.5	3.2	3200	40	0.24
42BYGHM619-08			11.2	0.4	28	60	2800	40	0.24
42BYGHM805			3.5	1	3.5	7.6	3700	48	0.34
42BYGHM810			2.4	2.4	1.0	1.8	4800	48	0.34

* Products can be customized by special request.

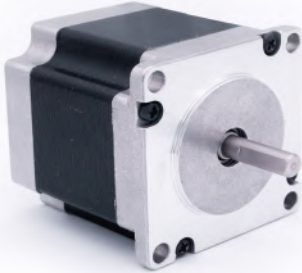
Wiring Diagram

Mechanical Dimension



57BYGH

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

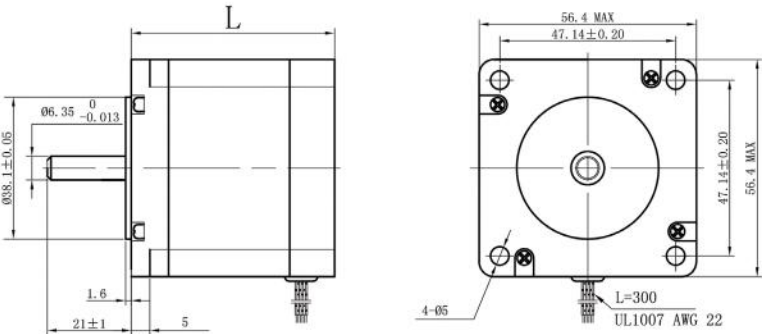
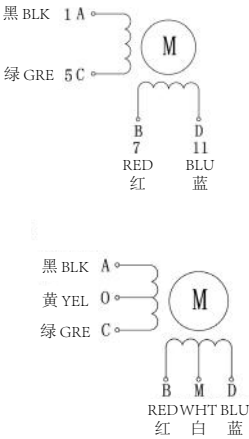
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
57BYGH001A	1.8	4	6.0	0.5	12	20	3.5	41	0.45
57BYGH048-11		4	4.4	2.0	2.2	5.0	6.0	41	0.45
57BYGH201-22A		4	6.6	0.6	11	25	7.0	51	0.65
57BYGH218-45		4	2.6	2.0	1.3	4	8.0	51	0.65
57BYGH420-77		6	3.8	2.0	1.9	3.5	9.0	56	0.70
57BYGH432-63A		6	2.4	3.0	0.8	1.2	9.0	56	0.70
57BYGH633-131		6	3.0	3.0	1.0	1.8	13.5	78	1.00
57BYGH639-10E		4	2.1	4.2	0.5	1.6	18	78	1.00
57BYGH801-01		6	3.3	3.0	1.1	2.5	16	84	1.13
57BYGH815		4	7.36	1.6	4.6	16	20	84	1.13

* Products can be customized by special request.

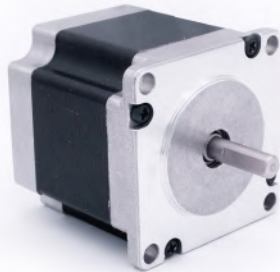
Wiring Diagram

Mechanical Dimension



57BYGHM

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

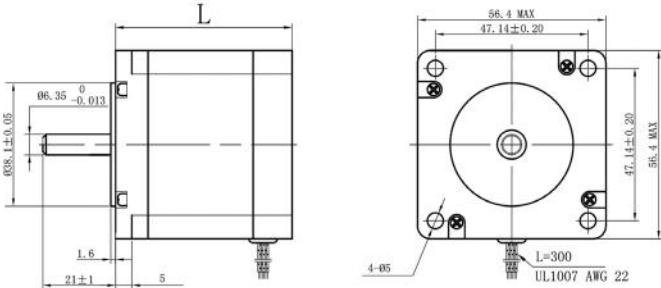
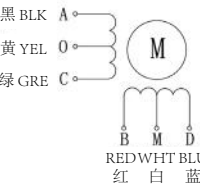
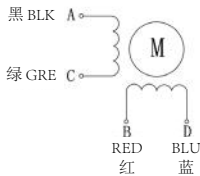
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
57BYGHM002-01	0.9	6	2.8	2.0	1.4	2.0	3.5	41	0.45
57BYGHM200-03A		4	3.4	1.0	3.4	12	7.0	51	0.56
57BYGHM203-04		6	12	0.38	32.0	38	5.5	51	0.56
57BYGHM401-09		6	7.4	1.0	7.4	17	9.0	56	0.70
57BYGHM414		4	1.7	4.2	0.4	1.0	11	56	0.70
57BYGHM604-17		4	3.2	2.8	1.13	6.4	15	78	1.00
57BYGHM601-05		6	8.6	1.0	8.6	20	13	78	1.00

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension



57BYGH350

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

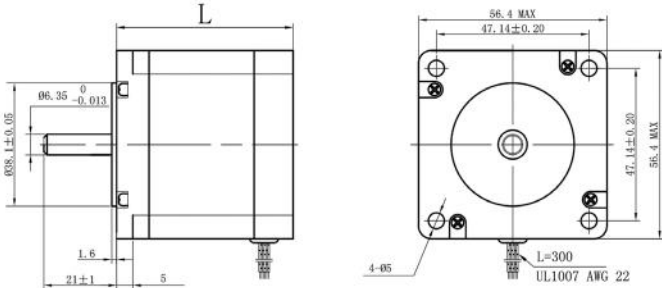
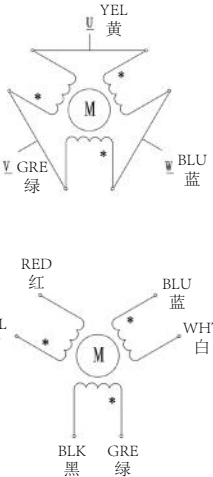
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
57BYGH350A-001	1.2	6	3.12	2.4	3.4	4.0	4.0	41	0.45
57BYGH350A-002		3	5.0	0.5	10	16	2.0	41	0.45
57BYGH350B-001		3	2.52	5.6	0.45	1.1	9.0	56	0.69
57BYGH350B-002		6	5.28	2.4	4.9	8.4	8.0	56	0.75
57BYGH350C-001-09		3	2.6	5.2	0.5	1.4	12	76	1.05
57BYGH350C-005-01		3	9.0	1.0	9.0	21	9	76	1.10

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension



57BYGN

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

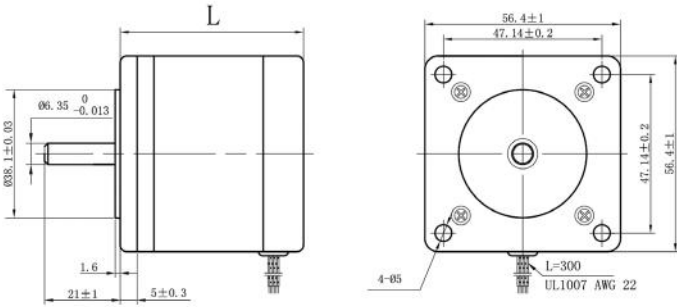
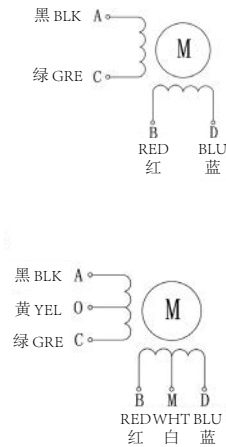
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
57BYGN001	1.8	6	12	0.38	32	25	3.0	41	0.45
57BYGN027		4	2.8	1.4	2.1	3.5	3.9	41	0.45
57BYGN200-19A		6	5	1.0	5.0	11.5	5.8	51	0.65
57BYGN204		6	11.2	0.4	28	30	3.8	51	0.65
57BYGN400-11A		4	5.5	1.1	5.0	12	7.8	56	0.70
57BYGN412		4	4.4	2.0	2.2	6.3	9.0	56	0.70

* Products can be customized by special request.

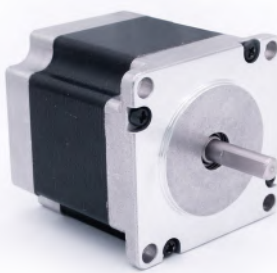
Wiring Diagram

Mechanical Dimension



57HN

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

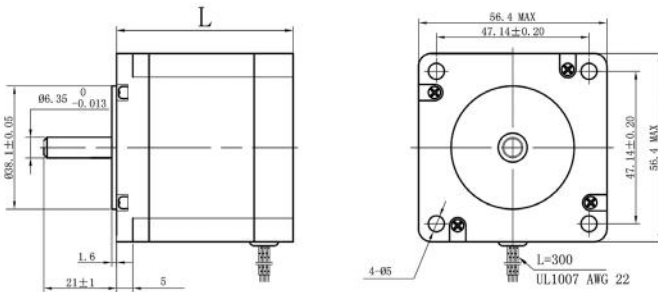
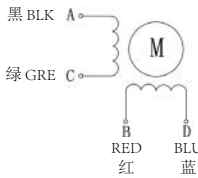
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
57HN41-001-01	1.8	4	2.1	4.2	0.5	1.4	9.5	41	0.43
57HN41-003-04			7.0	1.0	7.0	14.7	9.0	41	0.43
57HN46-005A			2.3	4.2	0.55	1.5	10.6	46	0.54
57HN46-003A			8.2	1.0	8.2	18	10.5	46	0.54
57HN51-003A			1.5	3.0	0.5	1.4	9.5	51	0.63
57HN51-005			4.0	2.0	2.0	6.5	12	51	0.63
57HN56-002			9.0	2.5	3.6	11	15	56	0.68
57HN56-005-02			6.8	1.0	6.8	24	12	56	0.68
57HN67-001-15			5.76	1.6	3.6	12	19	67	0.70
57HN67-004-07			1.5	3.0	0.5	1.8	14	67	0.70

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension



60BYGH

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

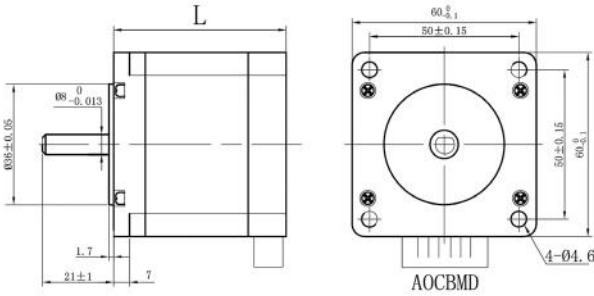
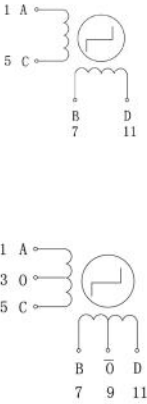
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
60BYGH402-13A	1.8	6	2.4	3.0	0.8	1.6	10	56	0.77
60BYGH410-05A		4	6.0	1.0	6.0	16	12.5	56	0.77
60BYGH502-03A		4	5.32	1.4	3.8	10	12.5	64	1.00
60BYGH500		6	3.6	1.5	8.4	8.0	12.5	64	1.00
60BYGH805-56		4	2.8	4.0	0.8	3.5	23.5	87	1.34
60BYGH808A		4	4.5	3.0	1.5	5.0	26	87	1.34

* Products can be customized by special request.

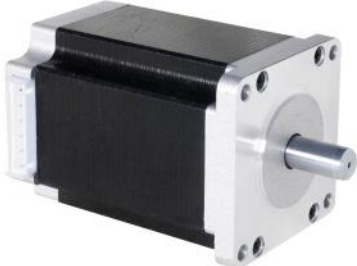
Wiring Diagram

Mechanical Dimension



60HS

» HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	75N (20mm from front flange)
Max Axial Force	15N

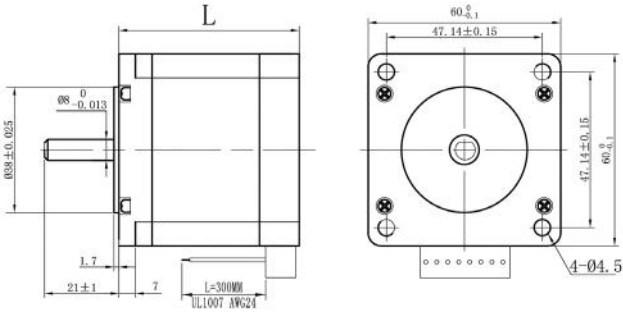
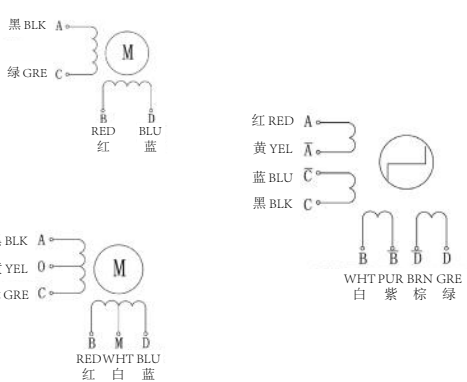
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (Kg.cm)	Motor Height L (mm)	Motor Weight (Kg)
60HS63-1506-01	1.8	6	14.7	1.5	9.8	10.6	14	63	1.0
60HS67-1804-003A		4	4.68	1.8	2.6	7.8	16	67	1.1
60HS67-2204-001		4	3.96	2.2	1.8	5.0	16	67	1.1
60HS87-3504-001		4	4.0	3.5	1.15	4.5	27	87	1.4
60HS87-3008-003		8	3.9	3.0	1.3	3.2	21	87	1.4
60HS101-3008-001		8	6.0	3.0	2.0	4.0	25	101	1.6
60HS101-4204-002		4	4.2	4.2	1.0	4.0	33	101	1.6

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension



85BYGH350

HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	220N (20mm from front flange)
Max Axial Force	60N

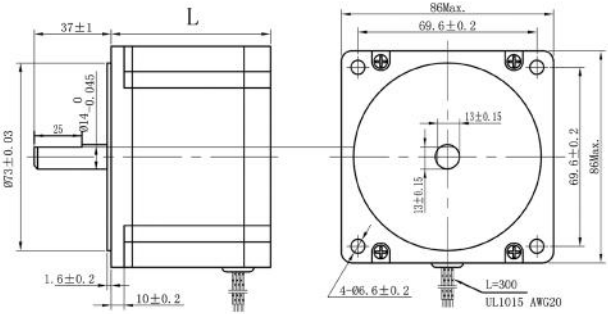
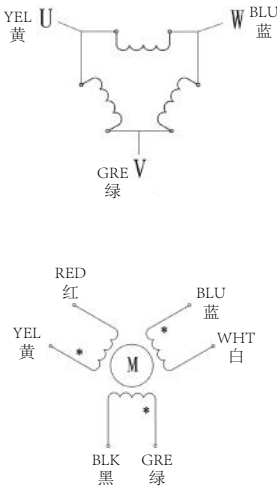
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (N.m)	Motor Height L (mm)	Motor Weight (Kg)
85BYGH350A-001	1.2	3	3.1	3.1	0.7	3.1	1.6	68	1.7
85BYGH350A-002			7.4	1.75	4.25	12.3	2.3	68	1.7
85BYGH350B-001-17			3.1	5.8	0.5	2.5	3.2	97	2.9
85BYGH350B-002-02			10.8	2.0	5.4	23.0	4.5	97	2.9
85BYGH350C-001-02			3.7	7.0	0.53	2.5	5.6	127	4.0
85BYGH350C-003			21.0	3.5	6.0	25.0	6.8	127	4.0

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension



85HS

HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	220N (20mm from front flange)
Max Axial Force	60N

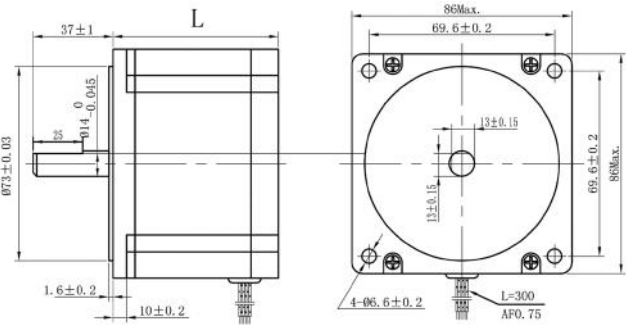
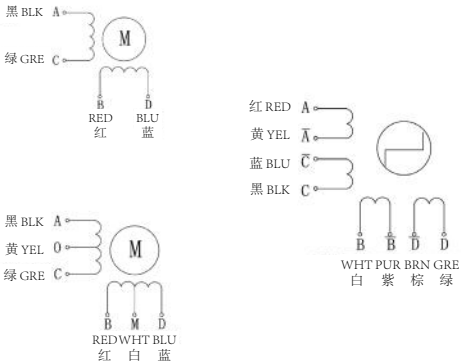
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (N.m)	Motor Height L (mm)	Motor Weight (Kg)
85HS68-1404-001	1.8	4	5.6	1.4	4.0	24.0	2.8	68	1.8
85HS68-4004-001		4	2.4	4.0	0.6	2.8	2.8	68	1.8
85HS80-4208-001-02		8	4.6	2.97	1.55	6.76	3.2	80	2.3
85HS80-5504-001-06		4	1.6	4.0	0.4	3.5	3.0	80	2.3
85HS97-3008-001		8	1.8	3.0	1.6	8.0	5.0	97	2.8
85HS97-4006-001		6	3.4	4.0	1.0	5.0	4.4	97	2.8
85HS116-4208-001		8	5.0	4.2	1.2	6.5	6.0	116	3.6
85HS116-5004-001		4	5.0	5.0	0.9	11.0	8.5	116	3.6
85HS126-4008-001		8	6.0	4.0	1.5	8.0	6.8	126	3.8
85HS126-6408-001		8	1.53	6.4	0.536	2.86	6.2	126	3.8
85HS131-3004-001		4	5.1	3.0	1.7	18.0	9.0	131	4.2
85HS131-7004-001		4	2.8	7.0	0.4	4.0	9.0	131	4.2
85HS155-5004-001		4	4.0	5.0	0.8	10.0	11.0	155	5.0
85HS155-6504-001		4	3.9	6.5	0.6	7.0	10.0	155	5.0

* Products can be customized by special request.

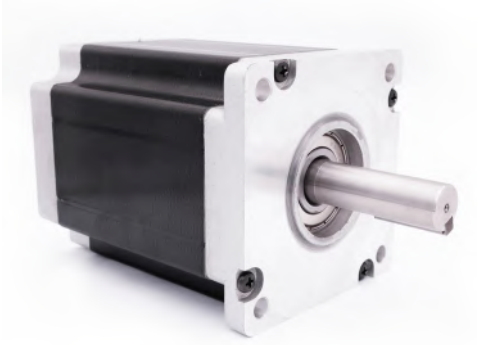
Wiring Diagram

Mechanical Dimension



110BYGH

HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	330N (20mm from front flange)
Max Axial Force	100N

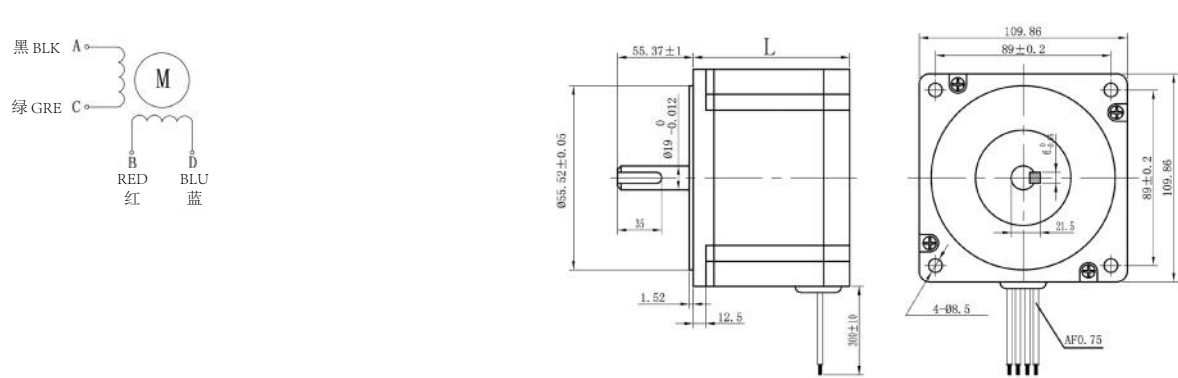
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (N.m)	Motor Height L (mm)	Motor Weight (Kg)
110BYGH80-001AG	1.8	4	9.0	6.0	1.5	14.0	8.5	80	5.0
110BYGH99-001-10			4.95	5.5	0.9	12.0	11.2	99	5.0
110BYGH150-001			5.44	6.8	0.8	12.0	21	150	8.4
110BYGH165-001-03			4.80	6.0	0.8	14.0	24	165	9.5
110BYGH201-001			5.36	8.0	0.76	16.0	30	201	12.0

* Products can be customized by special request.

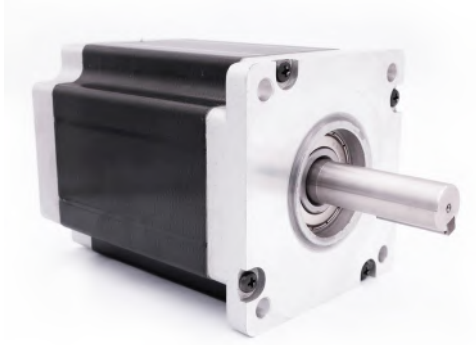
Wiring Diagram

Mechanical Dimension



110BYGH350

HYBRID STEPPING MOTOR



General Specifications

Step Accuracy	± 5%
Temperature Rise	80 °C Max
Insulation Resistance	100MΩ Min.500VC DC
Ambient Temperature	-20°C~+50°C
Dielectric Strength	500VAC 1 minute
Max Radial Force	330N (20mm from front flange)
Max Axial Force	100N

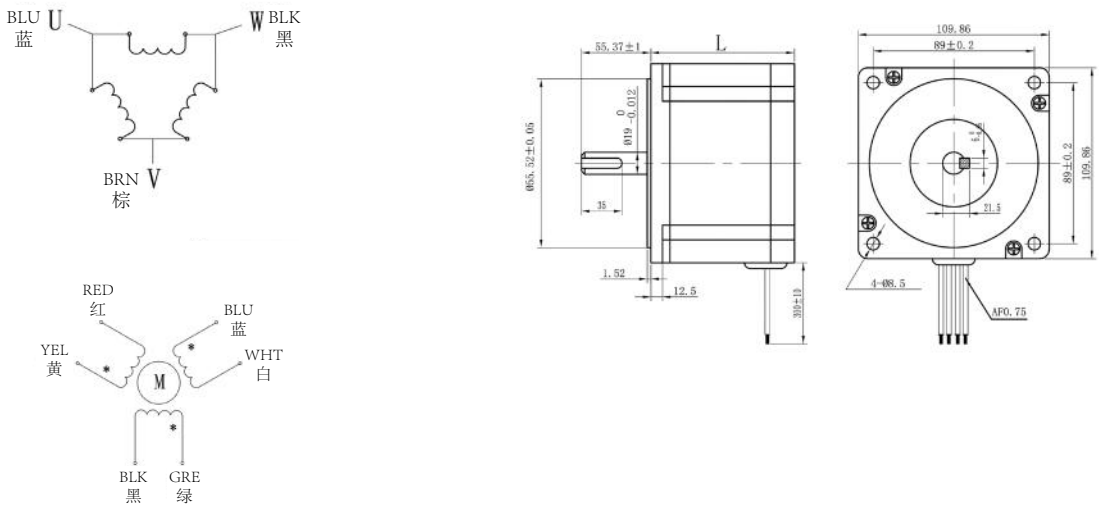
Technical Specifications

Model	Step Angle (°/Step)	Lead Wire (NO.)	Voltage (V)	Current (A/Phase)	Resistance (Ω/Phase)	Inductance (mH/Phase)	Holding Torque (N.m)	Motor Height L (mm)	Motor Weight (Kg)
110BYGH350A-001	1.2	3	6.0	4.3	1.4	9.2	10	120	6.5
110BYGH350B-001			10.2	6.0	1.7	12.0	15	148	7.4
110BYGH350C-001			13.4	6.4	2.1	14.8	19	182	9.8
110BYGH350D-001			20.0	6.9	2.9	22.0	20	216	11.7

* Products can be customized by special request.

Wiring Diagram

Mechanical Dimension

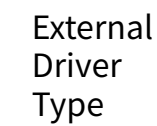


HYBRID STEPPING MOTOR



* Products can be customized by special request.

Mechanical Dimension





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Unit Coverson

Length

A \ B	mm	cm	m	Inch	Feet
mm	1	0.1	0.001	0.03937	0.003281
cm	10	1	0.01	0.3937	0.03281
m	1000	100	1	39.37	3.281
Inch	25.4	2.54	0.0254	1	0.08333
Feet	304.8	30.48	0.3048	12	1

Force

A \ B	g	kgf	oz	lb	Newton
g	1	0.001	0.03527	0.002205	0.0098
kgf	1000	1	35.27	2.205	9.807
oz	28.35	0.02835	1	39.37	0.278
lb	453.6	0.4536	16	1	4.448
Newton	102	0.102	3.597	0.2248	1

Torque

A \ B	Nm	Ncm	mNm	kgm*	kgcm*	gcm*	oz-in	lb-ft	lb-in
Nm	1	100	1000	0.102	10.2	10200	141.6	0.7376	8.851
Ncm	0.01	1	10	0.00102	0.102	102	1.416	0.007376	0.08851
mNm	0.001	0.1	1	0.000102	0.0102	10.2	0.1416	0.000738	0.008851
kgm*	9.807	980.7	9807	1	100	100000	1389	7.233	86.8
kgcm*	0.09807	9.807	98.07	0.01	1	1000	13.89	0.07233	0.868
gcm*	0.00009807	0.009807	0.009807	0.00001	0.001	1	0.01389	7.23E-05	0.000868
oz-in	0.007062	0.7062	7.062	0.0007201	0.07201	72.01	1	0.00521	0.0625
lb-ft	1.356	135.6	1356	0.1383	13.83	13830	192	1	12
lb-in	0.113	11.3	113	0.01152	1.152	1152	16	0.0833	1

Intertia

A \ B	kgm²	kgcm²	gcm²	oz-in²	oz-in-sec²	lb-in²	lb-in-sec²	lb-ft²	“lb-ft-sec² (slug ft²)”
kgm²	1	10000	10000000	54,700	142	3420	8.85	23.7	0.738
kgcm²	0.0001	1	1,000	5.47	0.0142	0.342	0.000885	0.00237	7.38E-05
gcm²	0.0000001	0.001	1	0.00547	1.42E-05	0.000342	8.85E-07	2.37E-06	7.38E-08
oz-in²	0.00001829	0.1829	183	1	0.00259	0.0625	0.000162	0.000434	1.35E-05
oz-in-sec²	0.00706	70.62	70,600	386	1	24.1	0.0625	0.168	0.00521
lb-in²	0.0002926	2.926	2,930	16	0.0414	1	0.00259	0.00694	0.000216
lb-in-sec²	0.113	1,130	1130000	6,180	16	386	1	2.68	0.0833
lb-ft²	0.0421	421.4	421,000	2,300	5.97	144	0.373	1	0.0318
“lb-ft-sec² (slug	1.36	13,600	13600000	74,100	192	4,630	12	32.2	1