

NATIONAL SERVICE HOTLINE
400-888-2657



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Website: www.yuanxindrive.com

Inverter | Photovoltaic inverter | Servo driver | Soft starter | PLC&HMI



AC SERVO DRIVE SYSTEM





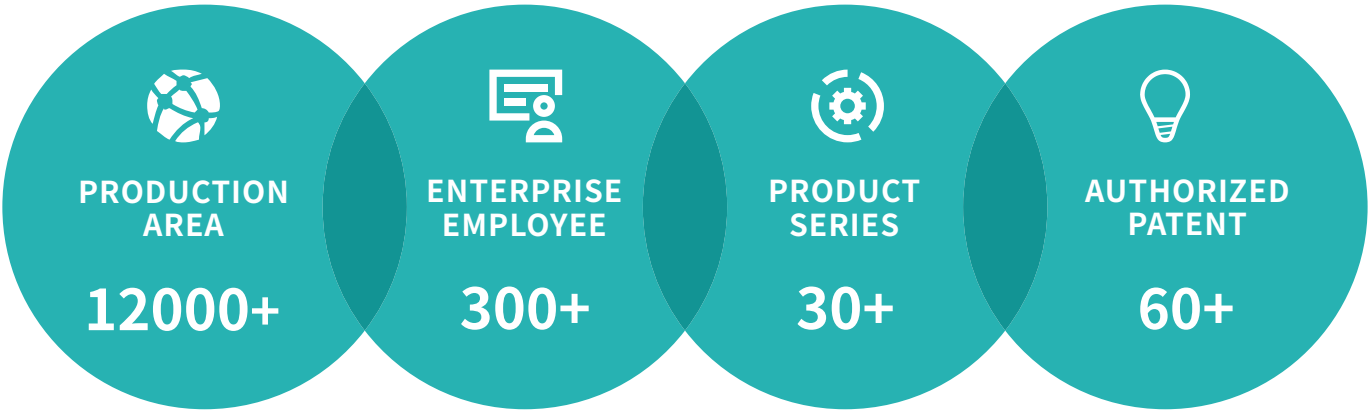
COMPANY PROFILE

- Founded in 2009, Shenzhen Yuanxin Electric Technology Co., Ltd. is a high-tech enterprise focusing on the research and development, production, sales and service of automatic transmission and control products. It has been recognized as Shenzhen High-tech Enterprise, National high-tech enterprise, Shenzhen innovative small and medium-sized enterprise, and Shenzhen Specialized new small and medium-sized enterprise.
- At present, Yuanxin Electric has many kinds, series and more than 100 kinds of products such as inverter, servo drive, photo-voltaic inverter, PLC and HMI, which fully meet the needs of various working conditions in the field of automatic transmission control, and is widely used in petroleum, chemical, plastic, cable, printing and dyeing, municipal life (sewage treatment), machine tools and other industries.
- Since its establishment, Yuanxin Electric has always adhered to the business policy of "people-oriented, realistic innovation, technology leadership and steady development", taking talents as the core concept of enterprise development, gathering industry elites, combining advanced technology and excellent management experience in the automation industry, to provide reliable products and all-round solutions for industry users.
- We focus on the future industry demand, market-oriented, customer-centric R & D and production concept, with high reliability, high performance, industry, personalized, environmental protection as the core demands of products, continuous progress, with reliable quality and sincere service to face the majority of customers, for the development of national power electronics industry and continue to move forward!



CORPORATE CULTURE

- ✓ **Corporate vision**
Driven by science and technology, we strive to become a new first-class enterprise in the automation industry.
- ✓ **Service purpose**
Customer first, heart service, work together, win-win cooperation.
- ✓ **Philosophy**
People-oriented, seeking truth from facts, rigorous innovation, continuous improvement.
- ✓ **Quality policy**
All staff participate in the construction of quality management system, so that quality control is never dead.

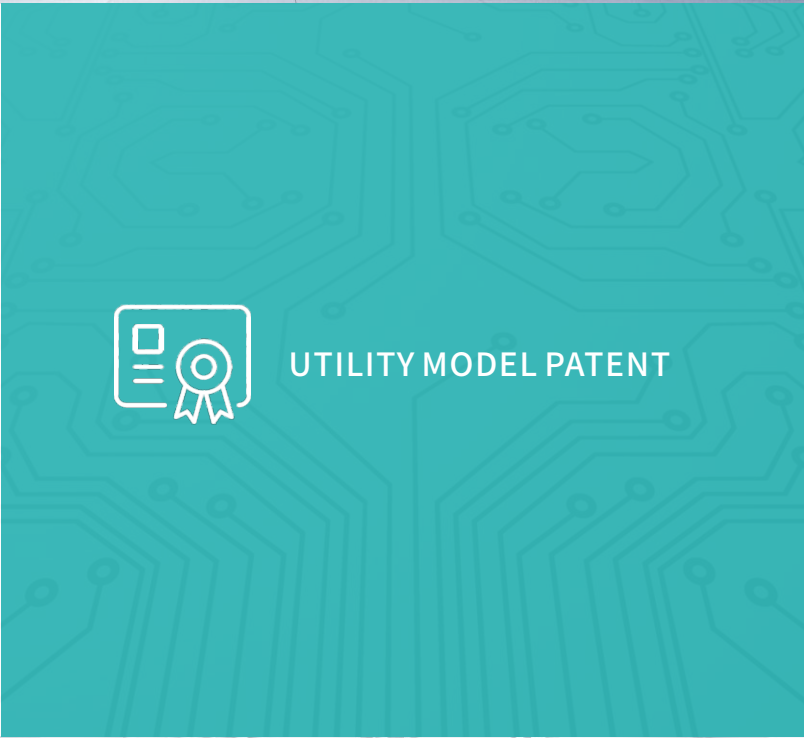
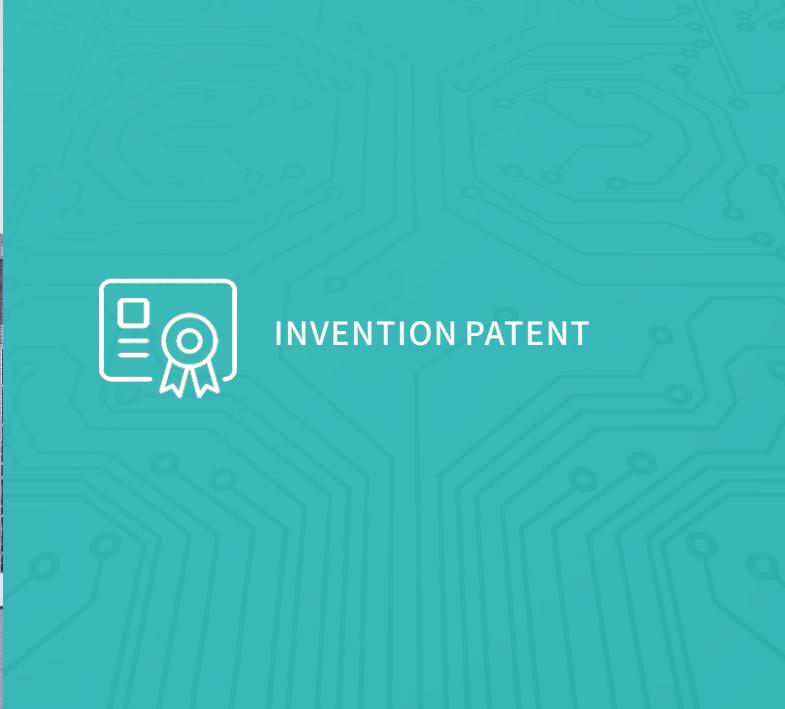


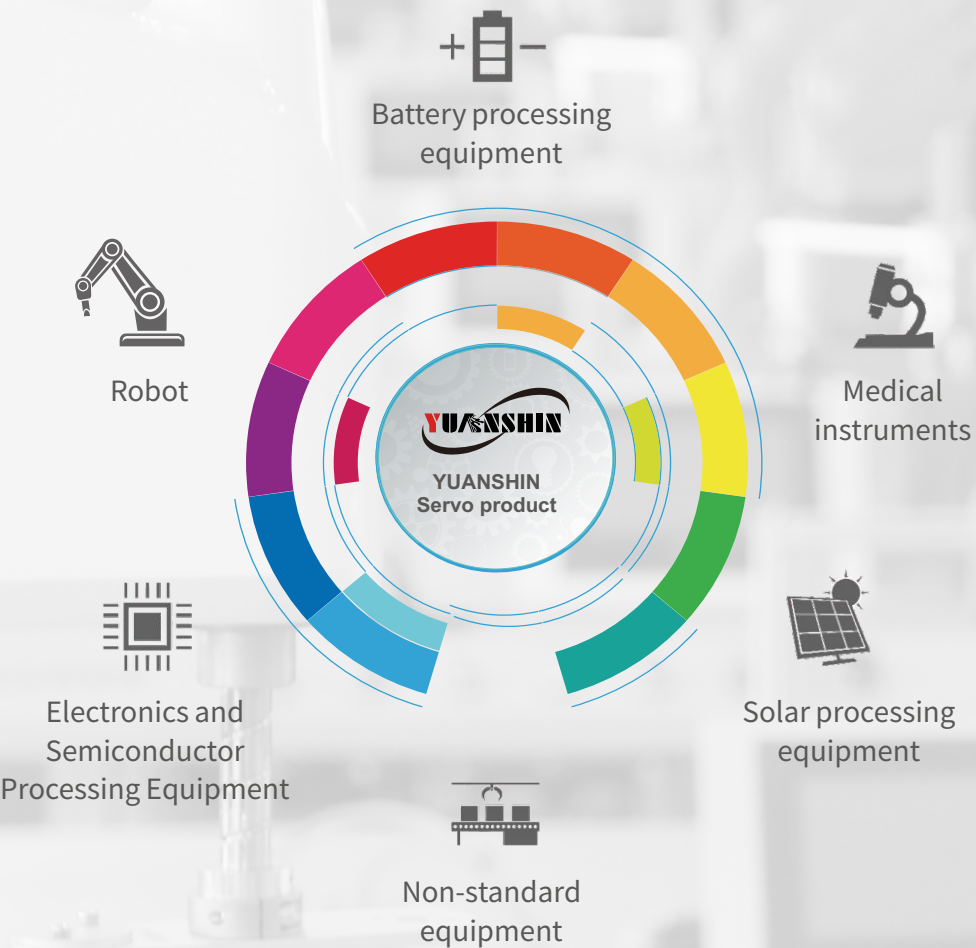


- ✘ National high tech enterprise certificate;
- ✘ Specialized, refined, and innovative certificate;
- ✘ ISO9001 certificate;
- ✘ Product quality inspection report;
- ✘ CE certification-EMC;
- ✘ CE certification-LVD.



QUALIFICATIONS





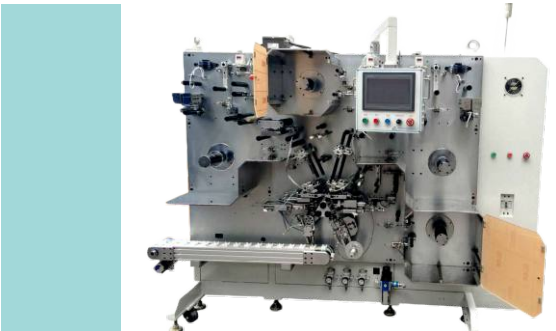
Application industry

The GS10 series has a wide power range, and the maximum torque is available with matching motors that can reach 10NM. Single-phase AC220V can reach 2.2KW driver, which is convenient for domestic power grid use and saves costs. Widely used in robots, electronic and semiconductor processing equipment, medical equipment, non-standard equipment, solar energy processing equipment, battery processing equipment, etc.



High-speed needle testing machine

Screw-type high-speed needle testing machines have very high requirements on the setting time of servo positioning. The setting time of the GS10 series servo system is less than 5MS, which fully meets the requirements of high-speed needle testing. No support needle and no overshoot appear.



Semi-automatic winding machine

The servo parameters have good load adaptability and are convenient for mass installation and debugging. It has a good control effect on the large inertia ratio, high speed and mechanical oscillation of the synchronous belt of the winding head motor.



Pole slitting machine

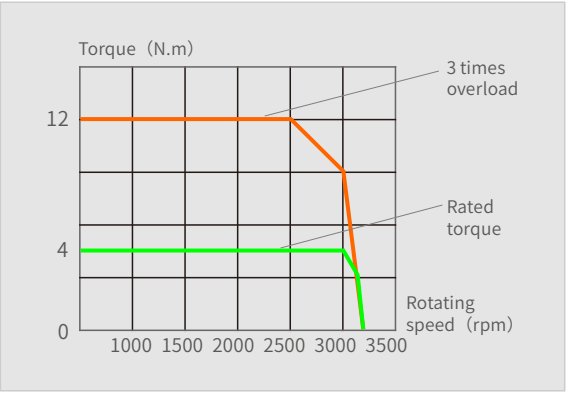
The torque control mode has high torque accuracy and multi-servo communication control is flexible and convenient. PCB's special coating treatment effectively prevents the influence of conductive powder.



CNC measuring and control machine

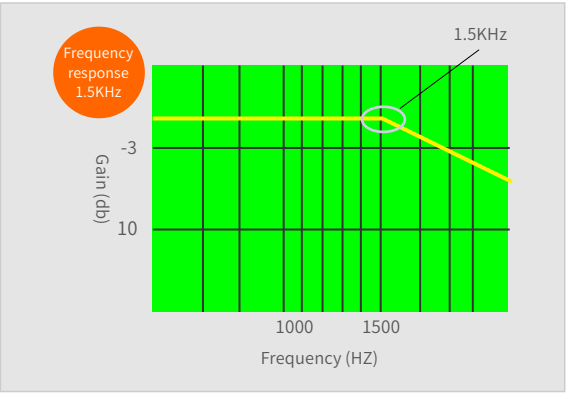
High-speed positioning, high precision, servo system accurately detects hole position, fast drilling and prevents the influence of dust and dust.

Product Features



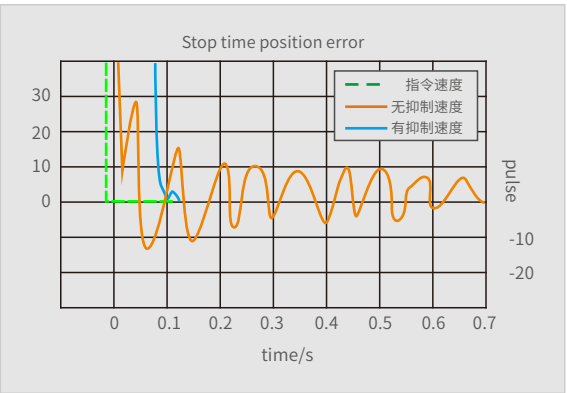
Excellent overload capability

The industrial-grade intelligent power factor has the characteristics of strong overload capability and large starting torque. It can withstand a load three times the rated torque. It is suitable for applications with instantaneous load fluctuations and requirements for quick start.



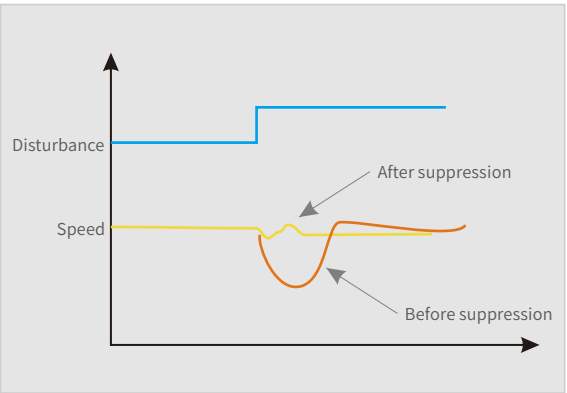
Response frequency up to 1.5KHz

Due to the adoption of advanced control algorithms such as torque feedforward, the driving speed response frequency is as high as 1.5KHz, which greatly improves the dynamic response performance, effectively shortens the overall time, and is ahead of the overall level in the industry.



Adaptive mechanical resonance suppression and low-frequency oscillation suppression

It has automatic and manual notch filters, automatic and manual vibration suppression filters, and the parameter settings are simple and convenient, which can effectively overcome mechanical resonance and suppress low-frequency oscillation and other phenomena.



Excellent external anti-interference ability

Through real-time observation of external interference and real-time dynamic compensation, speed fluctuations and torque fluctuations caused by external interference are reduced.

High-resolution feedback unit

It contains a high-resolution encoder with high precision and good low-speed performance, and is compatible with various feedback units such as wire-saving, non-wire-saving, magnetic encoder, and absolute encoder.

Communication function

The GS series driver has a standard RS485 communication interface and integrates the MODBUS communication protocol, making it easy to integrate into distributed control systems.

High speed and high performance

Apply a high-performance digital signal processor, adopt optimized PID control algorithm and instruction smoothing function to improve dynamic tracking and steady-state performance. The rated speed can generally reach 3000 rpm, and the dynamic time of motor acceleration and deceleration is short, generally within tens of milliseconds.

Excellent positioning accuracy

The standard 17-bit absolute encoder significantly improves positioning accuracy and greatly enhances low-speed stability. The control methods of position, speed, torque, speed trial operation and JOG operation are realized to facilitate customers to adjust the motor working status in real time.

Strong environmental adaptability

All series of motors have IP54/65 protection level, and the servo heat dissipation effect is excellent. General customers do not need to add cooling fans, saving costs.

Driver and motor naming rules

Drive naming rules

GS10 P - 2S 040 - A

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Number	Name	Description
①	Driver series	Yuanxin GS10 series servo driver
②	Control type	P: pulse type N: bus type
③	Voltage level	2S: Single phase 220V 2T: Three phase 220V 4T: Three phase 380V
④	Rated power	040: 400W 075: 750W 100: 1KW 150: 1.5KW
⑤	Version number	Version A

Servo motor naming rules

GT10M - 06 01 A 013 N

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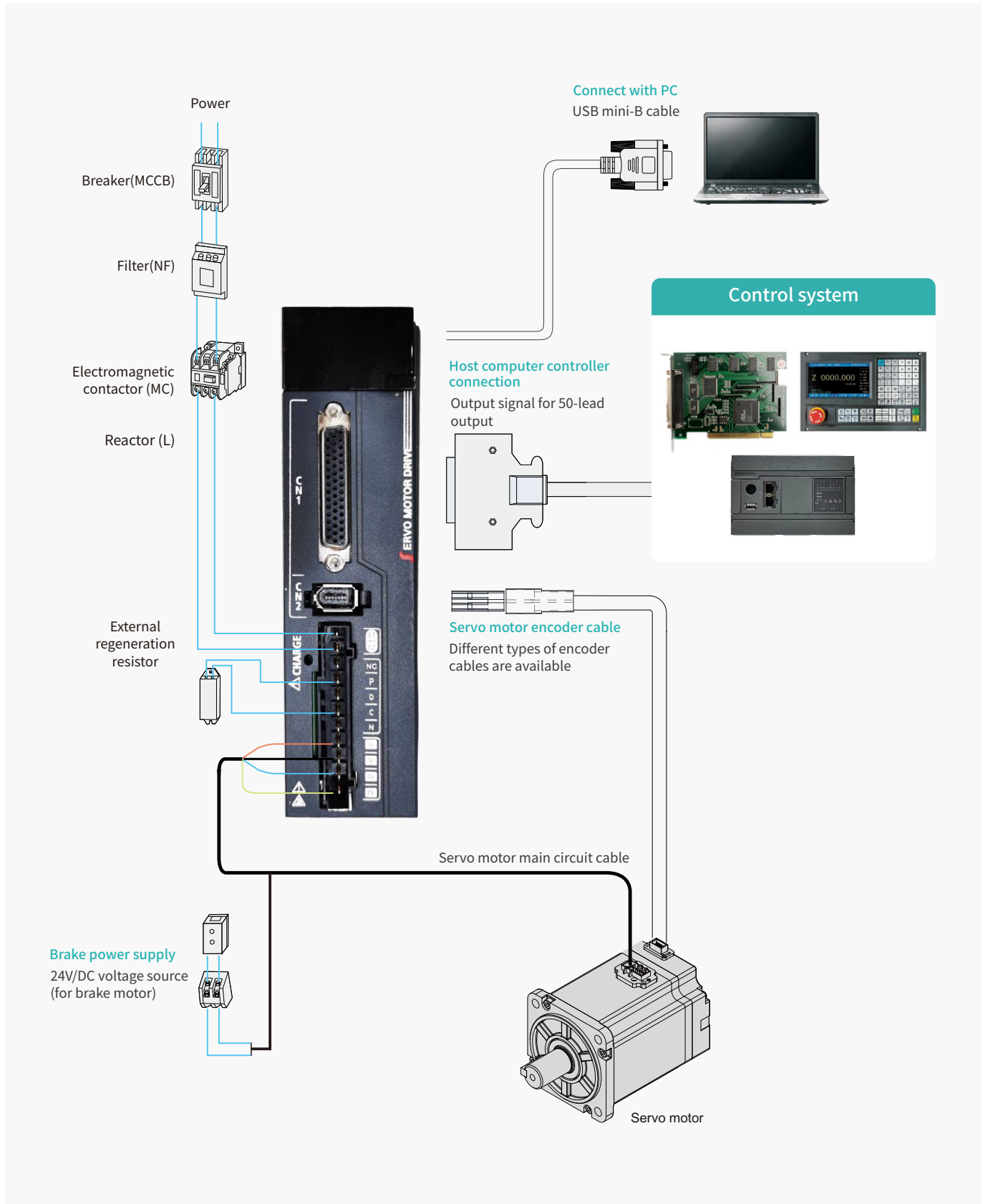
④

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⑥

Number	Name	Description
①	Motor series	Yuanxin GT10M series servo motor
②	Base type	04: 40mm; 06: 60mm; 08: 80mm; 10: 100mm; 130: 130mm.
③	Motor length	01: 1 Stacks; 02: 2 Stacks; 03: 3 Stacks; 04: 4 Stacks.
④	Encoder	A: 17-bit single-turn magnetic encoding
⑤	Rated torque (x0.1Nm)	013: 1.27Nm; 024: 2.4Nm; 032: 3.2Nm; 072: 7.2Nm.
⑥	Brake	B: With brake N: Without brake

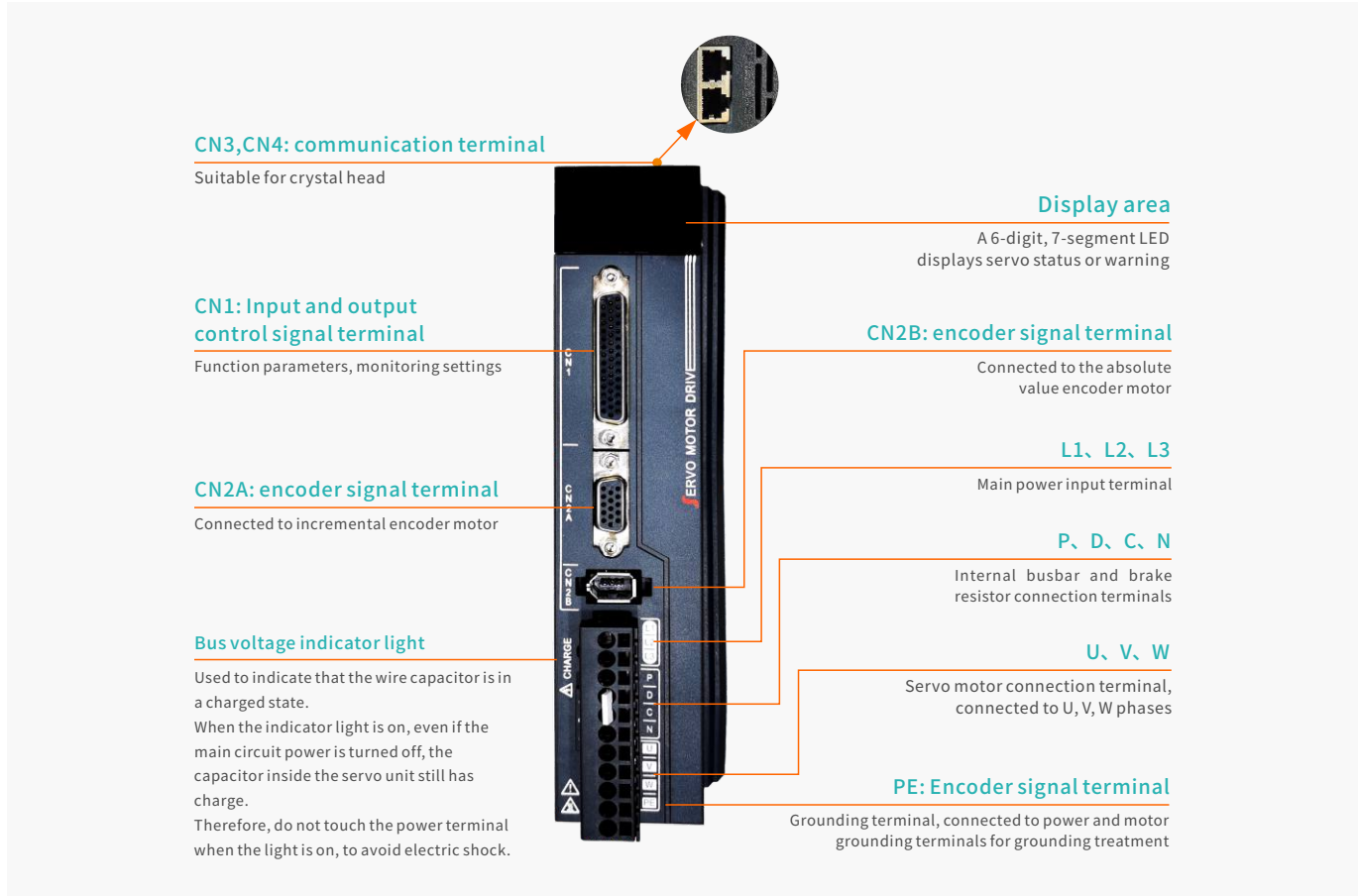
Servo control system wiring diagram



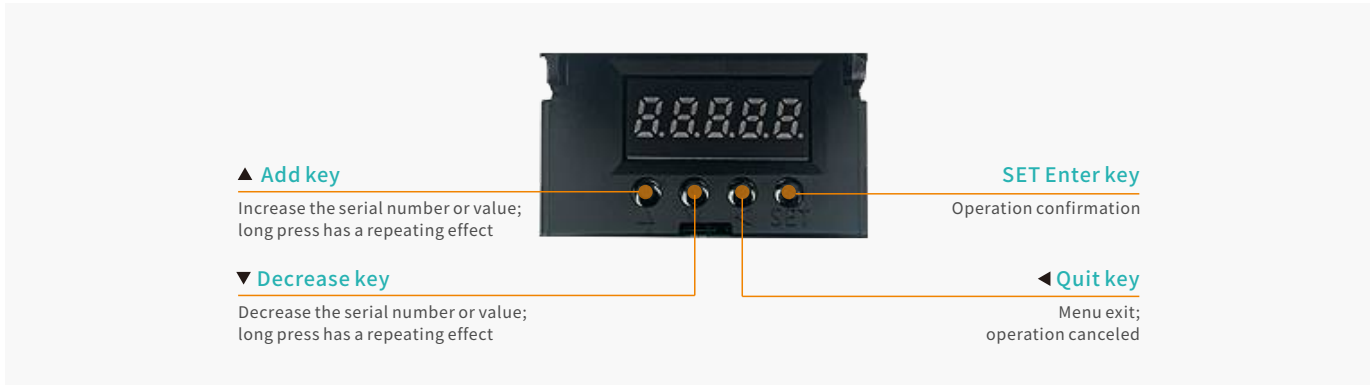
Drive specifications

Item	GS10-040	GS10-075	GS10-220
Dimension			
Output power	0.05KW~0.4KW	0.75KW~1KW	1KW~3KW
Main circuit input power	Single phase AC220V-15%~+10% 50/60Hz		
Control method	0: Position control method; 1: Speed control method; 2: Torque control method; 3: Position-speed hybrid control method; 4: Position-torque hybrid control method; 5: Speed and torque hybrid control method.		
Protective function	Over speed/main power over voltage/over current/overload/encoder abnormality/control power supply abnormality/position out of tolerance		
Monitoring function	Speed/current position/command pulse accumulation/position deviation/motor torque/motor current/operating status, etc.		
Control input	1: Servo enabled 2: Alarm clear 3: CCW driver prohibited 4: CW driver prohibited 5: Clear the deviation counter 6: Command pulse prohibition 7: CCW torque limit 8: CW torque limit		
Control output	Servo ready/servo alarm/positioning completed/mechanical brake		
Energy consumption braking	Supports built-in and external		
Applicable load	Less than 3 times the motor inertia		
Display operation	5-digit LED digital tube display, 4 operation buttons		
Communication method	Rs485		
Position control	Input method	0: pulse + direction	
		1: CCW/CW pulse	
		2: A/B two-phase orthogonal pulse	
		3: Internal position control	
	Input electronic wheel ratio	Wheel ratio numerator: 1-32767	
		Wheel ratio: 1-32767	

Drive port description

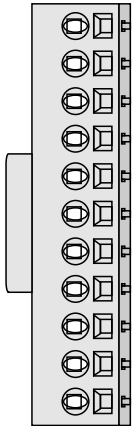


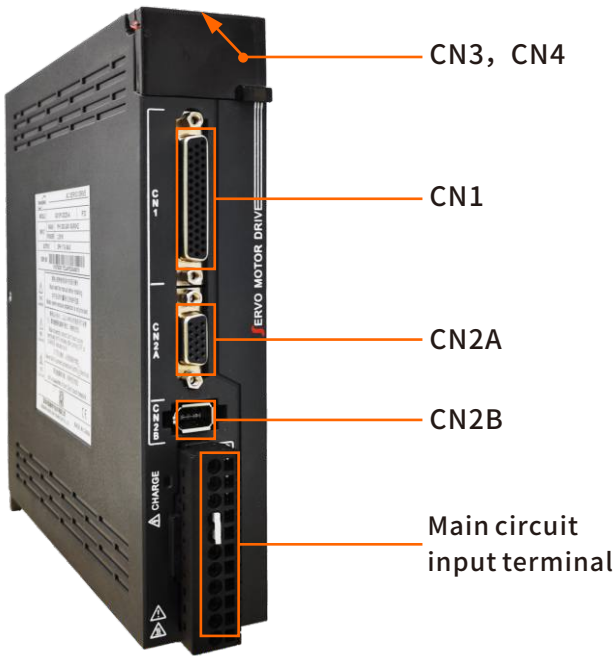
Introduction to keyboard keys



Drive Terminal Definition

Main circuit input terminal definition

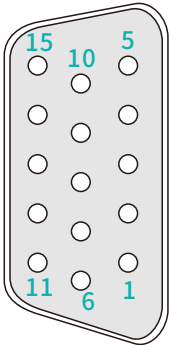
Signal name	Terminal function	Terminal diagram
L1、 L2	Single phase220VAC - 15%~+10%, 50/60Hz	
L3	Empty end	
P、 D	When using the internal braking resistor, set P and D short circuit	
P、 C	When using an external braking resistor, short-circuit P and D, and then connect the external braking resistor wiring between P and C respectively. P and N are prohibited from connecting.	
U、 V、 W	Connect to servo motor U, V, W phases	
PE	The driver ground terminal is connected to the power supply and motor ground terminals.	



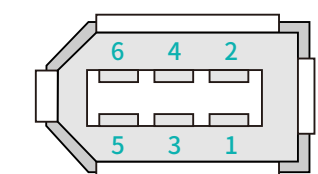
N1 terminal definition

Pin number	Signal name	Terminal function	Terminal diagram
3	DI4	Numeric input 4	

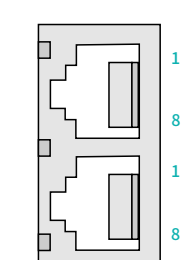
CN2A terminal definition

Pin number	Signal name	Terminal function	Terminal diagram
10	DI1	Forward overtravel switch	
9	DI2	Reverse overtravel switch	
8	DI3	Origin switch	
7	DI4	Probe 2	
11	DI5	Probe 1	
15	+24V	Internal 24V power supply, voltage range +20~28V, maximum output current 200mA	
14	COM+		
13	COM-	DI input terminal common terminal	
1	DO1+	Servo ready	
6	DO1-		
3	DO2+	Fault output	
2	DO2-		
5	DO3+	Brake	
4	DO3-		

CN2A terminal definition

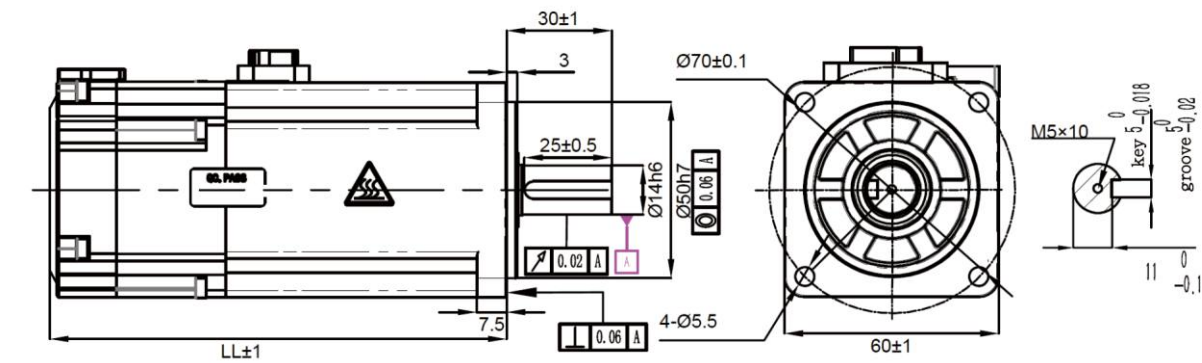
Pin number	Signal name	Terminal function	Terminal diagram
1	SD+	Absolute encoder communication positive terminal	
2	SD-	Absolute encoder communication negative terminal	
3	NC	Reserve	
4	NC	Reserve	
5	VCC	The encoder uses 5V power supply (provided by the driver). When the cable is more than 20m, in order to prevent the encoder voltage drop electric wire	
6	GND		

CN3、CN4 terminal definition

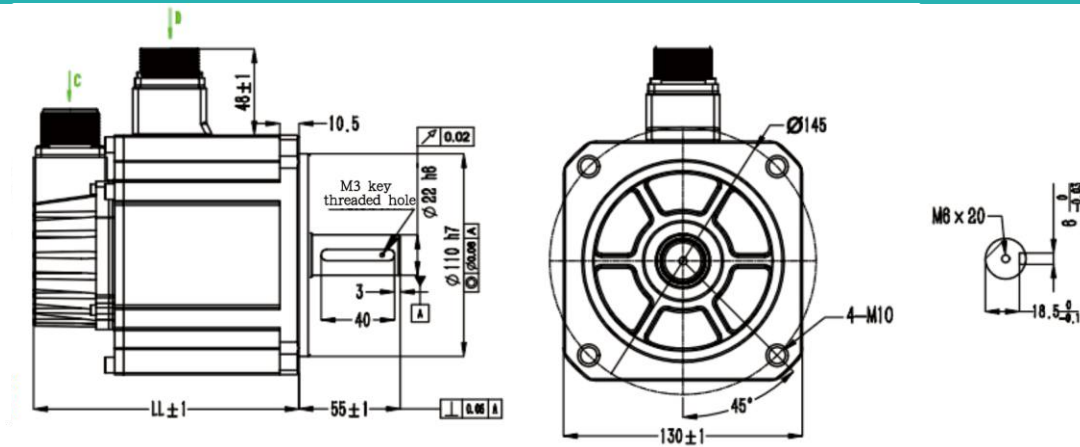
Pin number	Signal name	Terminal function	Terminal diagram
1	NC	Empty end	
2	E0V	CAN signal ground	
3	CAN H	CAN Bus interface	
4	RS485 -	Rs485 Communication interface	
5	RS485+		
6	CAN L	CAN Bus interface	
7	GND	485 signal ground	
8	NC	Empty end	

Motor size

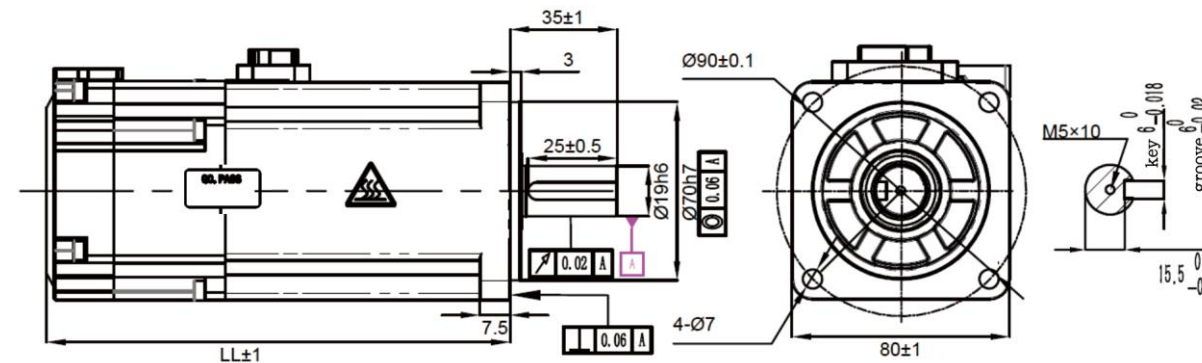
400W/220V/3000RPM



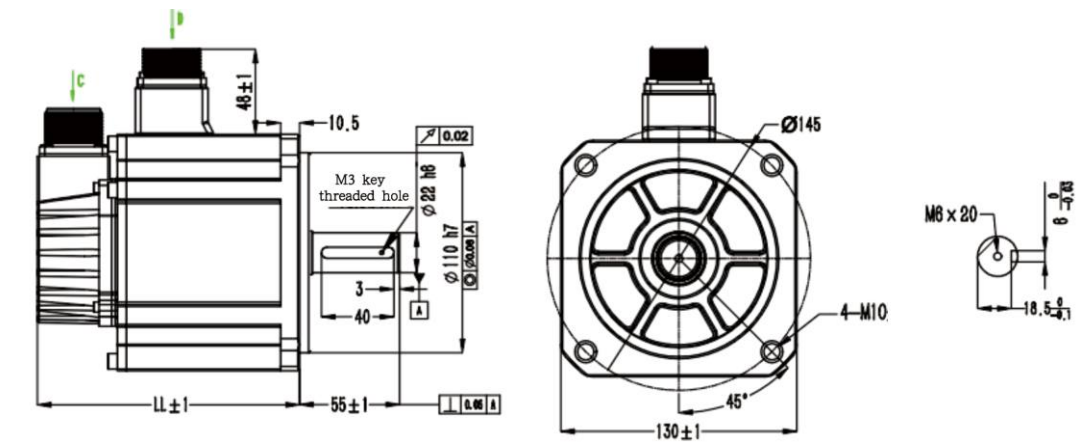
1500W/220V/3000RPM



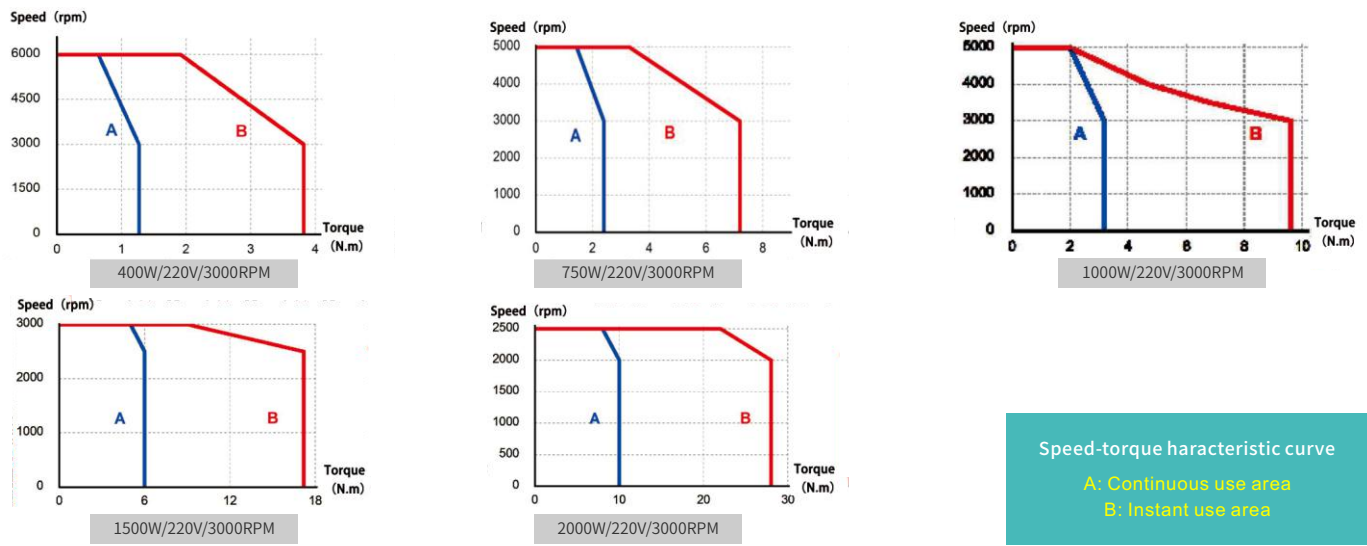
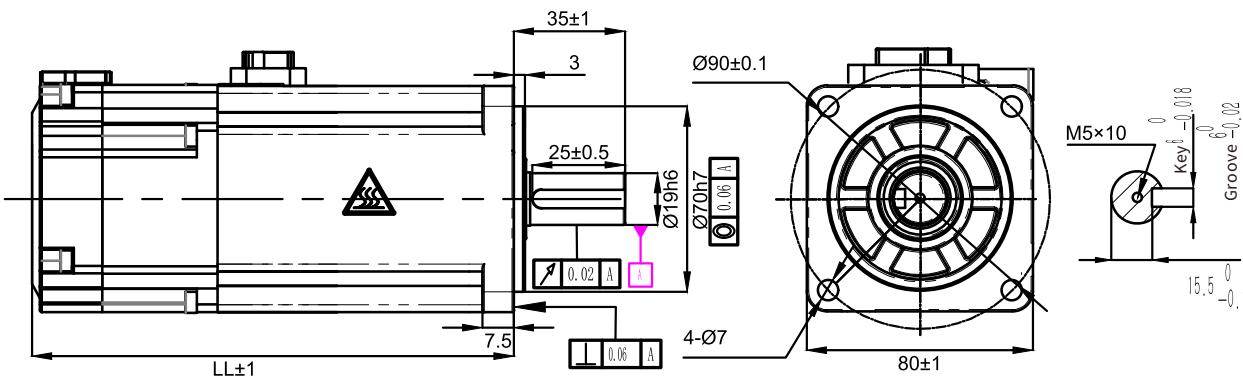
750W/220V/3000RPM



2000W/220V/3000RPM



1000W/220V/3000RPM



Speed-torque haracteristic curve
A: Continuous use area
B: Instant use area

Motor specification

Model		GT10M-0601A013	GT10M-0801A024	GT10M-1301A072	GT10M-1301A100
Rated output power	W	400	750	1500	2000
Rated speed	rpm	3000	3000	2000	2000
Maximum number of revolutions	rpm	6000	5000	3000	2500
Rated torque	Nm	1.27	2.4	7.2	10
Peak torque	Nm	3.83	7.2	21	28
Rated current	A(rms)	2.8	4.8	8	8
Peak current	A(rms)	8.4	14.4	24	23
Reaction potential coefficient ±5%	X10^(-3)V/rpm	27.5	35	60.5	73.7
Torque coefficient ±5%	Nm/A(rms)	0.42	0.5	0.94	1.22
Moment of inertia	X10^(-4)Kg.m²	0.68	1.72	10.3	12.7
Axial load	N	74	147	90	90
Radial load (shaft end)	N	245	392	480	480
Weight	Kg	1.22	2.2	6.2	7.3
Length	LL	GT10M-0601A013N--96mm GT10M-0601A013B--123mm	GT10M-0801A024N--106mm GT10M-0801A024B--140mm	GT10M-1301A072N--170mm GT10M-1301A072B--204mm	GT10M-1301A100N--170mm GT10M-1301A100B--204mm

Servo Motor and Servo Driver Adaptation Table

Base	Motor model	Motor description	Adapter drive	Drive description	Encoder
60mm	GT10M-0601A013N	400W motor 1.27Nm, rated 3000 rpm, 60 flange, without brake	GS10P-2S040-A	400W pulse type, single phase 220V	17-bit single-turn magnetic encoder
	GT10M-0601A013B	400W motor 1.27Nm, rated 3000 rpm, 60 flange, with brake			
80mm	GT10M-0801A024N	750W motor 2.4Nm, rated 3000 rpm, 80 flange, without brake	GS10P-2S075-A	750W pulse type, single phase 220V	
	GT10M-0801A024B	750W motor 2.4Nm, rated 3000 rpm, 80 flange, with brake			
	GT10M-0801A032N	1000W motor 3.2Nm, rated 3000 rpm, 80 flange, without brake			
	GT10M-0801A032B	1000W motor 3.2Nm, rated 3000 rpm, 80 flange, with brake			
130mm	GT10M-1301A072N	1500W motor 7.2Nm, rated 2000 rpm, 130 flange, without brake	GS10P-2S220-A	2200W pulse type, single phase 220V	
	GT10M-1301A072B	1500W motor 7.2Nm, rated 2000 rpm, 130 flange, with brake			
	GT10M-1301A100N	2000W motor 10Nm, rated 2000 rpm, 130 flange, without brake			
	GT10M-1301A100B	2000W motor 10Nm, rated 2000 rpm, 130 flange, with brake			

Wire naming rules

BM - 0500 - B D 00A
① ② ③ ④ ⑤

Serial number	Name	Meaning
①	Wire category	DL: Power line; BM: Encoder line
②	Wire length	0300: 3 meters; 0500: 5 meters; 0700: 7 meters; 1000: 10 meters
③	Wire color	B: Black Y: Orange G: Green
④	Applicable motor	D: Motor below 750W H: Motors above 750W
⑤	Wire material	00A: Ordinary line; 02C: 2 million times flexible line; 05C: 5 million times flexible line; 10C: 10 million times flexible line.