

GS2000T SERIES AC SERVO DRIVER

Brief introduction

Depended on proven servo technology, inducted with industrial design idea, employed three-dimensional digital simulation and thermal emulation techniques, We researched and designed GS2000T series servo drive unit, and the performances have greatly improved on drive capacity, heat emission, product design and manufacturability, etc. GS2000T series drive unit is divided into 4 structures based on different output powers. It can be adaptive to 0.5kW~6 kW AC permanent magnet synchronous motor and completely satisfied with requirements of CNC machine and automatic equipments.



GS2000T-C SERIES



GS2000T-N SERIES

Design patent NO: 201030232117.5 200930077667.1 200930077666.7 200930077665.2

Characteristics

- New industrial level IPM module, ultra strong overload drive capacity
- High power brake tube is built in, support external brake resistor, adaptive to motor's frequent on-off
- Air cooling is adopted, large thermal capacity and large surface area, the radiator has strong heat emission capacity
- Obtained design patent with brand-new structure, appearance, and good manufacturability
- GS2000T-N adopts D-SUB interface, adaptive with 5000ppr incremental encoder
- GS2000T-C adopts MDR interface, support GSK-CAN bus, adaptive with 5000ppr incremental encoder and absolute encoders of many types

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Technical Specification

Type	GS2025T	GS2030T	GS2045T	GS2050T	GS2075T	GS2100T
Adaptive rated current I (A)	$I \leq 4$	$4 < I \leq 6$	$6 < I \leq 8$	$8 < I \leq 10.5$	$10.5 < I \leq 15.5$	$15.5 < I \leq 29$
Overall dimension (mm) (W x H x L)	90 x 190 x 182			112 x 230 x 182	120 x 270 x 218	130 x 305 x 248.5
Main power	3 phase AC 220 (85%~110%) 50/60Hz					
Speed ratio	5000:1					
Speed fluctuation ratio	< rated speed * 0.01%					
Speed frequency response	$\geq 300\text{Hz}$					
Mode	Manual, JOG, internal speed, external speed and position					
Speed control	Internal speed	Manual, JOG, internal speed, external speed and position				
	External speed	Input signal to select one running speed in three levels.				
Position mode	Position command	The external given analog voltage speed command (0V~10V or -10V~10V)				
	Electronic gear	Pulse/direction, CCW pulse/CW pulse, A/B two phase quadrature pulse, pulse frequency = 1MHz				
	Position precision	Electronic gear ratio numerator: 1~32767; denominator: 1~32767.				
Motor feedback input	$\pm 0.005^\circ$ (suit for 17 bit absolute encoder) $\pm 0.018^\circ$ (suit for 5000ppr incremental encoder)					
Position feedback output	GS2000T-N: Adaptive to incremental encoder; GS2000T-C: Adaptive to absolute or the incremental encoder;					
Communication bus	GS2000T-N: Motor feedback input signal 1:1 output; GS2000T-C: Motor feedback input signal frequency demultiplication output, electronic gear ratio setting Electronic gear ratio numerator: 1~32767; denominator: 1~32767.					
Input signals	GS2000T-N: Free of communication bus; GS2000T-C: GSK-CAN bus					
Output signals	The six points include servo ready, servo alarm, position arrival/speed arrival, band-type brake release, zero speed output, Z pulse (encoder zero point)					
Protection functions	The functions include overvoltage, undervoltage, drive unit overcurrent, motor thermal overload, drive overheat, overspeed, position excess error, brake abnormal, encoder abnormal and motor overheat, etc.					
Operation and display	Five buttons for manual, JOG, rewriting parameters, setting, write-in and backup, etc; LED in 6 bits displays revolving speed, current position, command pulse accumulation, position offset, motor torque, motor current, rotor absolute position and states of input and output signals, etc.					
Brake resistance specification	Internal brake resistor (300W/30 Ω)			Internal brake resistor (500W/22 Ω)	800W/15 Ω	1200W/10 Ω

Remark:

- If GS2025T is adaptive to the servo motor below 0.8KW, the single phase and 220V power supply input can be adopted, but the drive unit performance will be lowered down.
- In the brake resistor, the bracketed are the optional external brake resistor specifications, and when the load inertia is big, they can be selected; GS2075T and GS2100T are without internal brake resistor.

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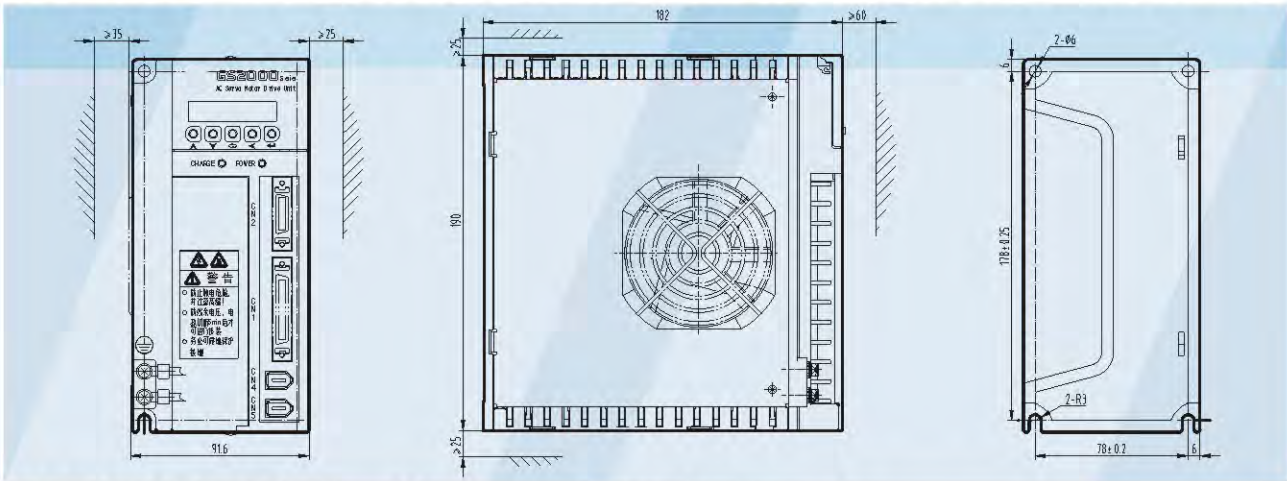
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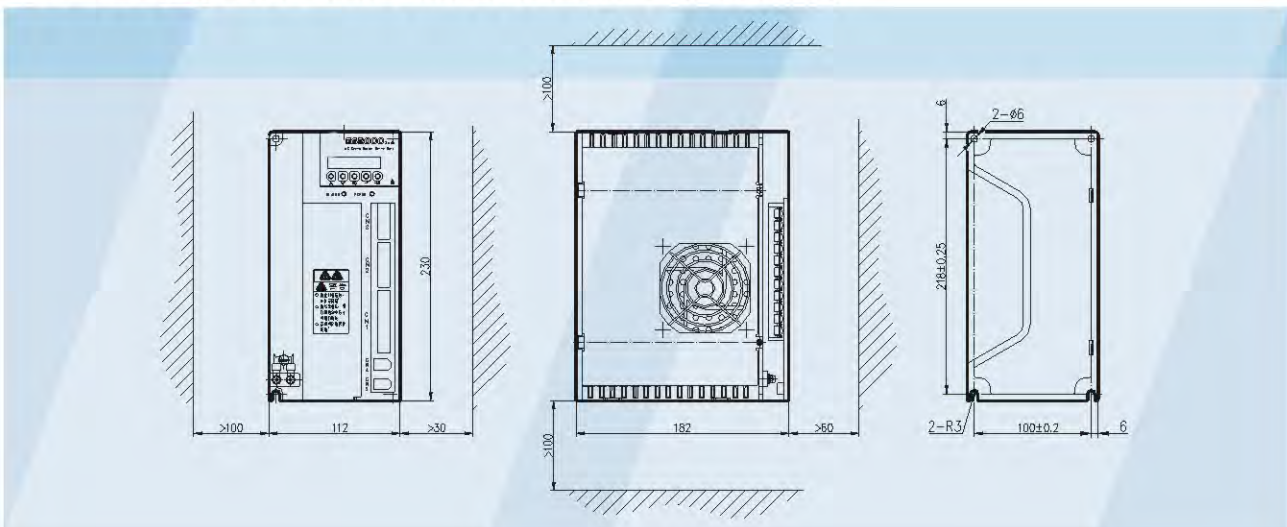
Overall Installation Dimensions



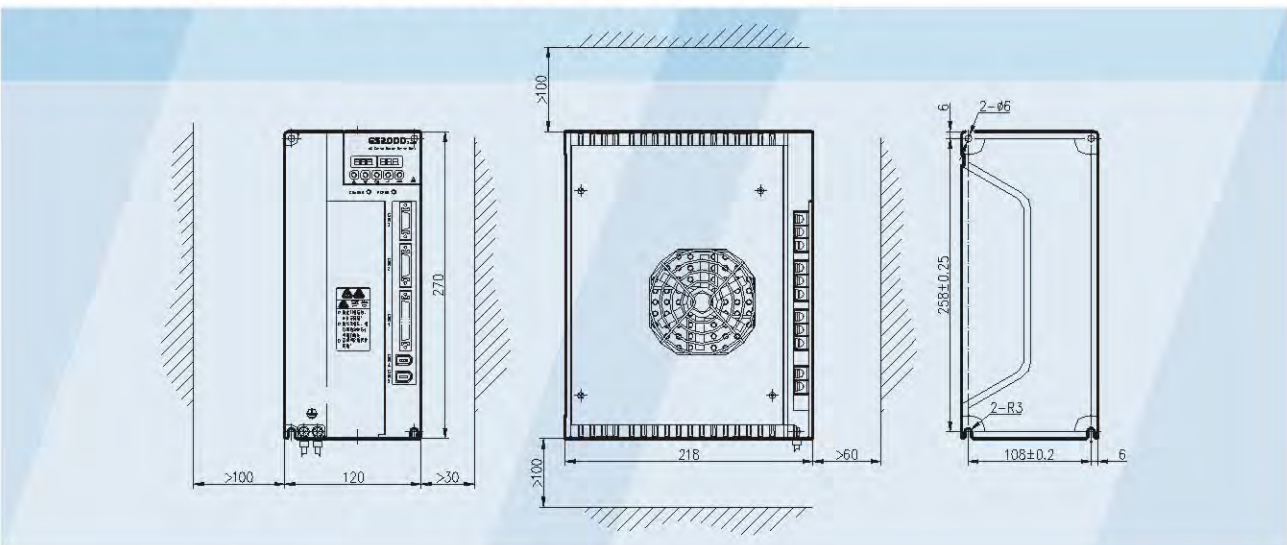
●GS2025T, GS2030T and GS2045T installation dimension figure (unit:mm)



●GS2050T installation dimension figure (unit:mm)



●GS2075T installation dimension figure (unit:mm)



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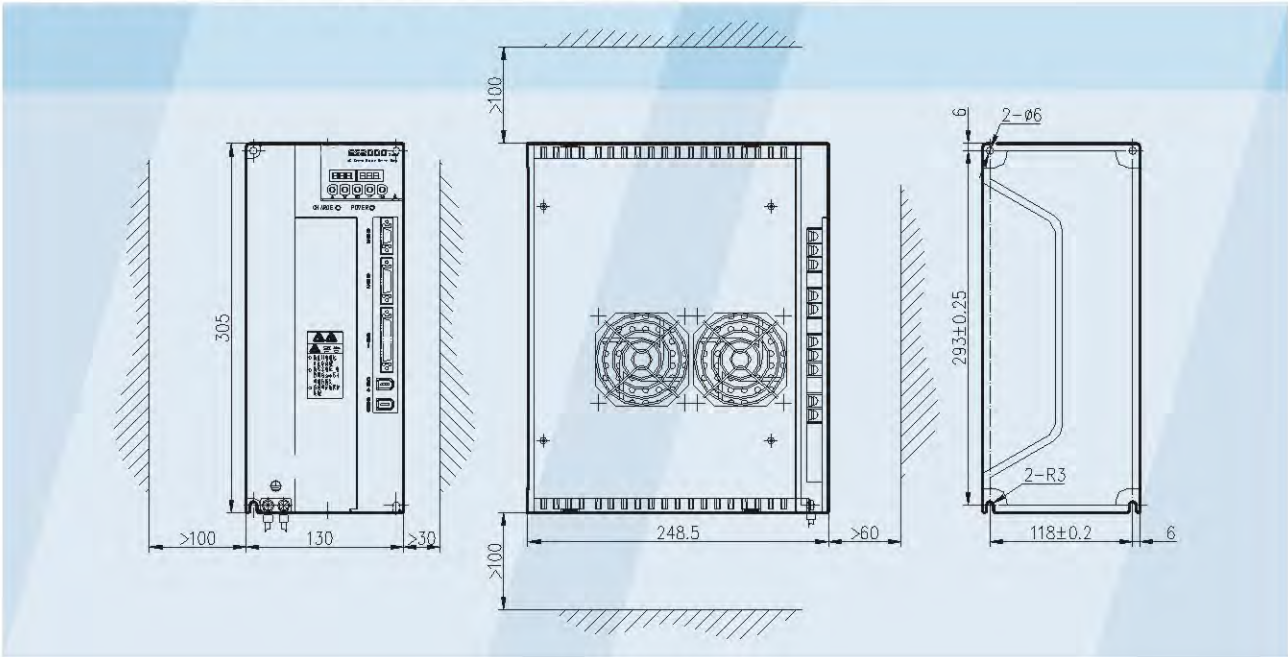
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●GS2100T installation dimension figure (unit:mm)



●Aluminum cabinet brake resistor installation dimension

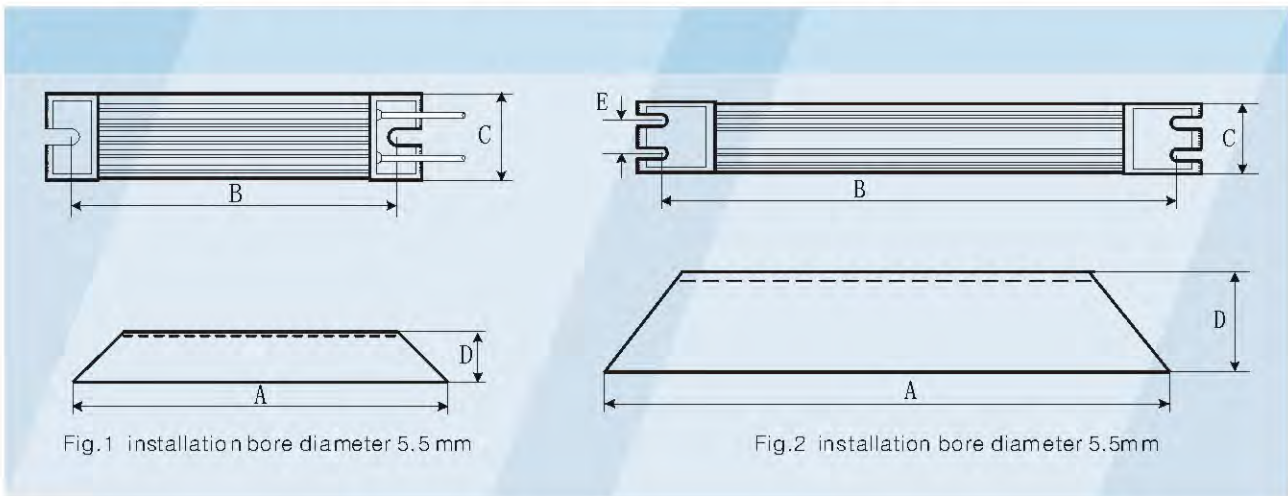


Fig.1 installation bore diameter 5.5 mm

Fig.2 installation bore diameter 5.5mm

Power(W)	Overall drawing	Dimension (mm)					Wiring (mm ²)	Lead length (mm)	Terminal
		A	B	C	D	E			
300	Fig. 1	215	205	60	30	/	2.5	1000	M5
500		335	323	60	30	/	2.5	1000	M5
800		400	388	61	59	/	2.5	1000	M5
1200	Fig.2	450	438	50	107	30	2.5	1000	M5

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Models and Adapted Motors



Servo unit model	Adaptive servo motor					
	Motor model	Rated power	Rated current	Rated torque	Rated speed	Encoder
GS2025T-CA1	80SJT-M024C(A4I)	0.5kW	3A	2.4N·m	2000rpm	17bit multiturn absolute encoder
GS2030T-CA1	80SJT-M024E(A4I)	0.75kW	4.8A	2.4N·m	3000 rpm	17bit multiturn absolute encoder
GS2030T-CA1	80SJT-M032C(A4I)	0.66kW	5A	3.2N·m	2000 rpm	17bit multiturn absolute encoder
GS2045T-CA1	80SJT-M032E(A4I)	1.0kW	6.2A	3.2N·m	3000 rpm	17bit multiturn absolute encoder
GS2030T-CA1	110SJT-M040D(A4I)	1.0kW	4.5A	4N·m	2500 rpm	17bit multiturn absolute encoder
GS2045T-CA1	110SJT-M060D(A4I)	1.5kW	7A	6N·m	2500 rpm	17bit multiturn absolute encoder
GS2025T-CA1	130SJT-M040D(A4I)	1.0kW	4A	4N·m	2500 rpm	17bit multiturn absolute encoder
GS2030T-CA1	130SJT-M050D(A4I)	1.3kW	5A	5N·m	2500 rpm	17bit multiturn absolute encoder
GS2045T-CA1	130SJT-M060D(A4I)	1.5kW	6A	6N·m	2500 rpm	17bit multiturn absolute encoder
GS2050T-CA1	130SJT-M075D(A4I)	1.88kW	7.5A	7.5N·m	2500 rpm	17bit multiturn absolute encoder
GS2045T-CA1	130SJT-M100B(A4I)	1.5kW	6A	10N·m	1500rpm	17bit multiturn absolute encoder
GS2050T-CA1	130SJT-M100D(A4I)	2.5kW	10A	10N·m	2500rpm	17bit multiturn absolute encoder
GS2050T-CA1	130SJT-M150B(A4I)	2.3kW	8.5A	15N·m	1500rpm	17bit multiturn absolute encoder
GS2075T-CA1	130SJT-M150D(A4I)	3.9kW	14.5A	15N·m	2500rpm	17bit multiturn absolute encoder
GS2075T-CA1	175SJT-M150D(A4I)	3.1kW	14A	12N·m	2500rpm	17bit multiturn absolute encoder
GS2075T-CA1	175SJT-M180B(A4I)	2.8kW	15A	18N·m	1500rpm	17bit multiturn absolute encoder
GS2100T-CA1	175SJT-M180D(A4I)	3.8kW	16.5A	14.5N·m	2500rpm	17bit multiturn absolute encoder
GS2100T-CA1	175SJT-M220B(A4I)	3.5kW	17.5A	22N·m	1500rpm	17bit multiturn absolute encoder
GS2100T-CA1	175SJT-M220D(A4I)	4.5kW	19A	17.6N·m	2500rpm	17bit multiturn absolute encoder
GS2100T-CA1	175SJT-M300B(A4I)	4.7kW	24A	30N·m	1500rpm	17bit multiturn absolute encoder
GS2100T-CA1	175SJT-M300D(A4I)	6kW	27.5A	24N·m	2500rpm	17bit multiturn absolute encoder
GS2100T-CA1	175SJT-M380B(A4I)	6kW	29A	38N·m	1500rpm	17bit multiturn absolute encoder

Remark:

● GS2000T-CA1 series support GSK-CAN bus, and are adaptive to GSK988T CNC system, configured with 17bit multiturn absolute encoder motor;

● In the chart above, no brakes are included, if needed, please specify when make orders; Motor Model begins with "80" have no brake for the moment; about the installation dimensions, please refer to the samples or contact us.

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Servo unit model	Adaptive servo motor					
	Motor model	Rated power	Rated current	Rated torque	Rated speed	Encoder
GS2030T-NP1	110SJT-M040D(A2)	1.0kW	4.5A	4N·m	2500rpm	5000 ppr incremental encoder
GS2030T-NP1	110SJT-M040E(A2)	1.2kW	5A	4N·m	3000rpm	5000 ppr incremental encoder
GS2045T-NP1	110SJT-M060D(A2)	1.5kW	7A	6N·m	2500rpm	5000 ppr incremental encoder
GS2050T-NP1	110SJT-M060E(A2)	1.8kW	8A	6N·m	3000rpm	5000 ppr incremental encoder
GS2025T-NP1	130SJT-M040D(A2)	1.0kW	4A	4N·m	2500rpm	5000 ppr incremental encoder
GS2030T-NP1	130SJT-M050D(A2)	1.3kW	5A	5N·m	2500rpm	5000 ppr incremental encoder
GS2045T-NP1	130SJT-M060D(A2)	1.5kW	6A	6N·m	2500rpm	5000 ppr incremental encoder
GS2050T-NP1	130SJT-M075D(A2)	1.88kW	7.5A	7.5N·m	2500rpm	5000 ppr incremental encoder
GS2045T-NP1	130SJT-M100B(A2)	1.5kW	6A	10N·m	1500rpm	5000 ppr incremental encoder
GS2050T-NP1	130SJT-M100D(A2)	2.5kW	10A	10N·m	2500rpm	5000 ppr incremental encoder
GS2050T-NP1	130SJT-M150B(A2)	2.3kW	8.5A	15N·m	1500rpm	5000 ppr incremental encoder
GS2075T-NP1	130SJT-M150D(A2)	3.9kW	14.5A	15N·m	2500rpm	5000 ppr incremental encoder
GS2075T-NP1	175SJT-M180B(A2)	2.8kW	15A	18N·m	1500rpm	5000 ppr incremental encoder
GS2100T-NP1	175SJT-M180D(A2)	3.8kW	16.5A	14.5N·m	2500rpm	5000 ppr incremental encoder
GS2100T-NP1	175SJT-M220B(A2)	3.5kW	17.5A	22N·m	1500rpm	5000 ppr incremental encoder
GS2100T-NP1	175SJT-M220D(A2)	4.5kW	19A	17.6N·m	2500rpm	5000 ppr incremental encoder
Gs2100T-NP1	175SJT-M300B(A2)	4.7kW	24A	30N·m	1500rpm	5000 ppr incremental encoder
Gs2100T-NP1	175SJT-M300D(A2)	6kW	27.5A	24N·m	2500rpm	5000 ppr incremental encoder

Remark:

- GS2000T-NP1 series are adaptive to GSK980TDC and GSK980MDC CNC system, configured with 5000 ppr incremental encoder servo motor;
- In the chart above, no brakes are included, if needed, please specify when make orders; about the installation dimensions, please refer to the samples or contact us.