

GS3000Y SERIES AC SPINDLE SERVO DRIVER

Product introduction

Depended on proven spindle servo technology, inducted with industrial design idea, employed three-dimensional digital simulation and thermal emulation techniques, We researched and designed GS3000Y series servo drive unit, and the performances have greatly improved on drive capacity, heat emission, product design and manufacturability, etc. GS3000Y series spindle servo drive unit is divided into 5 structures based on different output powers. It can be adaptive to 1.5kW~18.5 kW asynchronous spindle servo motor; it is not only satisfied with the constant power speed adjustment, but also the spindle position and Cs axis position control, which is completely satisfied with requirements of CNC machine and automatic equipments.



GS3000Y-C SERIES;



GS3000Y-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, connect 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
- Support shift between speed/position control, realize real time shift between spindle speed control/ axis Cs position control
- Have 2nd feedback interface, can realize closed-loop position control
- Obtained appearance patent with brand new structure and appearance design, and good manufacturability
- GS3000Y-N adopts D-SUB interface, adapted to 1024 incremental encoder
- GS3000Y-C adopts MDR interface, supports GSK-CAN bus, adapted to 1024ppr incremental or absolute encoders of many types.

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Technical Specification

Type	GS3048Y	GS3050Y	GS3075Y	GS3100Y	GS3148Y	GS3150Y
The rated power of the matched servo motor (kw)	1.5 ~ 2.2	3.7 ~ 5.5	5.5 ~ 7.5	7.5 ~ 11	11 ~ 15	15 ~ 18.5
Input power	3 phase AC 380V (85%~110%) 50/60Hz ± 1Hz					
Contour dimension (mm)(W*H*D)	112 × 230 × 182	120 × 270 × 218	130 × 305 × 248.5	160 × 305 × 273.5	160 × 418 × 273.5	
Speed range (rpm)	1~10000					
Speed fluctuation ratio	< rated speed × 0.1%					
Control mode	manual, JOG, speed, position, speed/position					
Speed control	Internal	3 level of running speed can be set by input signal				
	External	external analog voltage speed command (-10V~+10V or 0V~+10V), set by parameters, run at specified speed				
	Electronic gear	Ratio: 1/100~100				
	Position Precision	4 positioning points set by input signal and 4 angles set by parameters				
Position control	Position command	pulse/direction, CCW pulse/ CW pulse; A/B 2 phases quadrature pulse, Max. pulse frequency: 1MHz				
	Electronic gear	ratio: 1/32767~32767				
Motor feedback input	GS3000Y-N: support incremental encoder GS3000Y-C: support absolute encoder or incremental encoder					
2nd feedback input	GS3000Y-N: support incremental encoder GS3000Y-C: support absolute encoder or incremental encoder					
Position feedback output	GS3000Y-N: motor feedback input or 2nd feedback input signal 1:1 output GS3000Y-C: motor feedback input or 2nd feedback input signal frequency demultiplication, electronic gear setting, ratio: 1/32767~32767					
Communication Bus	GS3000Y-N: free of communication bus GS3000Y-C: support GSK-CAN bus					
Input signal	The eleven input points include servo enable; CCW/CW start; position/speed switch; position start; 2nd speed gain option; spindle clamping interlock signal; zero speed clamp; alarm reset; speed/position switch, etc.					
Output signal	The seven points include servo ready, zero speed output; speed/position arrival; orientation complete; alarm output; speed/position status; encoder zero					
Protection function	The functions include overvoltage, undervoltage, drive unit overcurrent, servo motor thermal overload, drive unit overheat, overspeed, position excess error, brake abnormality and encoder abnormality and motor overheat, etc.					
Operation and display	5 buttons, manual, JOG, parameters rewriting, setting, write-in and backup, etc. 6-bit LED displays revolving speed, current position, command pulse accumulation, position offset, motor torque, motor current, rotor absolute position and states of input/output signals, etc.					
External brake specification	for milling machine	500W/35Ω	800W/30Ω	1200W/30Ω	(800W/30Ω)//2	(1200W/30Ω)//2
	for turning machine	800W/35Ω	1200W/30Ω	1500W/30Ω	(1200W/30Ω)//2	(1500W/25Ω)//2

Remark:

- GS3000Y series are free of internal brake resistor; "//2" means two brake resistors are connected in parallel.

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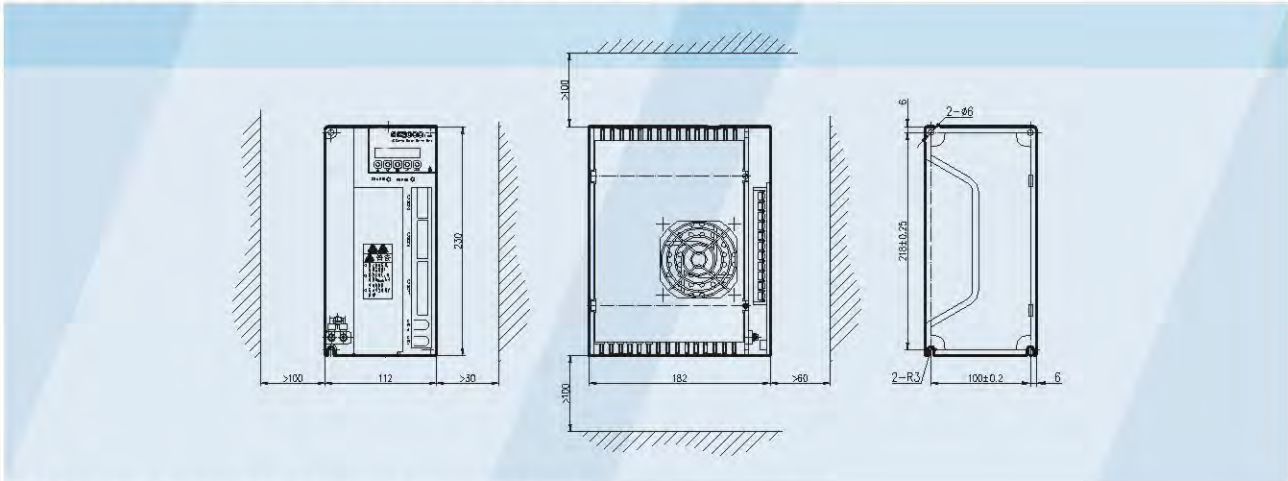
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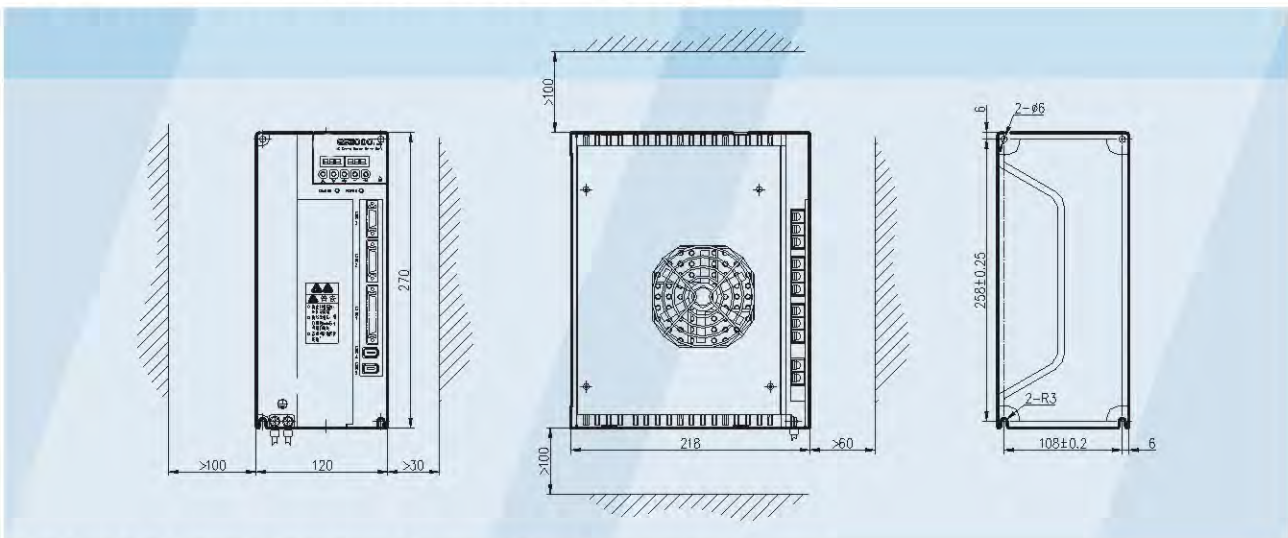
Overall Installation Dimensions



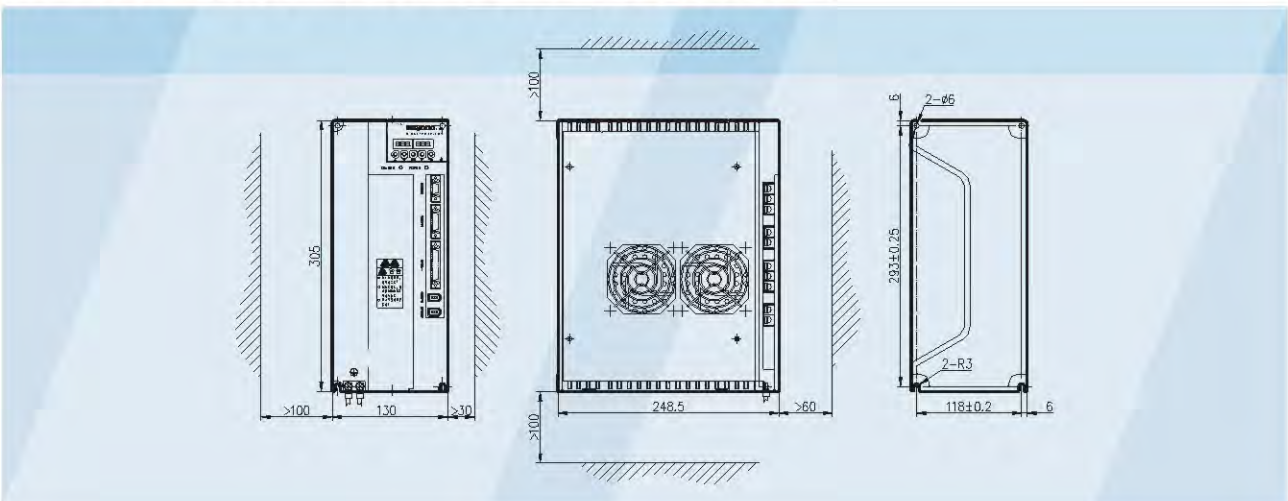
●GS3048Y installation dimension figure (unit:mm)



●GS3050Y installation dimension figure (unit:mm)



●GS3075Y installation dimension figure (unit:mm)



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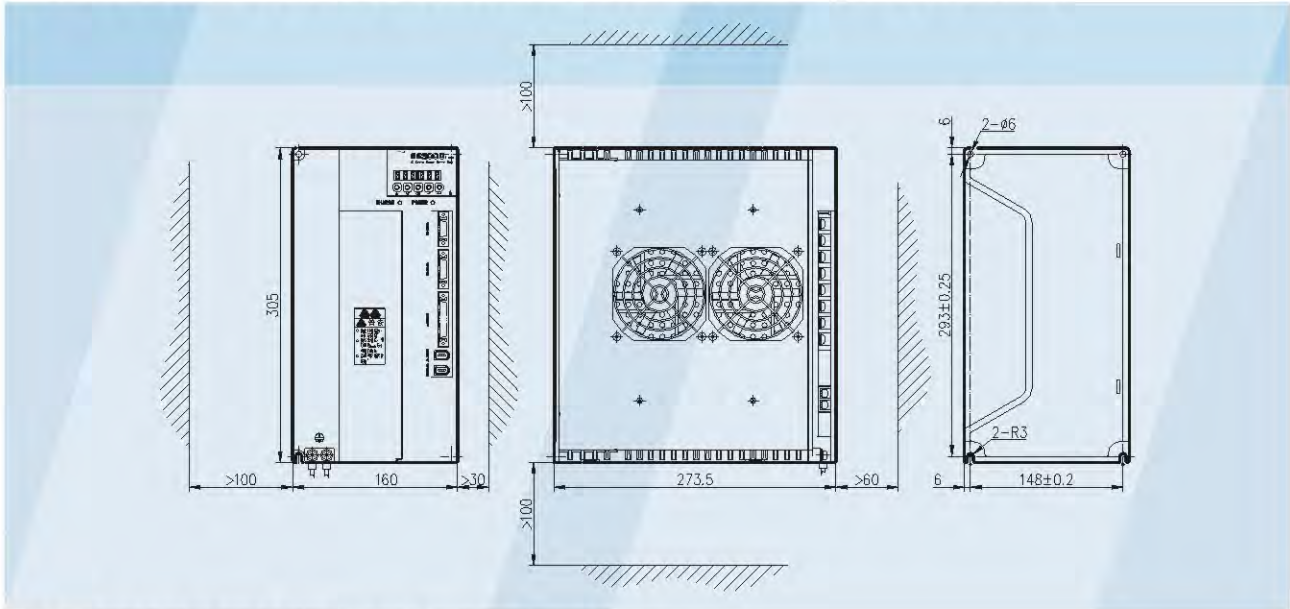
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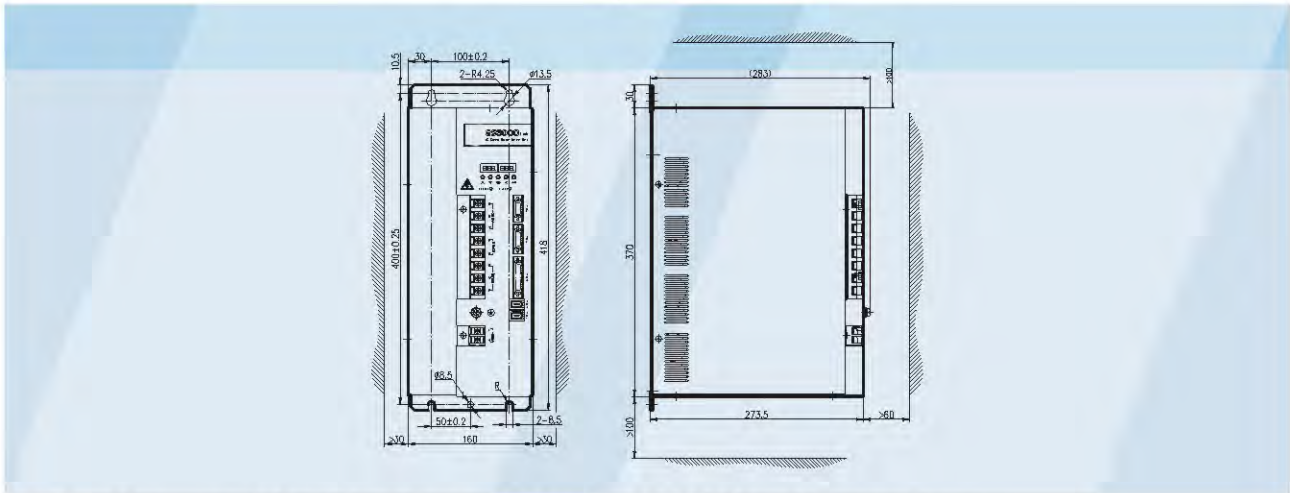
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●GS3100Y and GS3148Y installation dimension figure (unit:mm)



● GS3150Y installation dimension figure



●Aluminum cabinet brake resistor installation dimension

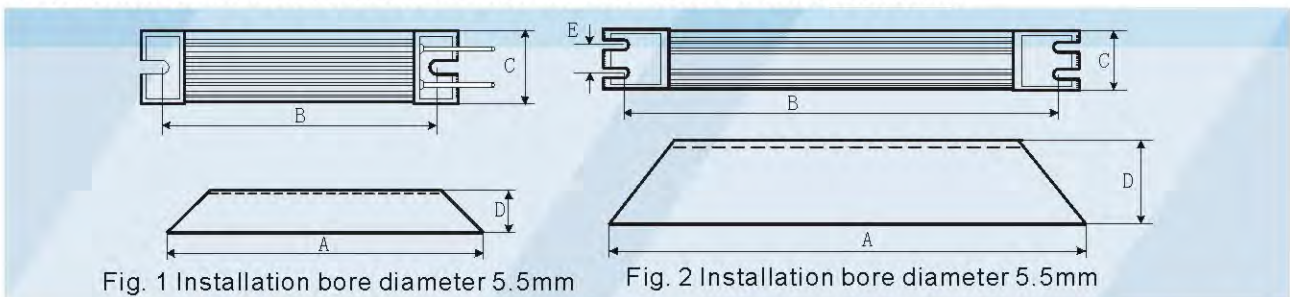


Fig. 1 Installation bore diameter 5.5mm

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			
500	Fig. 1	335	323	60	30	/	2.5	1000	M5
800		400	388	61	59	/	2.5	1000	M5
1200		450	438	50	107	30	2.5	1000	M5
1500	Fig.2	485	473	50	107	30	2.5	1000	M5