

Product description

HSD2000 has perfect performance thanks to 64bit DSP, high performance FPGA and the newest motor control algorithm. It can drive both synchronous servo motor and asynchronous servo motor, as well as induction motors. Available for pulse / analog / field bus / digital input signal / keyboard Control. HSD2000 supports all types of encoders including incremental, SinCos, absolute depending on the expansion encoder card (PG card). The power range is from 2.2kW up to 132kW which can meet requirements from various of industrial applications.

At a glance

- Employed DSP+ FPGA, reliability and performance are improved perfectly
- Speed mode/ torque mode/ servo mode/ spindle drive mode are available
- Auto-turning of synchronous servo motor pole angle and match all brands of servo motor easily
- Various setpoint channels: pulse/analog/digital IO/field bus
- In servo mode the positioning accuracy is less than ± 1 pulse
- In close-loop vector control the speed ratio is up to 1: 5000 which can achieve high speed accuracy
- Time-sharing control of 2 motors with different parameter groups

Customer benefits

- Stainless steel winder/rewinder
- Elevator traction machine drive (synchronous motor or induction motor)
- PMSM control for servo/positioning application in machine tool feeder and/or production machinery industrial etc.
- Integrated spindle motor orientation control function which saves cost for machine builder

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For more information, please enter the link or scan the code via mobile devices and get direct access to technical data, manual, application examples and much more.



Specifcaiton

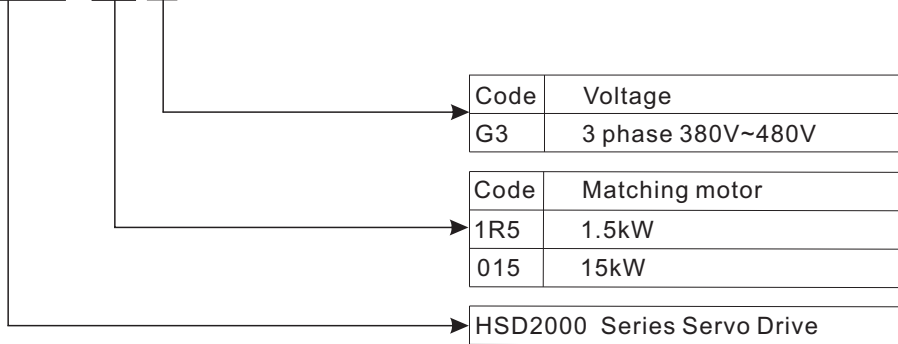
Items	Description	
Input	Voltage range	Three-phase, 380V~480V Voltage unbalance rate: <3%
	Frequency range	50Hz/ 60Hz ±5%
DC Link	Voltage range	537V~679V
Output	Voltage range	AC380V, 400V, 415V, 440V, 460V, 480V
	Frequency range	0Hz~1000Hz
Peripheral Interface	Programmable digital input	10 inputs
	Programmable analog input	AI1: 0~10V or 0~20mA AI2: 0~10V or 0~20mA AI+/AI-: -10V~+10V analog voltage differential input
	Programmable open collector output	3 output (open collector output or high-speed pulse output with 100kHz)
	Relay output	2 outputs
	Analog output	2 outputs, optional 0/4~20mA or 0~10V
Performance	Control mode	Magnetic flux vector control without PG, magnetic flux vector control with PG, servo control, V/F control, V/F control with PG
	Overload capacity	150%rated current in 2 minutes, 200%rated current 0.5 seconds
	Torque control	Support magnetic flux vector control without PG, magnetic flux vector control with PG, servo control
	Torque response	≤ 10ms (magnetic flux vector control with PG, servo control) ≤ 20ms (magnetic flux vector control without PG)
	Starting torque	0Hz of 150%rated torque (magnetic flux vector control without PG) 0Hz of 200%rated torque (magnetic flux vector control with PG)
	Speed ratio	1: 200 (magnetic flux vector control without PG), 1: 5000 (magnetic flux vector control with PG, servo control)
	Speed control accuracy	≤ ±0.3%rated synchronous rotational speed (magnetic flux vector control without PG) ≤ ±0.1%rated synchronous rotational speed (magnetic flux vector control with PG, servo control)
Positioning accuracy	±1 pulse	
Function	Setpoint channels	Digital, analog, serial communication, multistage velocity, simple PLC, PID output. Combination and/or channel switch are available
	Standard functions	Automatic current limiting Automatic carrier wave adjustment Textile swing frequency Built-in process closed loop control Spindle orientation control
	Automatic voltage regulation	Keep constant output voltage automatically in case of line voltage change
	Protection	Lack-phase protection (optional), over current protection, overvoltage protection, lack-voltage protection, over-thermal protection, overload protection, off-load protection



Items	Description	
Environment	Ambient	Indoor with good ventilation and free from corrosive gas and conductive dust
	Altitude	Need to rise the rated power(derating 10%in each 1000 meters rising) when the altitude is more than 1000m
	Temperature	-10°C~+40°C, derating is required from 40~50°C; Increase every 1°C above 40°C, derating 2%, highest temperature allowed: 50°C
	Humidity	95%RH without dew condensation
	Vibration	<5.9m/S2 (0.6g)
	Enclosure rating	IP 20
	Cooling	Fan force cooling

Model Definition

HSD2000 - 1R5 G3



Frequency Inverter Model	Input Voltage	Rated Output Power (kW)	Rated Input Current (A)	Rated Output Current (A)	Motor Power (kW)
HSD2000-1R5G3	three-phase, 380V~480V Voltage unbalance rate: <3%	1.5	5	3.7	1.5
HSD2000-2R2G3		2.2	5.8	5	2.2
HSD2000-004G3		4	10	9	4
HSD2000-5R5G3		5.5	15.5	13	5.5
HSD2000-7R5G3		7.5	20.5	17	7.5
HSD2000-011G3		11	26	25	11
HSD2000-015G3		15	35	32	15
HSD2000-018G3		18.5	38.5	37	18.5
HSD2000-022G3		22	46.5	45	22
HSD2000-030G3		30	62	60	30
HSD2000-037G3		37	76	75	37
HSD2000-045G3		45	92	90	45
HSD2000-055G3		55	113	110	55
HSD2000-075G3		75	157	152	75
HSD2000-090G3		90	180	176	90
HSD2000-110G3		110	214	210	110
HSD2000-132G3		132	256	253	132
HSD2000-160G3		160	307	304	160
HSD2000-185G3		185	355	350	185
HSD2000-200G3		200	385	380	200
HSD2000-220G3		220	430	426	220
HSD2000-250G3		250	488	470	250
HSD2000-280G3		280	525	520	280
HSD2000-315G3		315	605	490	315
HSD2000-355G3	355	667	650	355	
HSD2000-400G3	400	701	690	400	
HSD2000-450G3	450	789	775	450	
HSD2000-500G3	500	877	860	500	
HSD2000-560G3	560	982	950	560	
HSD2000-630G3	630	1184	1100	630	
HSD2000-800G3	800	1500	1400	800	

Dimensional Drawing

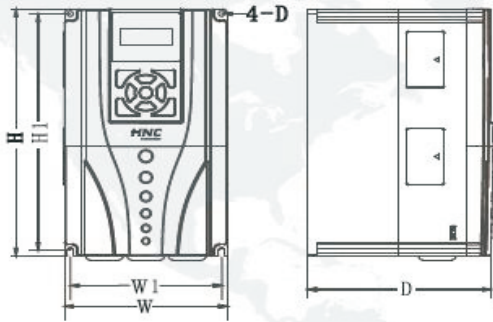


Figure A

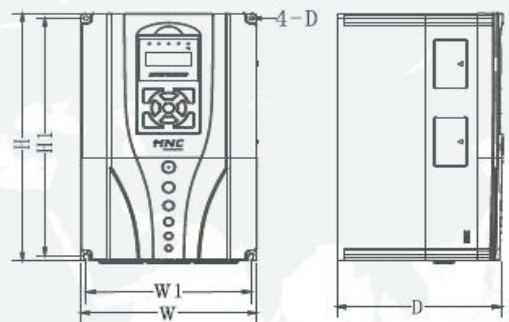


Figure B

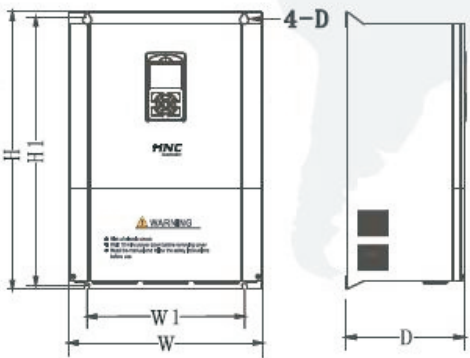


Figure C

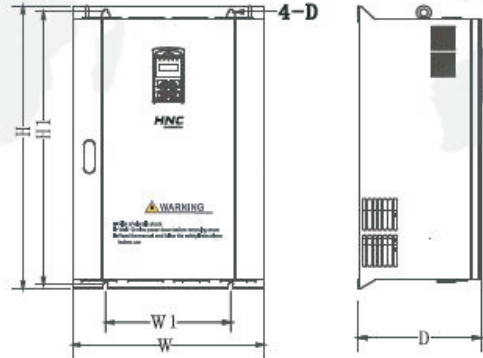


Figure D

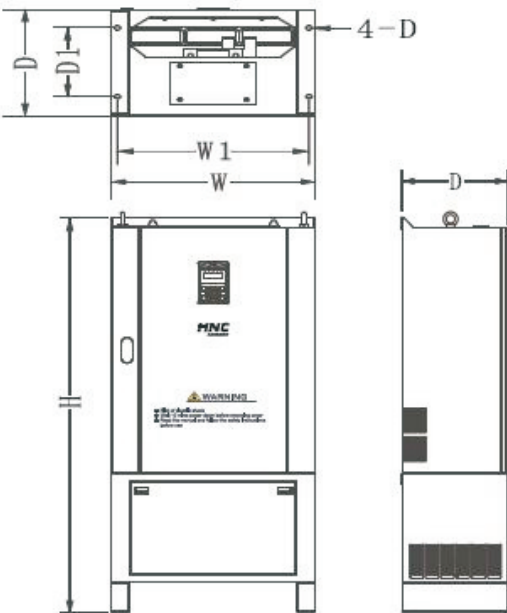


Figure E

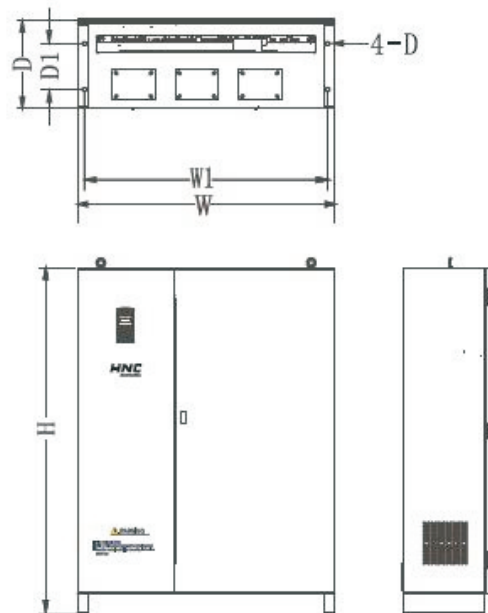


Figure F

Frequency Converter Model	W1	H1	H	W	D	Figure	Mounting Hole (mm)	Gross weight (kg)	Installation type
HSD2000-1R5G3	127	200	215	140	175	Figure A	5	3.5	Wall
HSD2000-2R2G3									
HSD2000-004G3									
HSD2000-5R5G3	146	251	262	157	181	Figure A	5.5	5	Wall
HSD2000-7R5G3									
HSD2000-011G3	180	288	305	198	181	Figure B	5.5	8	Wall
HSD2000-015G3									
HSD2000-018G3	230	424.5	438	276	220	Figure C	7	18	Wall
HSD2000-022G3									
HSD2000-030G3									
HSD2000-037G3	320	571	589	395	231.5	Figure C	10	45	Wall
HSD2000-045G3									
HSD2000-055G3									
HSD2000-075G3	320	733	759	489	298	Figure D	12	75	Wall
HSD2000-090G3									
HSD2000-110G3									
HSD2000-132G3	320	898	927	539	370	Figure D	12	125	Wall or cabinet
HSD2000-160G3								142	
HSD2000-185G3	507	898	1377	539	373	Figure D	12	160	Wall or cabinet
HSD2000-200G3								181	
HSD2000-220G3	280	1022	1054	704	373	Figure D	12	160	Wall or cabinet
HSD2000-250G3								181	
HSD2000-280G3	672	1022	1500	704		Figure D		181	
HSD2000-315G3	924	240	1684	960	400	Figure E	14	365	Cabinet
HSD2000-355G3									
HSD2000-400G3									
HSD2000-450G3									
HSD2000-500G3									
HSD2000-560G3									
HSD2000-630G3	1386	240	1808	1464	460	Figure F	18	-	Cabinet
HSD2000-800G3									

Connection Diagram

