

N5000 Inverter

H-Bridge Multi-Level Inverter
for Medium Voltage & High Power AC Motor Drives



What is N5000 Inverter?

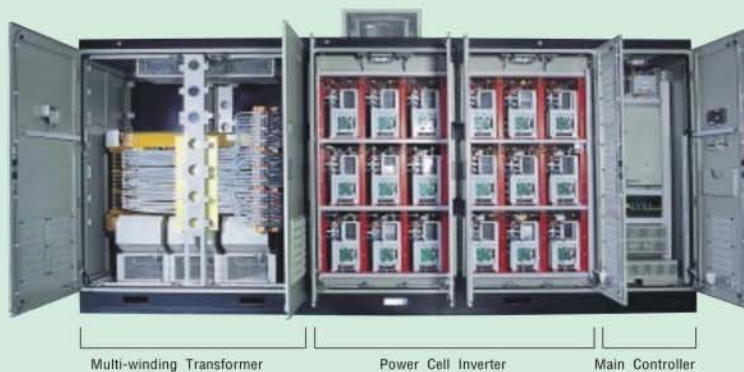
H-bridge multi-level inverter has been implemented successfully for high power motor drives by Hyundai Heavy Industries. This presents a cascaded H-bridge multi-level inverter for high-power motor drives.

The main features of this inverter are as follows.

- ▶ The reduction of harmonic injection into the utility by means of specially designed multi-winding transformers
- ▶ The generation of near-sinusoidal voltages with only low frequency switching
- ▶ Almost no common-mode voltage
- ▶ Low dv/dt at output voltage
- ▶ Nothing of significant over-voltage on motor terminal even if the distance between inverter and motor is long

One model of N5000 inverter(6,600 V/1 MVA) which was cooperatively developed by HHI/KEPRI has been operated at a power plant in Korea.

Main Features

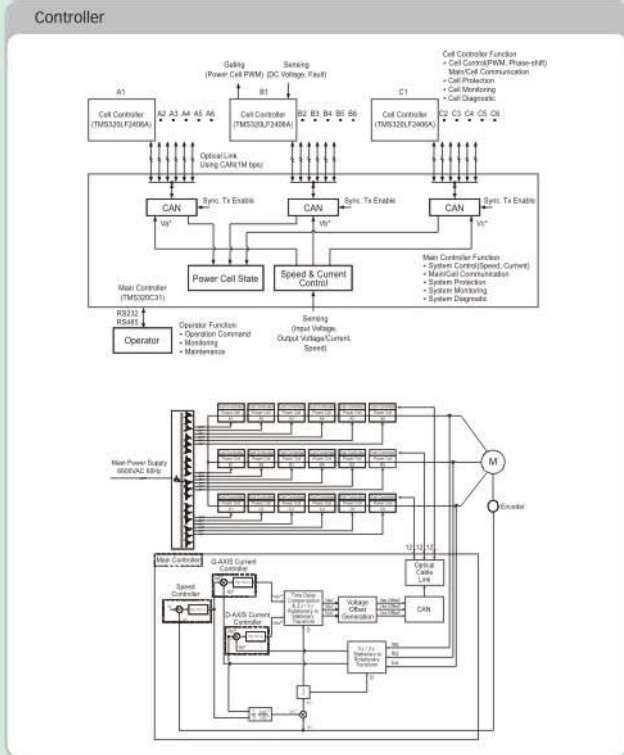
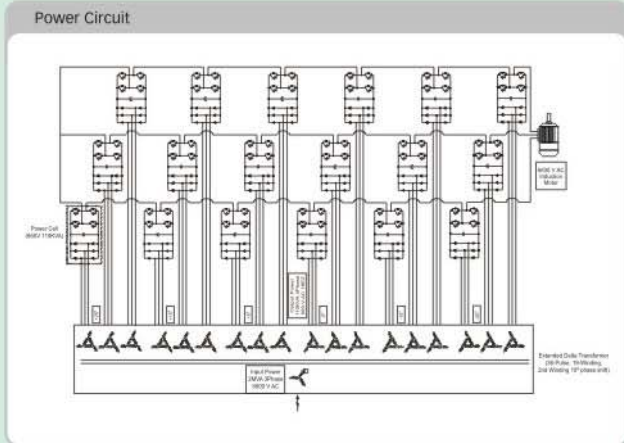


- Motor Friendly
- Power Source Friendly
- Directly Drive Medium Voltage AC Motor
- High Performance
- High Reliability
- High Efficiency / High Power Factor
- User Friendly Maintenance
- Powerful & Easy-to-use Operation
- Full Range Line-up

'SUVIK' along with 'HYUNDAI' inverter takes motion performance to new level

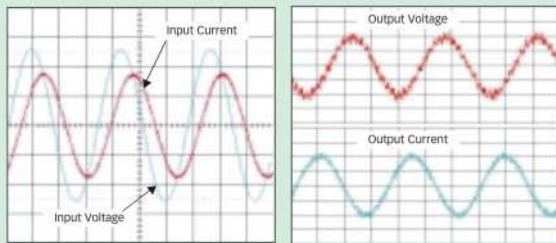
Configuration of Power Circuit & Controller

- Series connection of single-phase IGBT inverter
- Distribution control



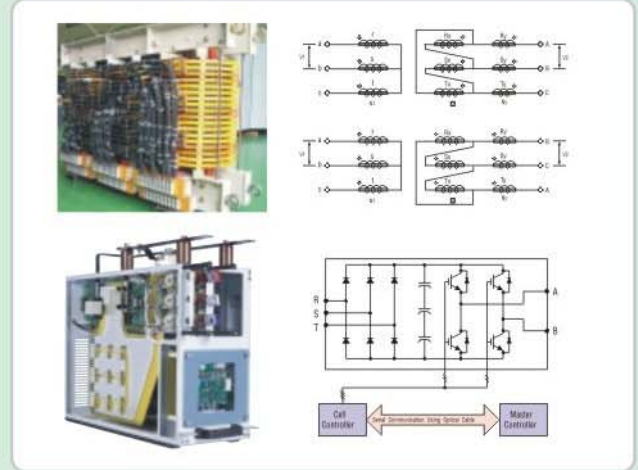
Power Source & Motor Friendly

- Reduction of harmonic injection into the utility
- Generation of near-sinusoidal output voltages



Input Transformer & Power Cell

- Multi-winding transformer with 36 pulse rectification
- Modularization of power cell



Specifications

Voltage [V]	Model Number			Dimension		
	Type N5000	Capacity [kVA]	Current [A]	Width [mm]	Height [mm]	Depth [mm]
3300	155L	200	35	2900	2400	1000
	245L	300	53			
	325L	400	70			
	410L	500	88			
	490L	600	105	4200	2750	1230
	620L	750	132			
	835L	1000	175			
	1040L	1250	219			
	1270L	1500	263			
	1500L	1750	307			
6600	1710L	2000	350	3200	2400	1000
	1940L	2250	394			
	330H	400	35			
	495H	600	53			
	675H	800	70	4600	2400	1000
	835H	1000	88			
	1000H	1200	105			
	1270H	1500	132			
	1700H	2000	175			
	2130H	2500	219			
	2590H	3000	263	7200	2750	1400
	3020H	3500	307			
	3450H	4000	350			
	3930H	4500	394			

Power Factor	P.F ≥ 0.95 (Load 20 % ~ Load 100 %)	Protective Function	Over current, over voltage, under voltage, output short-circuit, ground fault, input phase unbalance, communication fault, over temperature(transformer/motor/power cell)
Efficiency	97 % (Under rating speed & load)		
Input Current THD	THD < 4 %, IEEE 519-1992 Guideline meet	Signal I/O	Digital Input/Output: Input : 16 Ch./Output : 8 Ch. (Dry contact)
Overload Capacity	120 % 60 second, 150 % 60 second(option)		Analog Input/Output: Input : 16 Ch./Output : 2 Ch. (4~20 mA or 0~10 V)
Modulation Method	Pulse width modulation(PWM) (Optical cable transmission)	Communication	RS232 1Ch., RS485 1Ch.
Control Method	V/F control, sensorless vector control, vector control	Cooling	Forced air(panel front in/top out)
Frequency Range	0 ~ 120 Hz	Ambient Temperature	0 °C~40 °C
Frequency Accuracy	0.1 %	Panel Protection Grade	IP20
Accel. / Decel. Time	0.1 ~ 3600 second	Power Line Connection Standard	Bottom side(standard), top side(option) IEC

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