

DIV Series Sine-Wave Inverter System Manual

DIV12/220-XXXX L/W

DIV24/220-XXXX L/W

DIV48/220-XXXX L/W

DIV220/220-XXXX L/W

DIV220/220-XXXX L/W

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IMPORTANT SAFETY NOTES

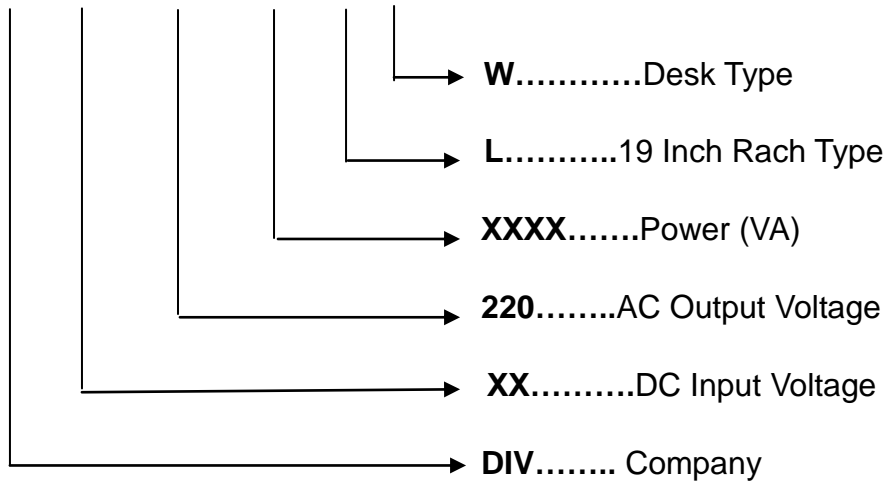
- Please keep this manual for future use.
- Please read this manual carefully at the first time, and install, operation and maintain as the manual instructions.
- AC input voltage of the series is 220V/50Hz, DC input voltage 12VDC/24VDC/48VDC/110VDC/220VDC, please connect as per the instructions, avoiding the possible damage.
- Please turn off the inverter and disconnected all cables before moving.
- For avoiding the damage and hurt to people and inverter, please don't open cover by yourself.
- Do not use it with overload which can affect inverter life.
- Please put the inverter in the dry place, at least 10cm away from the wall.
- Protecting from direct sunlight, rain and moisture.
- Please put it far away from fire and high temperature.
- Please do not put things on the top of inverter.
- Please contact dealer or manufacturer service center for any problem, do not open the cover avoiding any further damage and risk.

Warning:

The product can be affected by the radio under certain circumstances, further protection equipment is needed.

I. DIV Series Model Notes:

DIV XX/220-XXXX L/W



II. DIV Series Model Table

Chart1: DIV Series Table

	DIV 12 Series	DIV 24 Series	DIV 48 Series	DIV 110 Series	DIV 220 Series
500VA	DIV12/220-500L	DIV24/220-500L	DIV48/220-500L	DIV110/220-500L	DIV220/220-500L
	DIV12/220-500W	DIV24/220-500W	DIV48/220-500W	DIV110/220-500W	DIV220/220-500W
1000VA	DIV12/220-1000L	DIV24/220-1000L	DIV48/220-1000L	DIV110/220-1000L	DIV220/220-1000L
	DIV12/220-1000W	DIV24/220-1000W	DIV48/220-1000W	DIV110/220-1000W	DIV220/220-1000W
2000VA	/	DIV24/220-2000L	DIV48/220-2000L	DIV110/220-2000L	DIV220/220-2000L
	/	DIV24/220-2000W	DIV48/220-2000W	DIV110/220-2000W	DIV220/220-2000W
3000VA	/	DIV24/220-3000L	DIV48/220-3000L	DIV110/220-3000L	DIV220/220-3000L
	/	DIV24/220-3000W	DIV48/220-3000W	DIV110/220-3000W	DIV220/220-3000W
4000VA	/	/	DIV48/220-4000L	DIV110/220-4000L	DIV220/220-4000L
	/	/	DIV48/220-4000W	DIV110/220-4000W	DIV220/220-4000W
5000VA	/	/	DIV48/220-5000L	DIV110/220-5000L	DIV220/220-5000L
	/	/	DIV48/220-5000W	DIV110/220-5000W	DIV220/220-5000W
6000VA	/	/	DIV48/220-6000L	DIV110/220-6000L	DIV220/220-6000L
	/	/	DIV48/220-6000W	DIV110/220-6000W	DIV220/220-6000W

III. DIV Series Functions

With the development of information and network technology, the new generation DC-AC power supply, sine-wave inverter, are widely used in telecom, mobile, air field, banking, office, industry, hospitals, military and research fields. By using battery as DC input, and sine-wave AC output after inverter, the output voltage and frequency of Sine-wave inverter are very steady and can work continuously, avoiding the problems of power break, voltage unsteady, noise and lightning invasion. With the sine-wave inverter can guarantee the utility and equipment reliable work and system safety.

Sine-wave Inverter is a kind of DC-AC power supply, the output wave is pure sine-wave by SPWM technology, with the features of fast reaction, low wave distortion, output voltage and frequency steady. This inverter is also equipped with the protections of over DC input, low voltage, over AC output, overload, circuit shortage and internal over heat, these can guarantee good performance, working reliability and other technical specifications.

Sine-Wave inverter is designed based on center control system to meet the power supply requirements of computer and other terminals, mainly applying for:

- Various managing equipment of digital communication system, including terminal, monitor and cashier equipment.
- Server, intelligent platform of information network system, power system and instrument.
- Suitable for system which has main power of DC and require AC power system.

Features of Inverter:

- a) With micro-CPU control, DIV Series inverter is an intelligence model product, good designing and reliability are the advantages.
- b) DIV series inverter is adopting SPWM technology, with the output of stabilized voltage and frequency, pure sine-wave.
- c) DIV series inverter has good compatibility, built-in by-pass switch, high overload feature for reliable and continuous power supply.
- d) DIV series inverter can be AC power type and DC power type:
AC power type means the city power supply is main when the city power is normal, when city power is off, inverter comes into work state.
DC power type means the inverter power supply is main when the city power is normal, when inverter power is off, city power comes into work state automatically.
- e) With the excellent designing, DIV series inverter can be auto switched to bypass on the running state, its easy to maintain and replace the battery without effecting load power supply.
- f) In case there is battery voltage high/low or overload, the overload warning shutdown output, when battery voltage recovers normal, battery voltage recovers; power supply output will auto recovers in 50 seconds after overload off. This function is very suitable for the communication station in which there is no person on duty.
- g) DIV series inverter can support network communication system, power working state can be monitored by the supervision software.
- h) DIV series inverter provides with two dry connectors which can be used for DC input fault checking and AC output problem warning.

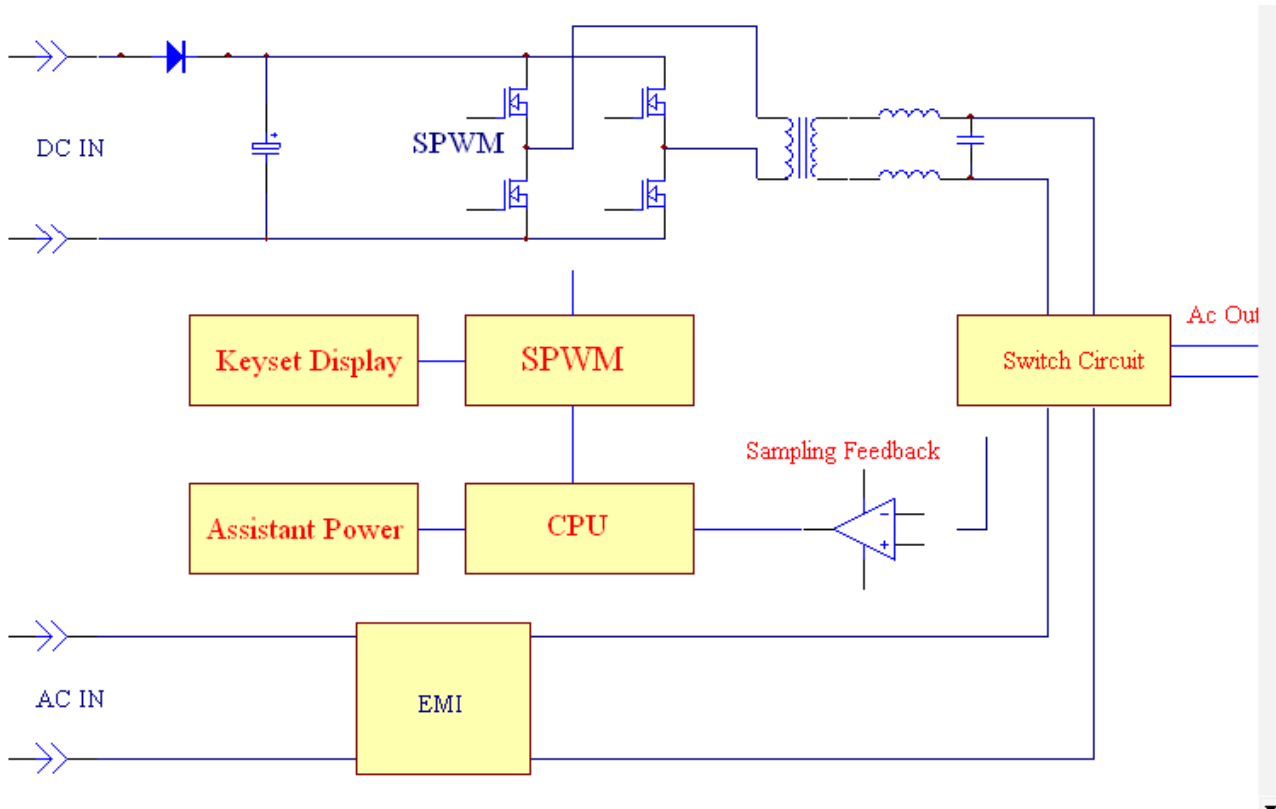


Figure1: Inverter Function Diagram

IV. DIV Series Model Technical Specifications

Chart2: DIV Series Model Technical Specifications

Technical Specifications		500VA	1000VA	2000VA	3000VA	4000VA	5000VA	6000VA
DC INPUT	Input Voltage (Vdc)	See chart3						
	Input current (A)	See chart3						
	Input range of Voltage (Vdc)	See chart3						
	Reverse Noise Current	≤10%						
AC Bypass	Bypass Volt (Vac)	165V-285V						
	Input Current (A)	2.3	4.5	9.1	13.6	18.2	22.7	27.3
	Transfer Time (ms)	≤5ms						
AC OUTPUT	Rated Capacity (VA)	500VA	1000VA	2000VA	3000VA	4000VA	5000VA	6000VA
	Output Power (W)	400W	800W	1600W	2400W	3200W	3500W	4200W
	Voltage and Frequency	220Vac, 50HZ						
	Output Current (A)	1.8	3.6	7.2	10.8	14.5	16	19.1
	Voltage Precision (V)	220±1.5%						
	Frequency Precision (Hz)	50±0.1%						
	Output	Pure Sine Wave						
	Wave Distortion (THD) (Resistant Load)	≤3%						
	Dynamic Reaction Time (Load 0←→100%)	5%						
	Power Factor (PF)	0.8/0.7/0.6						
	Overload	220%, 30 sec						
	Inversion Efficiency (80% Resistant Load)	≥85%						
	Transfer Time (ms)	≤5ms						
ENVIRONMENT	Isolation (IN/OUT)	1500Vac, 1minute						
	Noise (1m)	≤40dB						
	Temperature	-25℃~+50℃						
	Humidity	0~90%						
	Sea Level (m)	≤2000						
SHOW	LCD	See VII						
	LED	line、inverter、battery、Output Load						
MECHANICAL	Desk Type (D×W×H) (mm)	See Chart5						
	19 Inch Rack Type (D×W×H) (mm)	See Chart5						
	Weight (Kg)	See Chart5						

Protection Function	Input Low/High Voltage; Output Overload/Shortage; Reversed Input Connecting Protection
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Chart3: DIV Series Model INPUT VOLT、 Current、 Efficiency(+/-0.5~1V)

	DIV12 Series		DIV24 Series		DIV48 Series		DIV110 Series		DIV220 Series	
Input volt (Vdc)	12V		24V		48V		110V		220V	
Input range of DC(Vdc)	Normal Volt 9.8V—14.5V		Normal Volt 20V—30V		Normal Volt 42V—59V		Normal Volt 90V—132V		Normal Volt 190V—270V	
	Start Volt 11V—13V		Start Volt 22V—28V		Start Volt 45.5V—57V		Start Volt 101V—127V		Start Volt 207V—260V	
Input Current (A)	500VA	40	500VA	20	500VA	9.8	500VA	4.3	500VA	2.2
	1000VA	76	1000VA	38	1000VA	19	1000VA	8.3	1000VA	4.2
			1500VA	57	1500VA	28.5	1500VA	12.5	1500VA	6.3
			2000VA	76	2000VA	38	2000VA	16.6	2000VA	8.3
					3000VA	57	3000VA	24.9	3000VA	12.4

V. DIV Series Model Use Method

● Installation

1. Open the package and check accessories (1-pc AC Input Cable and 1 Manual)
2. Choose a clean and ventilation area.
3. Make sure DC voltage and battery voltage are inverter required.
4. Check the power Positive and Negative line.
5. Connecting Positive Cable with the terminal DC48V“+” on the back panel, and negative Cable with the “-”.
6. Connecting AC input L/N/G with AC Input terminals L/N/G.(AC Ground must be connected into ground area)
7. Connecting load cables with AC output terminals L/N/G.

● Start

- a) Make sure that input DC and AC output cables are right connected.
- b) Turn on DC input switch.
- c) Put the start switch on“I”, inverter comes into the state of self-inspection, showing inverter is on.

Notes: Self-inspection-----Before the output is delivered, the inverter will check the related parts and system state. When the all meters of inverter is in normal, the inverter will be in working status of power supply and inversion. This checking takes about 10 seconds, indication LED lights from left to right two times during this period.


● Shutdown

Put the start switch on“O”, all LED light and becomes dark, inverter is shutdown.


VI. DIV Series Maintenance Information

● figures

ON/OFF button-- (SWITCH)

Beeper ON/OFF-- (BUZ)

“Bypass output”LED, green; 

“Inverter”LED, blue; 

“Battery Fault”LED, red; 

“Load fault”LED, red; 

Chart5: LED Lights and Indication

Status Item		Output	Out Type	Power Green	Inver. Blue	BatteryR ed	Load Red
1	Self Test	Yes	Inversio n or Power	On→	→On→	→On→	→On→
2	Battery Fault	Yes	Yes	Dark	On	Blink	Dark
		No	No				
3	Power Normal	Yes	Power	Light	Dark	Dark	Dark
4	Power to Inversion	Yes	Inversio n	Dark	Light	Dark	Dark
5	DC Voltage Low	Yes(Lower than start voltage)	Power/ Inversio n	Dark	Blink	Dark	Dark
6	DC Start Voltage Low	No	No	Dark	Dark	Dark	Dark
7	DC input voltage High	Yes	Yes	Light	Dark	Dark	Dark
		No	No	Blink	Dark	Blink	Dark
8	Inversion Output Fault	Yes	Yes	Dark	Blink	Blink	Dark
		No	No				
9	Overload Shutdown	No	No	Dark	Dark	Blink	Light
10	Shortage Shutdown	No	No	Light	Light	Blink	Light
11	Inversion Wave Fault	Yes	Yes	Blink	Blink	Blink	Dark
		No	No				
12	DC Off	Yes	Yes	Light	Dark	Blink	Dark

Notes: “→”shows that the LED lights in order,“x”shows no light.

- 1) For protecting battery, inverter can only start when battery voltage in within the **Starting Voltage** .After entering into working state, inverter can work normally as the battery voltage is within **Working Voltage** .
- 2) When battery voltage reduced to **Starting Voltage** there is a voltage warning, when the voltage goes lower than **Working Voltage** inverter will shutdown.

VII. DIV Series Model Mechanical Information

Figure1: 1000VA、1500VA、2000VA (front)

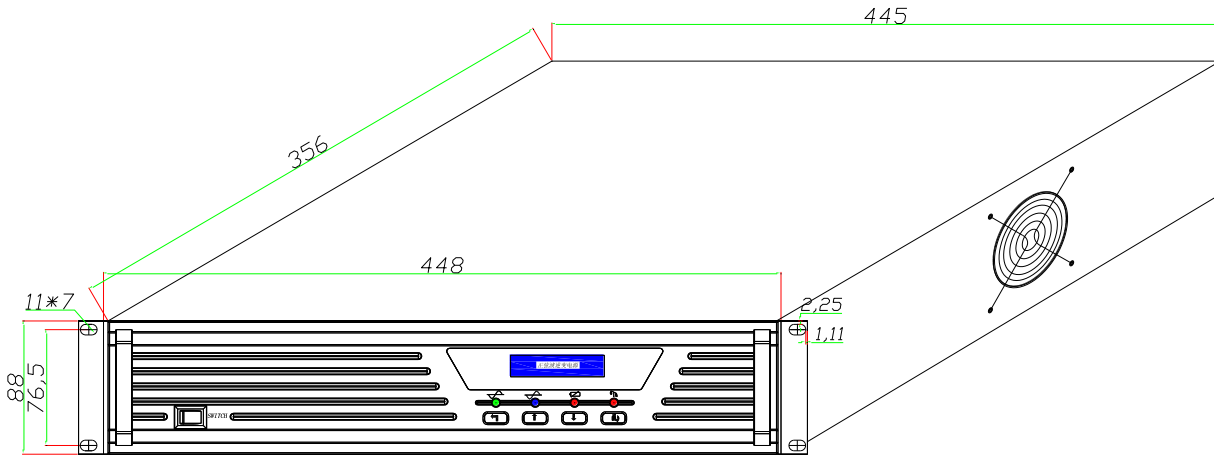


Figure2: 1000VA、1500VA、2000VA---Socket Type (rear)

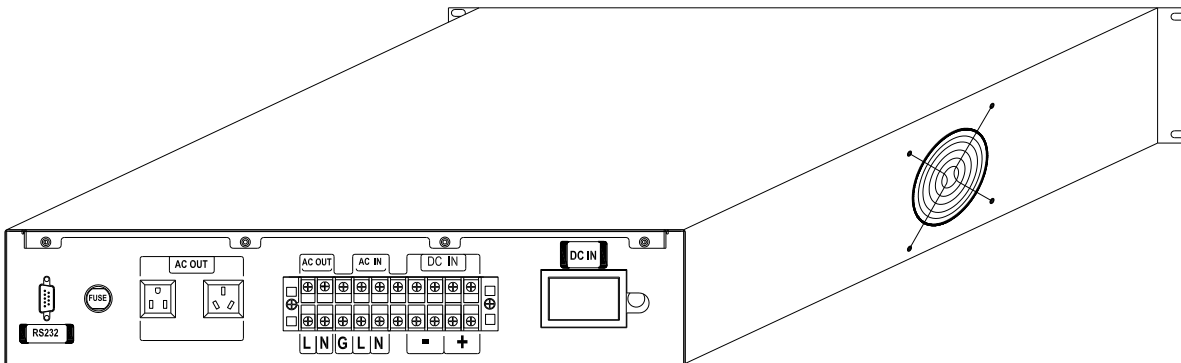


Figure3: 3000VA、4000VA、5000VA (front)

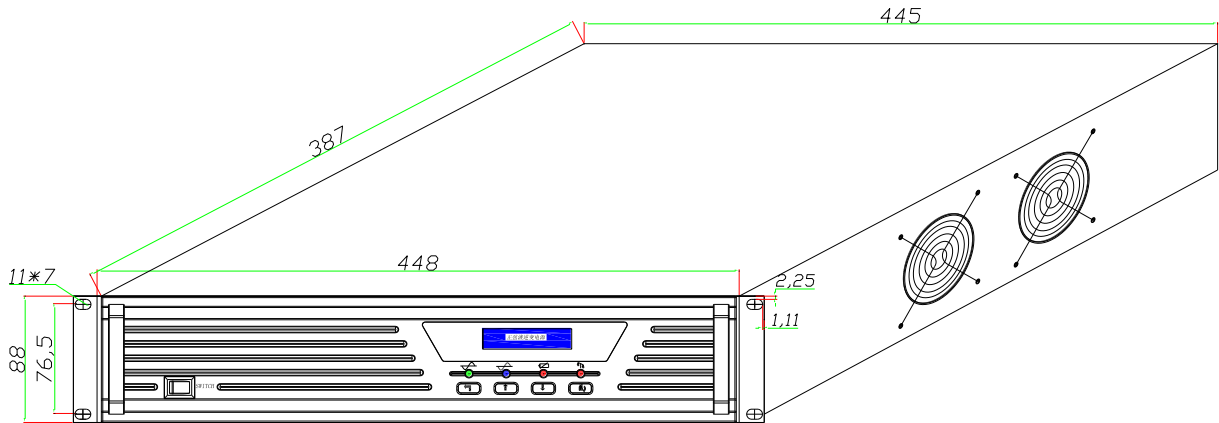


Figure 3-5KVA---Socket Type(rear)

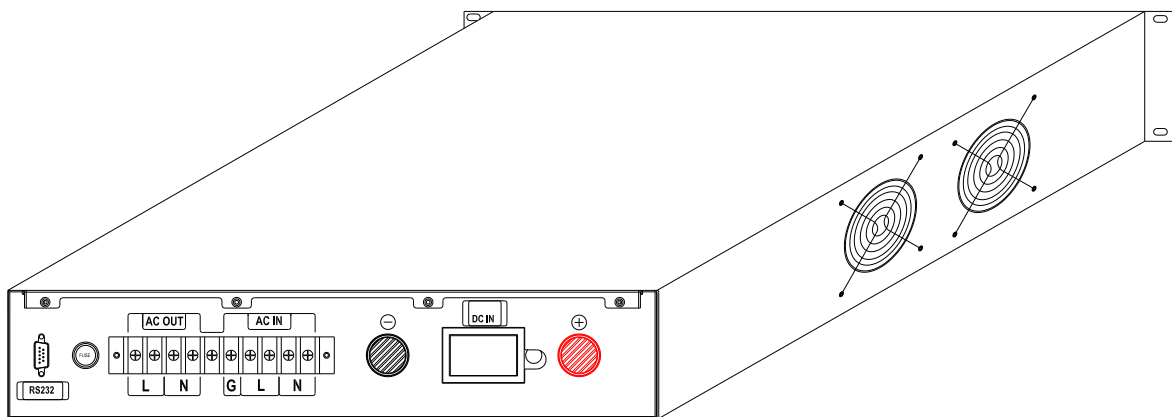


Chart5: Mechanical information

	DIV24 Series	DIV48 Series	DIV110 Series	DIV220 Series	Weight
1000VA	B	B	B	B	7Kg
2000VA	C	B	B	B	8kg
3000VA	C	C	C	C	11Kg
4000VA		C	C	C	12Kg
5000VA		C	C	C	13Kg
6000VA		C	C	C	14Kg

B: 448 (W) x88 (H) x360 (D) mm

C: 448 (W) x88 (H) x390 (D) mm

VIII. Attached Accessories

1. 1-pc cable for AC input. (3000VA is not included);
2. 1-pc of User Manual