

220G series instruction manual

I 、Basic Information

This document will guide the customer to complete the basic installation, wiring and debugging.If you need detailed instructions, please contact with the product distributors.Products all passed strict inspection before they completed and packed, ifdiscover frequency converter damaged, model error, lack of additional accessories, such as abnormal situation, please contact this product distributors or relevant personnel of the company.

DANGEROUS

Before installing the 220G VFD controller ,please read the manual first .
Please ask professional personnel to install, debug, overhaul and maintain the controller.

- Cut the power supply before wiring.
- After Cut the power, There may still be residual power inside the VFD. Before touching its internal electronic components, wait at least 4 minutes or there is a risk of electric shock.
- Do not remove or insert any connectors on the VFD during power supply, to avoid VFD damage and personal injury.
- The grounding terminal of the VFD must be properly grounded.
- The wiring of the main loop terminal must be correct, R/L S T/N are the power input terminal , Don't mix with U/ V/ W output terminals,Otherwise, the controller may be damaged during power supply.
- Be sure to follow the instructions; otherwise, serious injury or death may occur.

II 、Explanation of converter nameplate

Art No.

Power Size

Input Type

Output Type

Barcode

AC Drive

MODEL : 220G-R75G1

POWER : 0.75KW

INPUT : 1PH AC220V 50HZ/60HZ

OUTPUT : 3PH AC220V 4A 0-400HZ

B0125420C0051

Read the user manual before operation.
Don't touch components until 4Min. after disconnection.

CAUTION

► Nameplate Declaration

220G Series

Product Series

220G - R75 G 1

1

1PH AC220V

3

3PH AC380V

Voltage

G

Heavy Load type

Type

R75: 0.75KW

1R5: 1.5KW

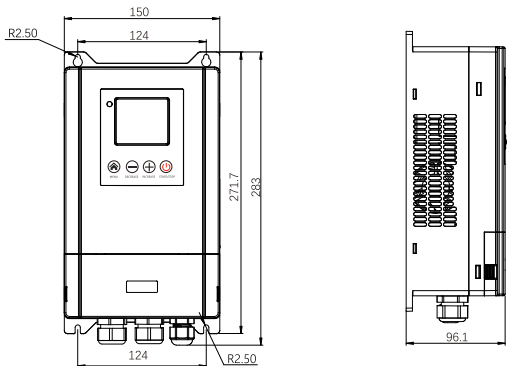
2R2: 2.2KW

Motor type

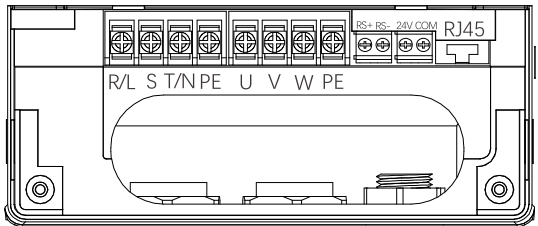
III、Product appearance and Installation dimensions

Input Voltage	Art No.	Power (KW)	Output current (A)	Product Size (mm)		
				H(H1)	W(W1)	D
1PH AC200 ~ 240V 50Hz/60Hz	220G-R75G1	0.75	4	283 (271.7)	150 (124)	96.1
	220G-1R5G1	1.5	7			
	220G-2R2G1	2.2	9.6			
3PH AC380 ~ 480V 50Hz/60Hz	220G-R75G3	0.75	2.1	283 (271.7)	150 (124)	96.1
	220G-1R5G3	1.5	3.8			
	220G-2R2G3	2.2	5.1			

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IV、The wiring of the main loop terminal



Schematic diagram of main loop terminal

Single phase /220V			Three phase / 380V		
Terminal Function	Logo	Wiring	Terminal Function	Logo	Wiring
Power Input	L	L	1	R	Input R phase
	N	N	2	S	Input S phase
	Earth	Input Zero Wire	3	T	Input T phase
Power Output	U	U	Earth	Earth	Input E phase
	V	V	U	U	Motor U phase
	W	W	V	V	Motor V phase
External keyboard	RJ45	External keyboard network cable interface	W	W	Motor W Phase
	Earth	Motor E phase	Earth	Earth	Motor E phase
RS-485	RS+,RS-	Connected to the+/-end of 485 communication port, the maximum transmission rate is 9600bit/s, Refer to group P7 parameters;			
24V	24V power	Provide +24V power supply to the outside, generally used as digital input/output terminal. Working power supply and external sensor power supply; Maximum output current: 100mA			
COM	Signal ground	Common port of control loop (signal ground)			

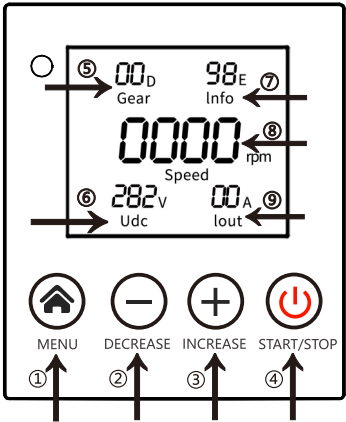
V、External keyboard, display and Optional accessories

1. Key function description

- ① Menu key: reserved.
- ② Decrease key: used to reduce gear or modify frequency.

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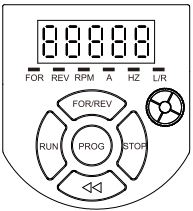
- ③ Increase key: used to increase the gear or modify the frequency.
- ④ Start/Stop: used to switch the controller.



2. Screen display interface description

- ⑤ Actual operating gear display
- ⑥ Bus voltage display
- ⑦ Fault code display
- ⑧ Actual running speed display
- ⑨ Actual operating current display

3. External keyboard display instructions



The external keyboard is an optional part,Used for equipment debugging or parameters. Copy and use (no need for self-learning)

Button	Function
RUN	Run the VFD directly through the "Run" buttons on the panel;
STOP	Used to stop the vfd or reset the vfd in case of failure;
◀◀	This parameter is used to select the parameter modification bit when the interface displays data or modifies parameters;
FOR/REV	Switch the forward or reverse of the controller directly through the panel;
PROG	Used for menu entry or return;
⚙️	1.Used to adjust the VFD speed; 2.Used to enter menus or confirm data.

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VI、Failure warning

Error Code	Error name	Solution
01	Output short circuit	Check motor connection \motor wire and motor insulation situation
02	Accelerated over current	1.Increase the acceleration time 2.Improve torque by hand 3.Exclude outside faults 4.Exclude outside faults 5.Choose speed tracking start or stop and start 6.Cancel exploding load Choose a bigger power frequency converter
03	Decelerated over current	1.Exclude outside faults 2.Make motor parameter learn self 3.Add speed cut time 4.Cancel exploding load or add braking unit and resistor 5.Add braking unit and resistor
04	Constant over current	1.Exclude outside faults 2.Make motor parameter learn self 3.Cancel exploding load 4.Choose a bigger power frequency converter
05	Accelerated over voltage	1.Check power.adjust voltage to normal range 2.Increase the acceleration time. 3.Cancel exploding load 4.Choose a bigger power frequency converter
06	Decelerated over voltage	1.Adjust voltage to normal range 2.Cancel exploding load or add braking unit and resistor 3.Add speed cut time 4.Stop free
07	Constant over voltage	1.Adjust voltage to normal range 2.Cancel exploding load or add braking unit and resistor 3.Choose a bigger power frequency converter
09	Under-voltage	Ensure the normal power grid voltage
10	Converter overload	1.Choose bigger power product 2.set up correctly according to motor nameplate
12	Input lock of PH	Check connection of input power wire
13	Motor lock of PH	1.check motor connector 2.check motor
14	IGBT excess temperature	1.clean air duct 2.change fan
16	Internal Warning	Return to factory maintenance
19	Motor parameter self learning failure	Set up motor nameplate parameter correctly
23	Grounded warning	1.motor for short circuit 2.change motor wire or change motor
24	Torque limitation	Set up motor digital correctly or adjust P09.04 digital
25	Current limitation	Set up motor digital correctly or adjust P09.05 digital
45	Motor Overload	1.Choose bigger power product 2.set up correctly according to motor nameplate
48	Total work time to failure	Reset parameter to clean recorded information
88	Control board and drive board communication abnormal	Return to factory maintenance
95	Power warning	Check network voltage
98	Reset factory setting	Press STOP button to reset
The above action not solve warning please ask for technical support		

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VII、Basic function parameter list

P00-P11 Function Parameter (Need the copy keyboard)

P00 Function Parameter	
P00.01 Control model 0: VF control * 1: Vector control	
P00.02 Option of order source * 0: Order channel of panel 1: Order channel of terminal 2: Order channel of communication 3: Order channel of communication or terminal	
P00.03 Main frequency source X option 0: Digital set 2: VI * 4: AI (reserved) 5: Panel coder 6: Input pulse 7: Order of multi-speed 8: Simple PLC 9: PID 9: Communication given	
P00.10 Maximum frequency 0~655.35Hz * 50	
P00.12 Limited frequency 0~P00.10 * 50	
P00.14 Floor frequency 0~P00.10 * 0	
P00.15 Below floor frequency operation model * 0: Floor frequency operation 1: Motor stop 2: No speed operation	
P00.16 Rotation Direction Selection * 0: default direction 1: opposite default direction	
P00.17 Forbid REV 0: Invalid * 1: Valid	
P00.20 Time accuracy 0: 1s * 1: 0.1s 2: 0.01s	
P00.22 Speed up time 1 0~65535s * 10	
P00.23 Speed cut time 1 0~65535s * 10	
P00.60 Delayed start time 0~100s * 0	
P00.61 Delayed start function 0: DC clamping * 2: Free revolve	
P00.62 Frequency tracking start * 0: Invalid 1: Valid	
P00.63 Minimum start frequency setting value 0~50Hz * 0	
P00.64 Minimum operation frequency 0~20Hz * 0	
P00.65 PM Start Mode 0: Initial position detection of start * 1: Start with magnet	
P00.66 Power down start delayed 0~3600S * 0	
P00.74 Current synchronous motor start to magnet 0~150% * 80	
P00.75 Time synchronous motor start to magnet 0.1~60s * 3	
P00.80 Motor sop function * 0: Free to stop motor 1: DC clamping	
P00.81 Minimum stop frequency 0~400Hz * 0	
P01 Motor Parameter	
P01.00 Motor type * 0: Asynchronous Motor 1: SMT Asynchronous Motor 2: Unsaturated internal synchronous motor 3: Saturated internal synchronous motor	
P01.01 Motor Power Depend on motor digital	
P01.02 Motor Voltage Depend on motor digital	
P01.03 Motor Frequency Depend on motor digital	
P01.04 Motor Current Depend on motor digital	
P01.05 Motor Speed Depend on motor digital	
P01.06 Rated Motor Torque Depend on motor digital	
P01.07 Stator Resistance (Rs) Depend on motor digital	
P01.08 Rotor Resistance(Rr) Depend on motor digital	
P01.09 Stator Leakage Reactance Depend on motor digital	
P01.10 Main Reactance (Xh) Depend on motor digital	
P01.11 D-axis Inductance Depend on motor digital	
P01.12 Q-axis Inductance Depend on motor digital	
P01.13 Motor Poles 2~100 * 4	
P01.14 Counter electromagnetic force 5~9000 * Depend on motor digital	
P01.15 D-axis Inductance Sat 0~655.36 * Depend on motor digital	
P01.16 Q-axis Inductance Sat 0~655.36 * Depend on motor digital	
P01.17 D-axis Inductance Sat switchover 0~655.36 * 100	
P01.18 Q-axis Inductance Sat switchover 0~655.36 * 100	
P01.20 System Inertia 0~65.535 * Depend on motor digital	
P01.37 Automatic Motor Adaption * 0: Invalid 1: All parameter learn self 2: Stator resistance learn self	

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P02 Method of control	P09 Malfunction and Protect Parameter
P02.20 Automatic voltage regulation function 0: off * 1: on P02.30 Low frequency compensation torques 0~199% * 100 P02.31 High frequency compensation torques 0~199% * 100 P02.32 Slip Compensation ~400~399% * 80 P02.33 Slip Compensation Time Constant ~400~399% * 0.1 P02.34 Resonance Dampening 0~3000% * 50 P02.35 Resonance Dampening Ttime Constant 0.001~0.05s * 0.005 P02.36 Open Magnetisation 0~300% * 100 P02.37 Normal Magnetisation Switch point 0~10 * 1 P02.38 Open Torque compensation 0~25% * 0 P02.40 Synchronous motor low speed compensation 0~120% * 80 P02.41 Synchronous motor load compensation 0~500% * 120 P02.42 Low speed synchronous motor compensation filtering time 0.01~20s * 0.8 P02.43 High speed synchronous motor compensation filtering time 0.01~20s * 0.8 P02.44 Synchronous motor current filtering time 0.001~1s * 0.5 P02.45 Synchronous motor high-speed compensation ~400~400% * 10 P02.52 Automatic optimum energy consumption minimum flux 40~75% * 66	P09.00 Limited value prevent over current losing speed 0~300% * 200 P09.01 Current controller 1 proportion 0~300% * 100 P09.02 Current controller 1integral 0.005~2s * 0.02 P09.04 Torque limited when motor on 0~1000% * 150 P09.05 Torque limited when generate electricity 0~1000% * 150 P09.24 Overpressure stall threshold Depends on the voltage specification P09.25 Over voltage control 0: Invalid 2: Model 1 3: Model 2 P09.26 Overvoltage control integral coefficient 0.01~0.1s * 0.05 P09.27 Overvoltage control proportion coefficient 0~200% * 100
P10 Failure Record	
P10.04 Parameter locked * 0: Invalid 1: Protect P10.05 Copy parameter 1: Sectional parameter up load 2: All parameter up load 3: Down load parameter (To be on again when the power is cut off the electricity) P10.70 SW Version - P10.71 Main Board SW Version -	
P11 Digital Monitoring	
P11.00 Frequency output P11.01 Set digital P11.02 DC voltage P11.03 Motor voltage P11.04 Motor current P11.05 Frequency output P11.06 Torsional moment output % P11.14 Motor rotational speed P11.20 Rest of running time P11.25 Current time of power on P11.26 Total time of power on P11.27 Current running time P11.34 Synchronous motor rotor Angle P11.35 converter temperature Attention: labeled"*"is tolerant parameter P010、P011 Parameter is subject to frequency converter actually display	
P08 Assistant Parameter	
P08.20 Switching Frequency 2~16kHz * 5 P08.30 Operating mode 0: Normal operating 2: Reset	