



Product Overview

SN-100GV series frequency converter adopts advanced magnetic flux vector control technology (another optional model, open loop vector is available) and realizes high performance motor control even in the condition of insensitive motor parameters. It is an ideal general frequency converter which features multi functions, user friendly, wide ranged frequency, high torque output, swift response and high reliability. It can work steadily under the frequency between 1 and 1000 Hz. It is suitable for processing machinery and high speed motors.

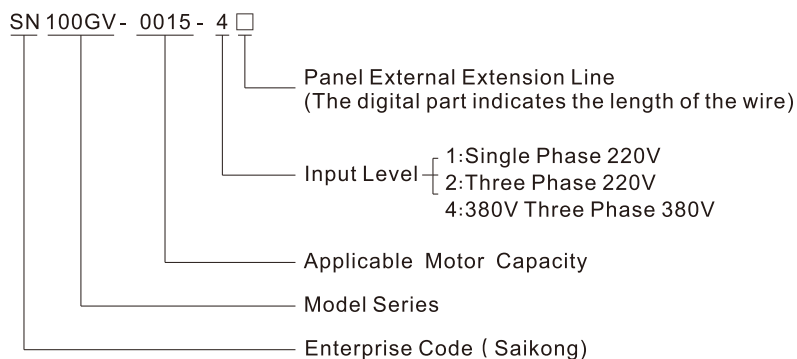
Product Features

- Being petite: high 152mm, width 90mm, and length 132mm. Compacted design and easy arrangement for electrical installation.
- Face panel can be used outside of the cabinet: the interface can lead the face panel to the operation panel of the equipment. The standard equipped potentiometer knob is very convenient for use.
- IGBT module: adopting American IR chip and domestic first-class module package, it is much more stable and reliable than single frequency converter.
- Rich functions: high frequency output, 16-segment speed, remote communication, speed tracking, single-cycle count, built-in braking, process PID, simple PLC, user password lock and other ultra multi functions.
- Perfect protection: it provides multi protections against over-current, overvoltage, under voltage, over temperature, overload, no-full-phase and etc., and has 60s' overload capacity for 150% the rated current.
- Wide range of applications: it matches with water supply, fan, transmission, packaging, textile, engraving and cutting machinery, supporting a variety of industries.

Other Functions Are Also Available:

- Flux vector control provides higher performance than ordinary V/f and there is no need of self-learning for the user;
- Aluminum-alloy heat dissipation, easy disassembly fan, stable heat dissipation for dust, cotton fibre and other complex conditions
- Compacted design reduces 20% the size of similar products, saving user's installation space.
- Standard equipment: one potentiometer and one external leading LED keyboard.
- Product design strictly follows IEC and GB standards, and meets the requirements of CE certification tests.
- It sets up a variety of common functions to meet application requirements:
 - 1) Standard equipped Modbus communication
 - 2) Process PID control
 - 3) 16-segment speed control
 - 4) 0~1000Hz high frequency output
 - 5) Multi point V/F curve can be set
 - 6) Speed tracking function, automatic searching for motor speed and restart without downtime;
 - 7) single-cycle and cycle counting functions
 - 8) It has a multi-function input and output port, and the delay time can be set for the switch.
 - 9) it provides multi protections against over-current, overvoltage, under voltage, over temperature, overload, no-full-phase and etc., and it can save information for fault events.
 - 10) It has multi options like DC braking, magnetic flux braking, resistance energy-consumption braking
 - 11) Over current stall and overpressure stall against load mutation.

Model Description



Technical Parameters

● Product Selection

Voltage Level	Inverter Model	Rated Capacity	Rated Output Current	Applicable Motor
Three phase	SN100GV-0004-4	1.2	1.6	0.4
	SN100GV-0007-4	1.5	2.3	0.75
	SN100GV-0015-4	3.7	3.7	1.5
	SN100GV-0022-4	4.7	5.0	2.2
	SN100GV-0040-4	6.1	8.5	4.0
	SN100GV-0055-4	11	13.0	5.5
	SN100GV-0075-4	14	17.0	7.5
	SN100GV-0110-4	21	25.0	11
	SN100GV-0150-4	26	33.0	15
	SN100GV-0185-4	31	39.0	18.5
	SN100GV-0220-4	37	45.0	22
Single phase / Three phase	SN100GV-0004-1/2	1.0	2.5	0.4
	SN100GV-0007-1/2	1.4	4.0	0.75
	SN100GV-0015-1/2	2.6	7.0	1.5
	SN100GV-0022-1/2	3.8	10.0	2.2

SN100GV Series Frequency Inverter

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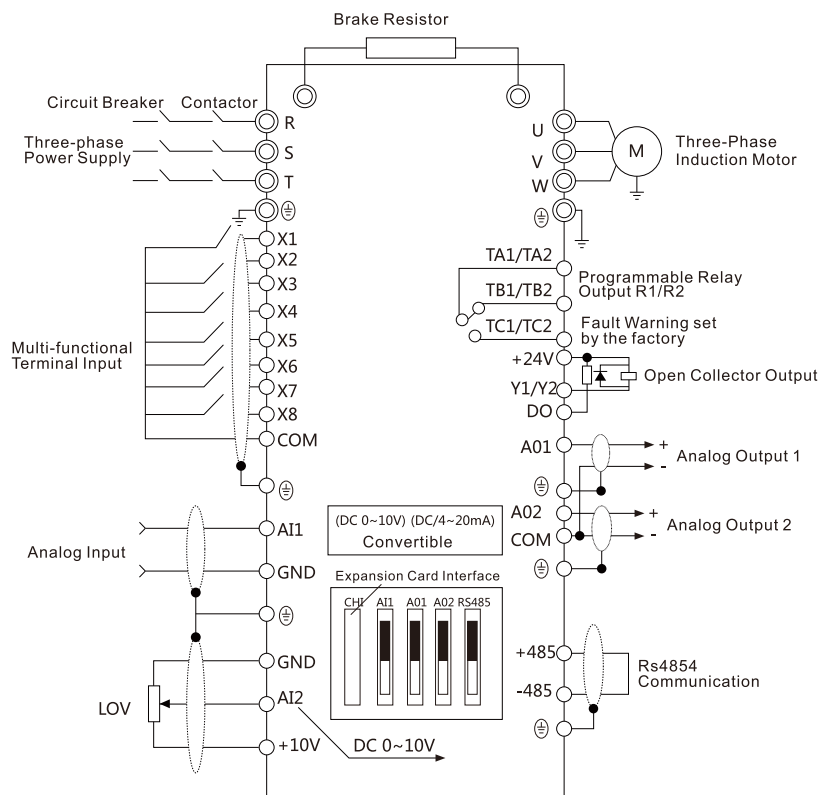
● Electrical Parameters

Function Description	Specification Index
Rated Input Voltage (V)	Single phase 220 (-15%) ~240 (+10%) Three phase (-15%) ~240 (+10%) Three phase (-15%) ~440 (+10%)
Rated Input Frequency (Hz)	50Hz or 60Hz, allowing a range of 47~63Hz
Rated Output Voltage (V)	Equal to the input voltage, the error is less than 5%
Rated Output Frequency (Hz)	50Hz/60Hz, fluctuation range: + 5%
Control Mode	V/f control / flux vector control
Maximum Output Frequency	1000Hz
Speed Ratio	1:100
Overload Capacity	1 minute at 150% the rated current, 10 seconds at 180% the rated current , 1 second at 200% the rated current
Analog Input Resolution	Less than 20mV
Terminal Input Resolution	Less than 2ms
Analog Input and Output	2 Input lines, one is 0~10V, the other is 0~10V/0-20mA; 1 output line, 0~10V/0-20mA
Digital Input And Output	5 normal input lines, 1 Y terminal output line(sharing with the normal digital input), 1 programmable relay output
Communication	485 Communication (support Modbus protocol bus)
Installation Mode	Wall mounting
Operating Ambient Temperature	-10~50℃, used with reduced capacity at above 40℃
Cooling Mode	Single phase forced-air cooling 0.4-0.75kW, natural cooling; Three phase forced-air cooling 0.4-0.75kW, natural cooling, three phase 380V , 1.5-2.2 kw forced-air cooling.
Fault Protection Function	Provide more than ten kinds of fault protection functions: over-current, over-voltage, under-voltage, over-temperature, overload protection functions, etc. .
Brake Unit	Build-in.

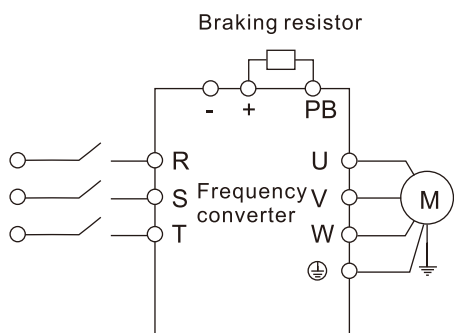
Product Wiring Diagram

● The basic operation wiring

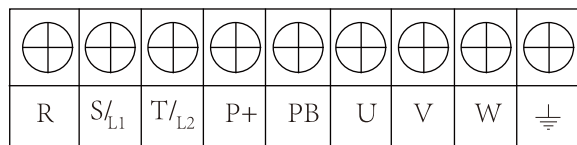
There are two inverter wiring parts: main circuit and control circuit. Open the lid of the output / input terminal, the user can see the main circuit terminal and control circuit terminal, and he must connect the lines according to the wiring diagram below:



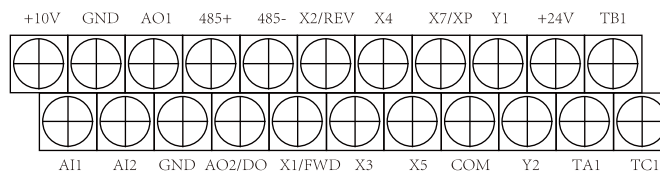
● Main circuit terminal wiring



● Schematic diagram of main circuit terminal



● Schematic diagram of control circuit terminal



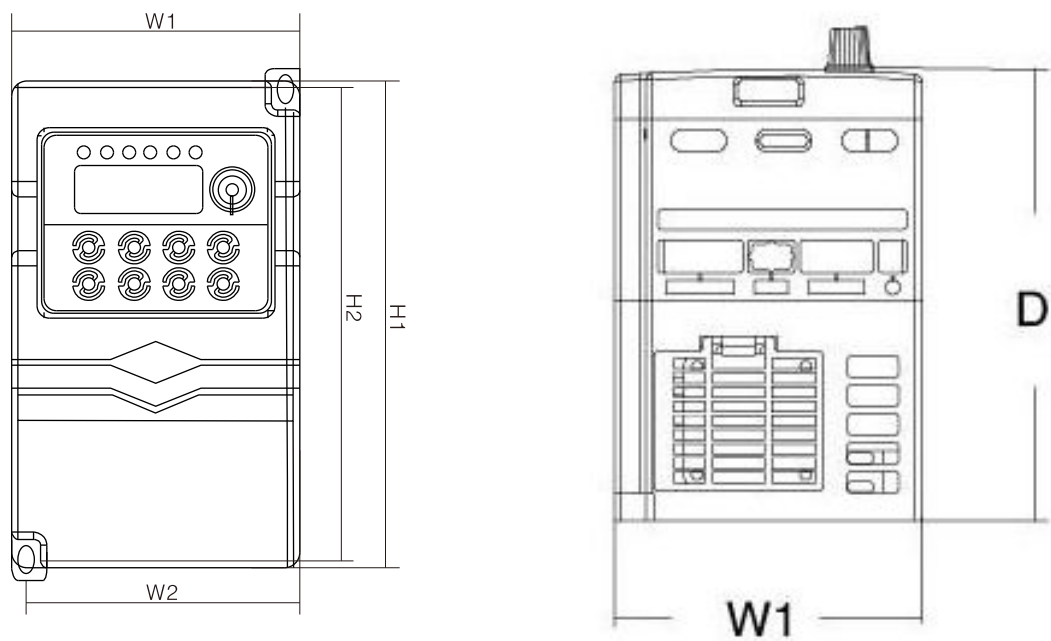
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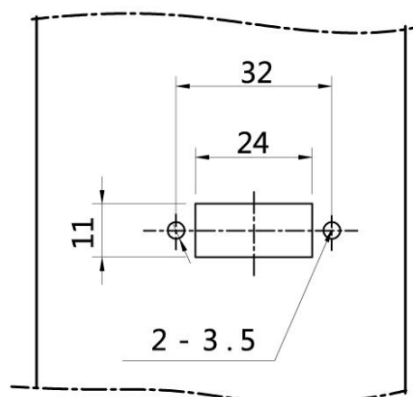
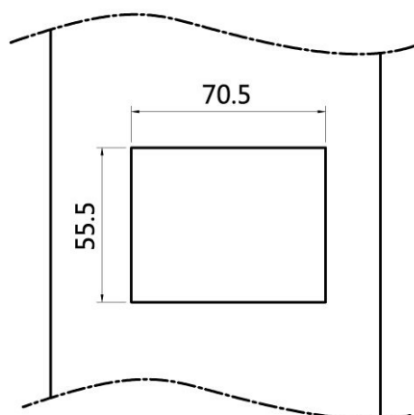
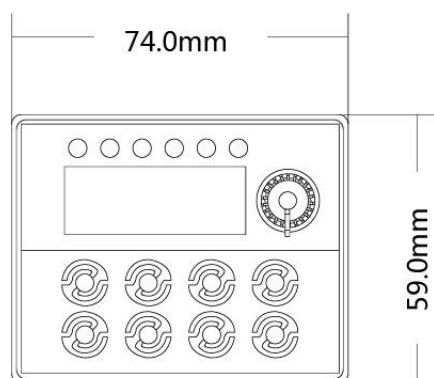
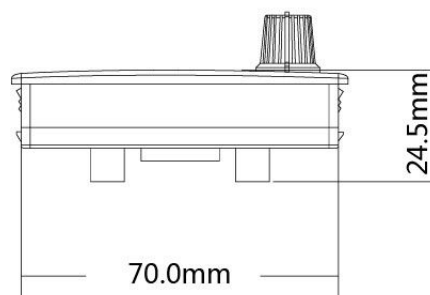
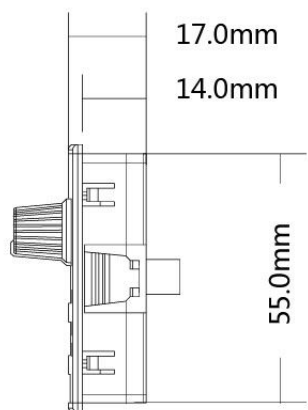
● The list of the terminal functions of the control circuit

Descriptions of the control circuit terminals			
Control Circuit Terminal	Terminal Mark	Function Descriptions	Specifications
Multi function digital input terminal	X1	Short connection between X (X1, X2, X3, X4, X5, X6, X7) and COM is effective. The functions are set by the parameters of F7.00~F7.0 (common port: COM)	INPUT, 0-24V electrical level signal, low level is effective, 5mA.
	X2		
	X3		
	X4		
	X5		
	X6	X6 can be programmed as high speed pulse input terminal. Refer to F7.05 in function illustrations	
Digital signal output terminal	Y1	2 lines of multi functional programmable open collector output can be programmable and defined as switch output(common port: COM).	OUTPUT, the biggest current load is less than 50mA
	Y2	Can be defined as multi functional pulse signal output terminals, as many as 13 types. Refer to output terminal function introduction F6.23. (common port: COM).	OUTPUT, output frequency range is set by F6.32-F6.35. The highest frequency is up to 50 Hz.
	D0		
Analog input and output terminals	Ai1	Ai1 receives the voltage / current input selected by the jumper CN4, (Ai1 jumper terminal) but the default out of factory is voltage input. If current input is needed, just short connect the jumper cap between the middle and the end; Ai2 can only connect to voltage input end, and refer to the setting code F6.00 ~F6.07 to set the range. (reference: GND)	INPUT, input voltage range: 0-10V (input reactor: 100 KΩ) .Input current range :0-20A (Input reactor: 500 KΩ)
	Ai2		
	A01	A01 provides analog voltage / current output, and indicate 13 kinds of physical quantity. Voltage / current output is selected by the jumper, but the default out of factory is voltage output. If current input is needed, just short connect the jumper cap between the middle and the other end:A02 can only offer simulated voltage output. Refer to F6.21, F6.22 in function illustrations.(Reference:GND)	OUTPUT, 0-10V direct current. The output voltage of the terminals A01, A02 comes from PVM waveform of cpu. The output voltage is proportional to positive pulse width of PWM waveform.
	A02		
Relay output terminal	TA1/TA2	Two lines of programmable relay output terminals, as many as 99 types such as TA1/TA2, TB1/TB2, TC1/TC2 . Refer to F7.20 function illustrations of output terminals.	TA-TB: Normally closed; TA-TC: Normally open. Contactor's capacity: 250VAC/2A(COSΦ=1) ; 250VAC/1A(COSΦ=0.4) ; 30VDC/1A.
	TB1/TB2		
	TC1/TC2		
Power interface	+24V	24V is the voltage of the common power supply of digital signal input terminals.	Maximum output current 200 mA

Dimensions



Model		Dimension			Installation Dimension			Packing Dimension			Weight (kg)
		W1	H1	D	W2	H2	Φ	W3	H3	D3	
Single Phase 220V	SN100GV-0004-1	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0007-1	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0015-1	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0022-1	90	152	132.5	81	147	M5	210	110	165	1.3
Three Phase 380V	SN100GV-0004-4	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0007-4	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0015-4	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0022-4	90	152	132.5	81	147	M5	210	110	165	1.3
	SN100GV-0040-4	100	260	171	93	210	M5	310	165	240	2.6
	SN100GV-0055-4	175	260	171	160	210	M5	320	250	270	4.4
	SN100GV-0075-4	175	260	171	160	210	M5	320	250	270	4.4



Keyboard bracket mounting opening drawing

Keyboard screw mounting opening drawing