

SN200G Series Frequency Inverter

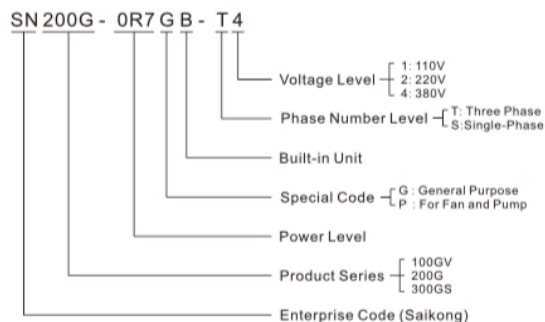
Product Overview

SN200G is a high performance vector inverter for general purpose with low speed and high torque output. It has very dynamic characteristics, providing rich expanding supports. (It supports PG cards, terminal expansion cards, professional special machinery cards and a variety of communication protocol cards). SN200G has expanded the control functions for the closed-loop vector, optimized the performance of DSP main control, and provides more expanding supports in this business.

Product Features

- ◎ Rich voltage levels: it supports three voltage levels — single phase 220V, three phase 220V, and three phase 380V.
- ◎ Rich control methods: in addition to the speed sensor vector control, sensorless vector control, V/F control, it also supports V/F separation control.
- ◎ Rich field bus: it supports two kinds of bus — Modbus-RTU and CANlink.
- ◎ Rich types of encoders: it supports differential encoder, open collector encoder, rotary transformer, etc..
- ◎ Brand new sensorless vector control algorithm The new SVC (sensorless vector control) brings better low-speed stability, stronger low-frequency load capacity, and the support for SVC torque control.
- ◎ Strong background software: the background software can achieve the frequency converter parameters of the upload, download, real-time oscilloscope and other functions.

Model Descriptions



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Specifications

● Product Selection

Mechanical Type	Inverter Model	Power Supply Capacity KVA	Input Current (A)	Output Current (A)	Applicant Motor	
					KWHP	
Single-phase Power Supply 220V,50/60HZ	SN200G-0R4GB-S2	1	5.4	2.3	0.4	0.5
	SN200G-0R7GB-S2	1.5	8.2	4	0.75	1
	SN200G-1R5GB-S2	3	14	7	1.5	2
	SN200G-2R2GB-S2	4	23	9.6	2.2	3
Three-phase Power Supply 220V,50/60HZ	SN200G-0R4GB-T2	1.5	3.4	2.1	0.4	0.5
	SN200G-0R7GB-T2	3	5	3.8	0.75	1
	SN200G-1R5GB-T2	4	5.8	5.1	1.1	1.5
	SN200G-2R2GB-T2	5.9	10.5	9	2.2	3
	SN200G-3R7GB-T2	8.9	14.6	13	3.7	5
	SN200G-5R5GB-T2	17	26	25	5.5	7.5
	SN200G-7R5GB-T2	21	35	32	7.5	10
	SN200G-11G-T2	30	46.5	45	11	15
	SN200G-15G-T2	40	62	60	15	20
	SN200G-18R5G-T2	57	76	75	18.5	25
	SN200G-22G-T2	69	92	91	22	30
	SN200G-30G-T2	85	113	112	30	40
	SN200G-37G-T2	114	157	150	37	50
	SN200G-45G-T2	134	180	176	45	60
	SN200G-55G-T2	160	214	210	55	70
	SN200G-75G-T2	231	307	304	75	100
Three-phase Power Supply 380V,50/60HZ	SN200G-0R7GB-T4	1.5	3.4	2.1	0.75	1
	SN200G-1R5GB-T4	3	5	3.8	1.5	2
	SN200G-2R2GB-T4	4	5.8	5.1	2.2	3
	SN200G-3R5GB-T4	5.9	10.5	9	3.7	5
	SN200G-5R5GB-T4	8.9	14.6	13	5.5	7.5
	SN200G-7R5GB-T4	11	20.5	17	7.5	10
	SN200G-11GB-T4	17	26	25	11	15
	SN200G-15GB-T4	21	35	32	15	20
	SN200G-18R5G-T4	24	38.5	37	18.5	25
	SN200G-22G-T4	30	46.5	45	22	30
	SN200G-30G-T4	40	62	60	30	40
	SN200G-37G-T4	57	76	75	37	50
	SN200G-45G-T4	69	92	91	45	60
	SN200G-55G-T4	85	113	112	55	70
	SN200G-75G-T4	114	157	150	75	100
	SN200G-90G-T4	134	180	176	90	125
	SN200G-110G-T4	160	214	210	110	150
	SN200G-132G-T4	192	256	253	132	175
	SN200G-160G-T4	231	307	304	160	210
	SN200G-200G-T4	250	385	377	200	260
	SN200G-220G-T4	280	430	426	220	300
	SN200G-250G-T4	355	468	465	250	350
	SN200G-280G-T4	396	525	520	280	370
	SN200G-315G-T4	445	590	585	315	420
	SN200G-355G-T4	500	665	650	355	500
	SN200G-400G-T4	565	785	725	400	530

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● Basic Functions

Item	Specifications	
Maximum Frequency	0~300Hz Vector control	
	V/F: 0~3200Hz V/F control	
Carrier Frequency	0.5kHz~16kHz	
	The carrier frequency can be adjusted automatically according to the load characteristics	
Input Frequency Resolution	Digital setting: 0.01Hz	
	Simulation settings: maximum frequency × 0.025%	
Control Mode	Open loop vector control (SVC)	
	V/F控制Closed loop vector control (FVC) V/F control	
Starting Torque	G machine: 0.5Hz/150% (SVC) ; 0Hz/180% (FVC)	
	P machine: 0.5Hz/100%	
Speed Range	1: 100 (SVC)	1: 1000 (FVC)
Steady Speed Precision	± 0.5% (SVC)	± 0.02% (FVC)
Torque Control Precision	± 0.5% (FVC)	
Overload Capability	G type machine: 150% the rated current 60s; 180% the rated current 3S	
	P type machine: 120% the rated current 60s; 150% the rated current 3S	
Torque Lifting	Automatic torque lifting; manual torque lifting 0.1%~30.0%	
V/F Curve	V/F Three ways: straight line type; multi-point type; Nth power V/F curve	
	(to the power of 1.2nd, 1.4th, 1.6th, 1.8th and 2nd.)	
V/F Separation	2 ways: full separation, semi separation	
Acceleration And Deceleration Curve	Linear or S-curve acceleration and deceleration, four kinds of acceleration and deceleration time	
	0.0~6500.0s Acceleration and deceleration time range0.0~6500.0s	
DC Brake	DC braking frequency: 0.00Hz~ Max frequency	
	Braking time: 0.0s~36.0s braking action	
	Current value: 0.0%~100.0%	
Point Motion Control	Point frequency range: 0.00Hz~50.00Hz	
	Point acceleration and deceleration time 0.0s~6500.0s	
Simple PLC, Multi Speed Operation	Achieve up to 16-segment speed operation through the built-in PLC or control terminal to	
Build-In PID	Facilitate process control over the closed loop control system.	
Automatic Voltage Regulation(AVR)	When the grid voltage changes, the output voltage can still be kept constant	
Over-Voltage Over-Current Stall Control	Automatic limit of current and voltage during operation to prevent tripping due to frequent over current or over voltage.	
Fast Current Limit Function	Minimize the over-current fault, protect the normal operation of the inverter	
Torque Limit And Control	With an extractor's characteristics, automatic torque limit during operation to avoid frequent over-current trip; torque control can be realized in closed loop vector mode.	

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● Personalized Functions

Item	Specifications
Outstanding Performance	To realize motor control with high- performance current-vector-control technique
Nonstop for instantaneous power failure	The inverter maintains running through load feedback and energy compensation when there is an instantaneous power failure.
Fast current limit	To avoid the frequent occurrence of over-current fault
Timing control	Timing control function: set the timing range 0.0Min ~ 6500.0Min
Multi motor switch	2 sets of motor parameters for 2 motor switching control
Multi-thread bus support	Support two kinds of Fieldbus:: RS - 4 8 5 、 C A N I n k
Motor Overheat Protection	Optional multi-function card, analog input A I 3, motor temperature sensor input is acceptable (PT100, PT1000)
Multi-encoder support	Support differential, open collector, rotary transformer and other encoders
User programmable	Optional user programmable card, and secondary development is achievable
Strong background software	Support parameter operations of the inverter and the functions of the virtual oscilloscope. Monitor the internal state of the inverter by virtual oscilloscope .

● Operation

Item	Specifications
Command source	The operation panel is given, the control terminal is given and the serial communication port is given. A variety of ways are switchable.
Frequency source	10 kinds of frequency source: digital setting, analog voltage setting, analog current setting, given pulse, given serial port. A variety of ways are switchable.
Auxiliary frequency source	10 auxiliary frequency sources. Auxiliary frequency fine tuning and frequency synthesis can be realized flexibly.
Input terminal	Standard
	5 digital input terminals, 1 of which support the highest high speed pulse input of 100kHz
	2 analog input terminals, 1 of which supports only voltage input from 0 to 10V
	1 support voltage input from 0 to 10V or current input from 4 to 20mA
	Expansion capacity:
	5 digital input terminals
	1 analog input terminal, support voltage input from 0 to 10V
Output terminal	Standard
	1 high speed pulse output terminal (optional type of open collector)
	Support square wave signal output
	1 digital output terminal
	1 relay output terminal
	1 analog output terminal that support current input from 0 to 20mA and voltage output from 0 to 10V
	Expansion capacity:
	1 digital output terminal
	1 relay output terminal
	1 analog output terminal that support current input from 0 to 20mA and voltage output from 0 to 10V



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● Display and Keyboard Operation

Item	Specifications
LED Display	Parameter display
Key lock	Part or all of the keys are locked, and the role of some buttons are defined to prevent being misused
Protection Functions	Short-circuit detection for the powered motor, input and output phase-loss protection, over-current protection, over-voltage protection, under-voltage protection, over-temperature protection, overload protection, etc.
Optional Parts	LCD operation panel, brake assembly, multi-function expansion card, IO expansion card, RS485 communication card, CANlink communication card, differential input PG card, Rotary transformer PG card, OC input PG card.

● Using Environment

Item	Specifications
Application Place	Indoor, free from direct sunlight, no dust, no corrosive gas, no flammable gas, no oil fog, no steam, no water or salt etc.
Altitude	Below 1000m
Ambient Temperature	- 10°C ~ + 40°C (Use with reduced capacity during temperature from 40°C to 50°C)
Moisture	Less than 95%RH, no dew condensation
Vibration	Less than 5.9m / s ² (0.6g)
Storage Temperature	- 20°C ~ + 60°C

SN200G Shell Structures for Different Models

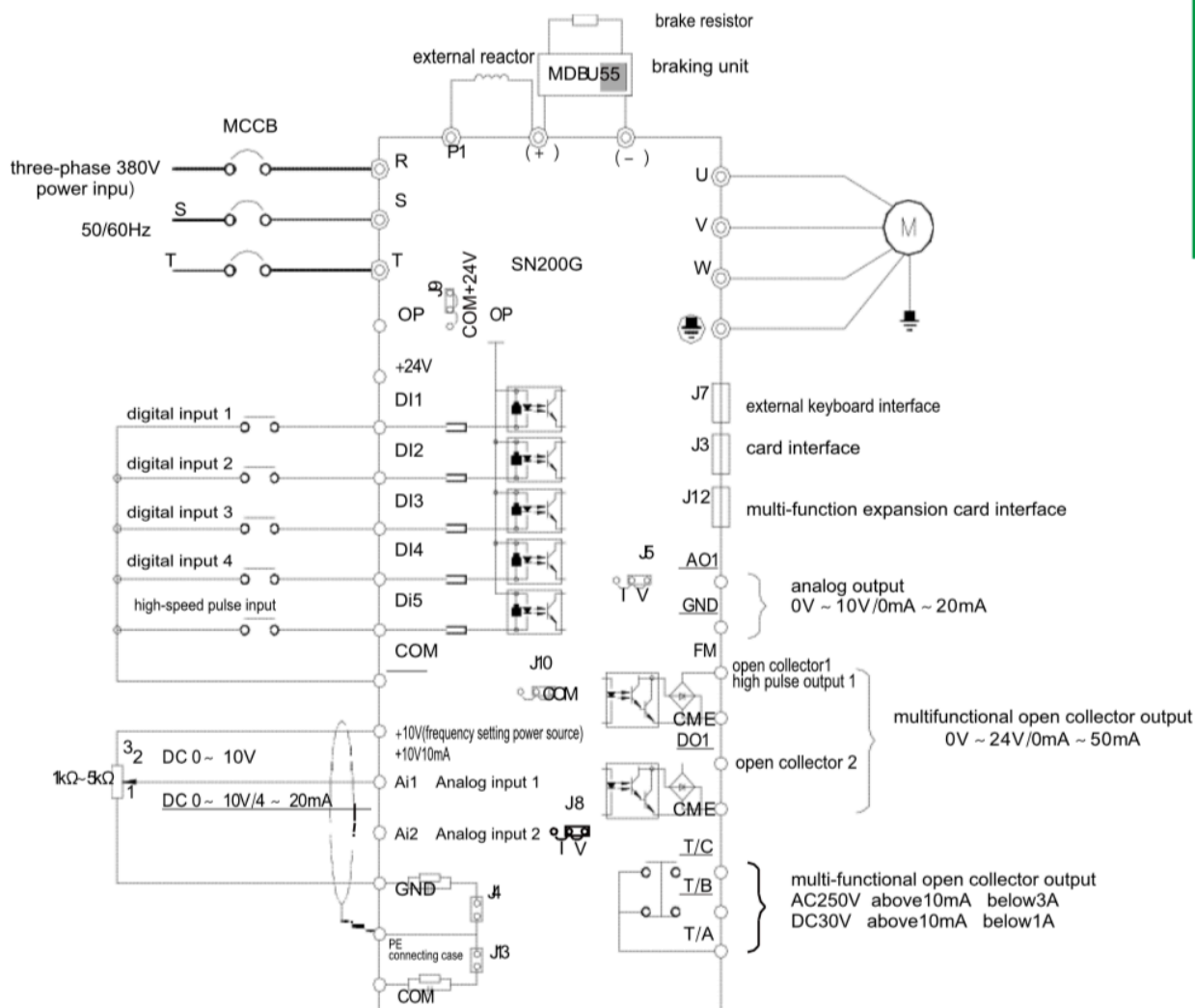
Mechanical type	Model	Shell structure
Single Phase 220V	0.4kW ~ 2.2kW	Plastic structure
	0.4kW ~ 7.5kW	Plastic structure
Three phase 220V	11kW ~ 75kW	Sheet Metal Structure
	0.75kW ~ 15kW	Plastic structure
Three phase 380V	18.5kW ~ 400kW	Sheet Metal Structure

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Standard Wiring Diagram

- Wiring Diagram for the Inverter



- Note:

Terminals : ⊙ is main circuit terminal, ⊙ is control circuit terminal

Brake resistance shall be selected according to user's requirements. Further information, please refer to guide for selection of brake resistors.