

# Economical Compacted Vector Inverter SN200MN Series

## Selection Guide



Zhejiang Saikong Electrical Technology Co., Ltd.

### By Industry

- Packaging Machinery
- Food Machinery
- Textile Machinery
- Cutting Machine
- Engraving Machine
- Laminating Machine
- Roots Blower
- Etc.



**SAFESAVE**

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# Product Overview

- 1) Various voltage levels: it supports three voltage levels — single phase 220V, three phase 220V, and three phase 380V.
- 2) Rich control methods: in addition to the speed sensor vector control, sensorless vector control, V/F control, it also supports V/F separation control.
- 3) Optional field bus: it supports two kinds of bus — Modbus-RTU and CANlink.
- 4) Rich types of encoders: it supports differential encoder, open collector encoder, rotary transformer, etc..
- 5) 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.
- 6) Strong background software: the background software can achieve the frequency converter parameters of the upload, download, real-time oscilloscope and other functions.



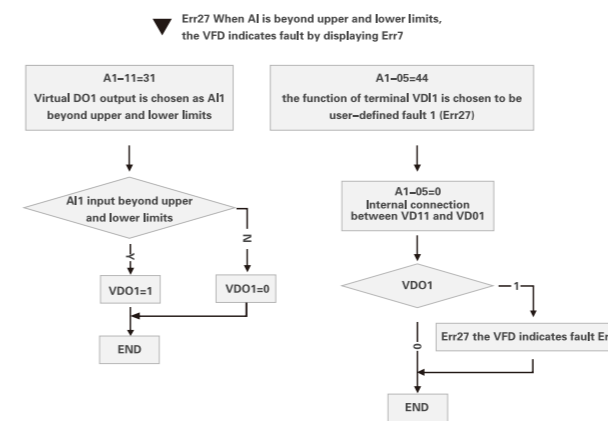
Power rate range: 0.4kW~11kW

# Functional Features

Function	Description
Restore user parameters	This function supports the customer to save or restore the parameters of its own settings
Display of customized parameters	Functional parameters to be displayed for user customization
Display of revised parameter s	The user can view the modified function parameters
Fault processing options	According to the needs, the user can determine the operating mode of the frequency converter after a specific fault occurs: free stop, deceleration, stop, and continue to run. It is also possible to choose the frequency of the continuing operation.
PID parameter switching	There are two sets of PID parameters, which can be switched by terminal switch or according to the deviation.
PID feedback on loss detection	Setting the PID feedback on loss detection value to realize the protection of the PID during the running.
DIDO positive and negative logic	User-set positive and negative logic of DIDO
DIDO response delay	The user sets the DIDO response delay time.
Run timing	Support timing maximum 6500 minutes for running.
Wireless remote control	The extended wireless module is used to set and control the remote parameters.
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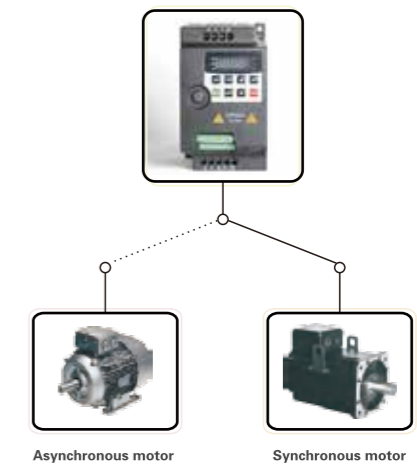
## Virtual IO function

5 groups of virtual DIDO can be set. The status of terminal DI can be given directly by functional code or bound to corresponding Virtual DO function.



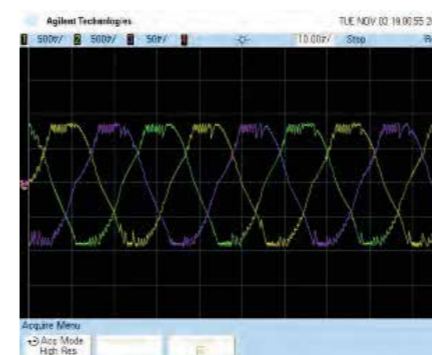
## Multi motor switching

With 4 sets of motor parameters, the switching control among 4 motors or between synchronous motor and asynchronous motor can be realized.



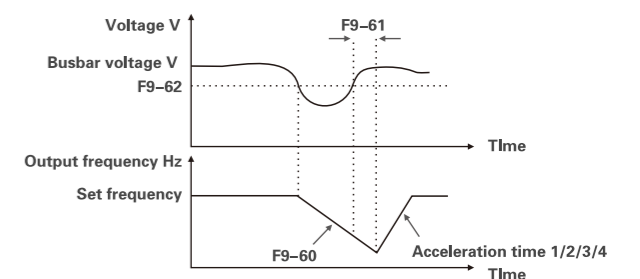
## Fast current limiting function

Fast current limiting function can avoid frequent overcurrent alarm of the VFD. When the current exceeds the current protection point, the fast current limiting function can quickly limit the current to the current protection point, so as to protect the device and avoid overcurrent alarm caused by sudden load or interference.



## Nonstop at instant outage

This function means that the VFD will not stop at the time of power outage. In case of instantaneous power failure or sudden voltage drop, the VFD reduces output speed and compensates the voltage reduction by feedback energy, so as to maintain the inverter running in a short time.



## Flexible and practical analog input / output port

Each analog input (A11A13) is set respectively for 4 points of the curve, more flexibly in use. A11-A13 can be corrected by factory before delivery or calibrated by user of the linear curve, and the accuracy after calibration is up to 20mV. AO can be corrected by factory before delivery or calibrated by user of the linear curve, and the accuracy after calibration is up to 20mV. A11-A13 can be used as a DI. A13 is an isolated input port, which can be used as a PT00, PT1000 or + 10V input port.

## Technical specifications

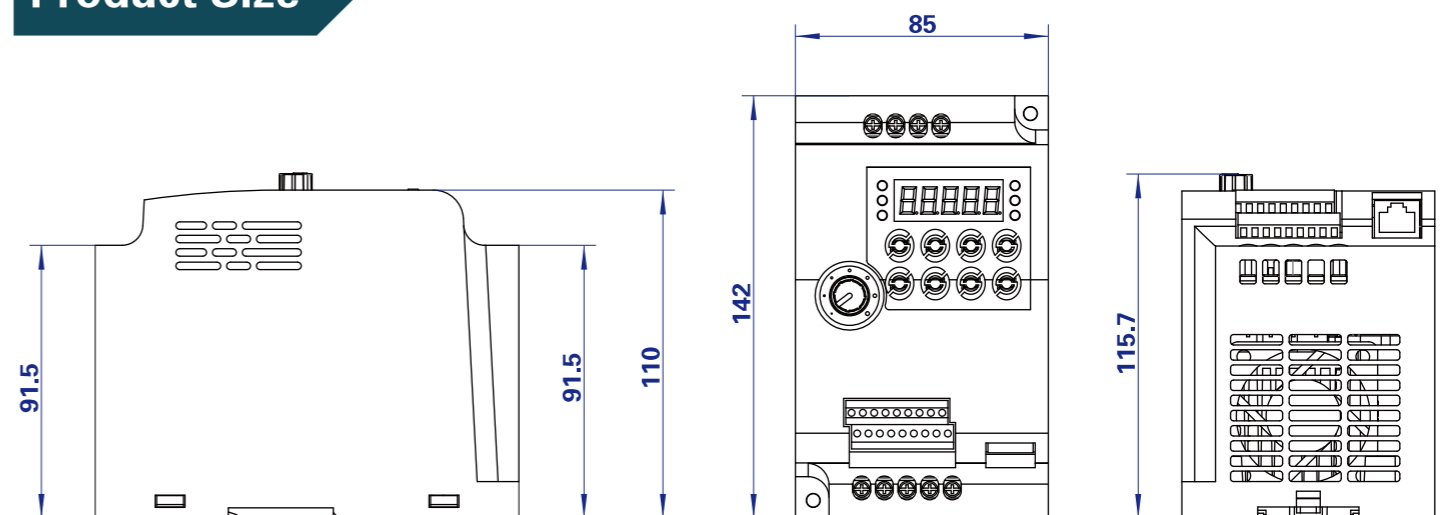
Item	Specifications	
Maximum frequency	Vector control: 0–300Hz V/F control: 0–3200Hz	
Carrier wave frequency	0.5kHz – 16kHz The carrier frequency can be automatically adjusted according to the load characteristics	
Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency × 0.025%	
Control mode	Open loop vector control (SVC) Closed loop vector control (FVC)	
Starting Torque	Type G machine: 0.5Hz / 150% ( SVC ) ; 0Hz / 180% ( FVC ) Type P machine: 0.5Hz / 100%	
Speed adjusting range	1:100(SVC)	1:1000(FVC)
Accuracy of speed stability	± 0.5% ( FVC )	± 0.02% ( FVC )
Accuracy of torque control	± 5% ( FVC )	
Overload capability	Type G machine: 150% the rated current ,60s; 180% the rated current, 3s. Type P 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	Three types: straight line type; multipoint type; N sub square V/F curve	
V/F Separation	Two types: full separation, semi separation	
Acceleration and deceleration curve	Straight line mode or acceleration and deceleration S curve mode. Four kinds of acceleration and deceleration time. Acceleration and deceleration time range 0.0–6500.0s	
DC brake	DC braking frequency: 0.00Hz –maximum frequency Braking time: 0.0s–36.0s brake action Current value: 0.0%–100.0%	
Point dynamic brake	Point moving frequency range: 0.00Hz–50.00Hz Point motion acceleration and deceleration time :0.00s–6500.0s	
Simple PLC, multi speed	Up to 16 segments of speed operation through built-in PLC or control terminal	
Build-in PID	A closed loop control system for convenient realization of process control	
Automatic voltage regulation	When the voltage of the power grid is changed, the output voltage can still be kept	
Control of over-voltage, overflow and stall.	Automatic limit of current and voltage during operation to prevent tripping off for frequent overflowing or over voltage.	
Fast current limiting function	Minimize overcurrent failure and protect the normal operation of the frequency converter.	
Torque limit and control	Excavator characteristics are to limit the torque automatically during the operation and prevent frequent overcurrent tripping, and the closed loop vector mode can realize torque control.	



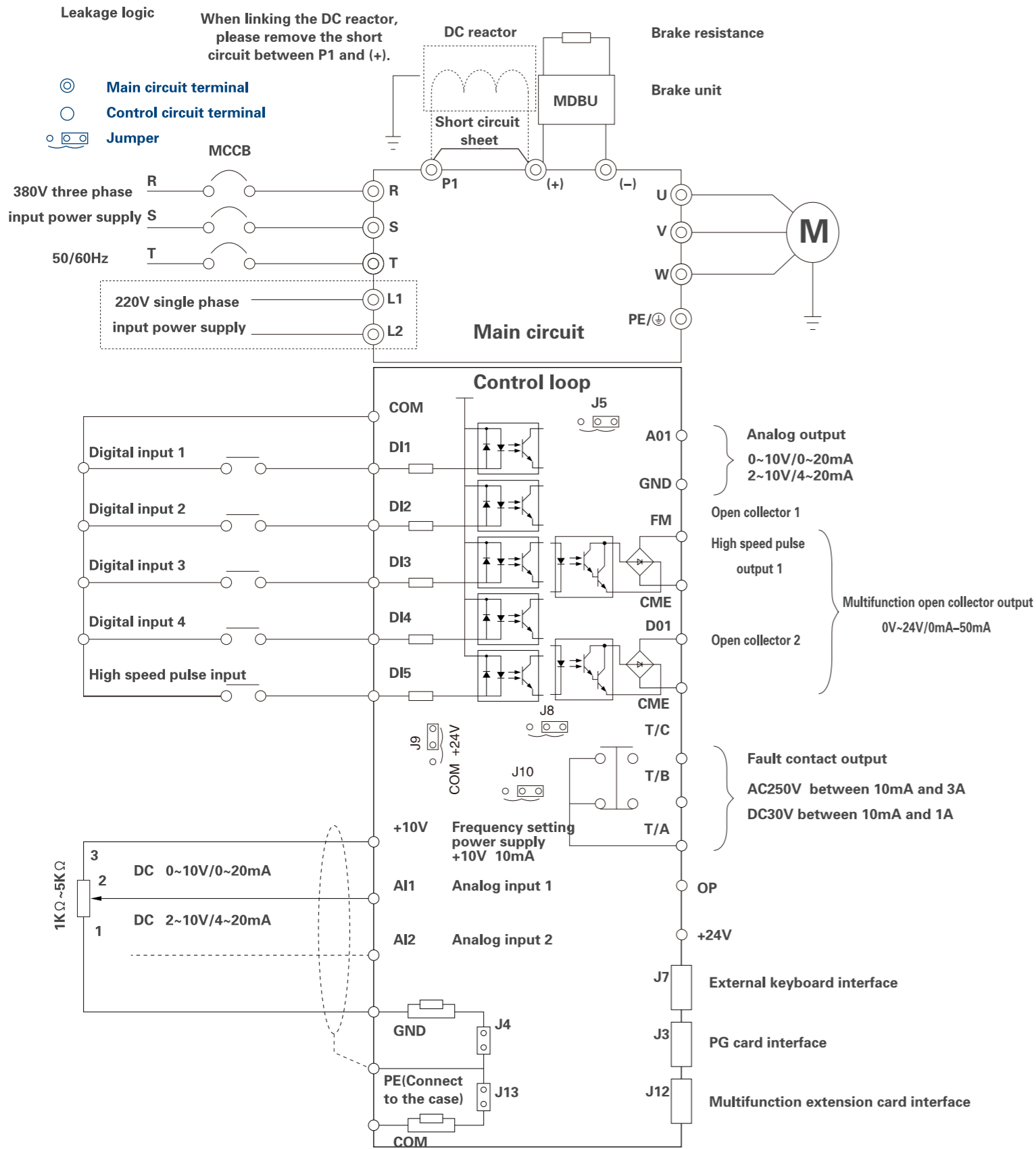
Physical display

	Item	Specifications	
Operations	Command source	It can monitor the internal state of the inverter, control the terminal and the serial communication port. It can be switched in a variety of ways.	
	Frequency source	10 frequency sources: a given number, a given analog voltage, a given pulse, a given serial port. It can be switched in a variety of ways.	
	Auxiliary frequency source	10 kinds of auxiliary frequency sources. It can flexibly realize the auxiliary frequency tuning and frequency synthesis.	
	Input terminal		Standard: ]
			5 digital input terminals, 1 of which supports high speed pulse input up to
			2 analog input terminals, 1 of which only supports 0–10V voltage input.
			1 support 0–10V voltage input or 4–20mA current input
			[Expansion capacity:]
	Output terminal		5 digital input terminals
			1 analog input terminals support 0–10V voltage input.
		[ Standard: ]	
		1 high speed pulse output terminals (optional open collector type)	
		Support output of square wave signal of 0–100kHz	
		1 digital output terminal	
		1 relay output terminal	
		1 analog output terminal that supports current output of 0–20m or voltage output of 0–10V.	
		[Expansion capacity:]	
		1 digital output terminal	
Using environment	Places of use	Indoor, free from sunlight, no dust, corrosive gases, flammable gases, oil mist, water vapor, drip or salt, etc.	
	Altitude	Lower than 1000 meters.	
	Ambient temperature	– 10 ° C – + 40 ° C (Derated if used at the ambient temperature of 40 ° C – 50 ° C)	
	Humidity	Less than 95%RH, without water condensing.	
	Vibration	Less than 5.9m/s <sup>2</sup> (0.6g)	
	Storage temperature	–20 ° C—+60 ° C	

## Product Size



# Product wiring diagram



1/Movable Control Board

2/Compacted Size

3/High Performance

4/Vector Control

5/Economical Design

6/IGBT Module

7/Excellent Heat Dissipation

8/Easy Operation

9/Easy Installation