

2-2. Standard specifications

Items		Specifications
Power	Voltage and frequency levels	Single-phase 220V, 50/60Hz Three-phase 220V, 50/60Hz Three-phase 380V, 50/60Hz Three-phase 480V, 50/60Hz Three-phase 690V, 50/60Hz
	Allowable fluctuation	Voltage:±10% Frequency:±5%
Control system	Control system	High performance vector control inverter based on DSP
	Control method	V/F control, vector control W/O PG, vector control W/ PG
	Automatic torque boost function	Realize low frequency (1Hz) and large output torque control under the V/F control mode.
	Acceleration/deceleration control	Straight or S-curve mode. Four times available and time range is 0.0 to 6500.0s.
	V/F curve mode	Linear, square root/m-th power, customized definition V/F curve
	Over load capability	G type:rated current 150% - 1 minute, rated current 180% - 2 seconds F type:rated current 120% - 1 minute, rated current 150% - 2 seconds
	Maximum frequency	Vector control:0 to 300Hz V/F control:0 to 3200Hz
	Carrier Frequency	0.5 to 16kHz; automatically adjust carrier frequency according to the load characteristics.
	Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency×0.1%
	Start torque	G type: 0.5Hz/150% (vector control W/O PG) F type: 0.5Hz/100% (vector control W/O PG)
	Speed range	1:100 (vector control W/O PG) 1:1000 (vector control W/ PG)
	Steady-speed precision	Vector control W/O PG: ≤ ± 0.5% (rated synchronous speed) Vector control W/ PG: ≤ ± 0.02% (rated synchronous speed)
	Torque response	≤ 40ms (vector control W/O PG)
	Torque boost	Automatic torque boost; manual torque boost(0.1% to 30.0%)
DC braking	DC braking frequency: 0.0Hz to max. frequency, braking time: 0.0 to 100.0 seconds, braking current value: 0.0% to	

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		100.0%	
	Jogging control	Jog Frequency Range: 0.00Hz to max. frequency; Jog Ac/deceleration time: 0.0s to 6500.0s	
	Multi-speed operation	Achieve up to 16-speed operation through the control terminal	
	Built-in PID	Easy to realize closed-loop control system for the process control.	
	Automatic voltage regulation(AVR)	Automatically maintain a constant output voltage when the voltage of electricity grid changes	
	Torque limit and control	"Excavator" feature - torque is automatically limited during the operation to prevent frequent overcurrent trip; the closed-loop vector mode is used to control torque.	
Personalization function	Self-inspection of peripherals after power-on	After powering on, peripheral equipment will perform safety testing, such as ground, short circuit, etc.	
	Common DC bus function	Multiple inverters can use a common DC bus.	
	Quick current limiting	The current limiting algorithm is used to reduce the inverter overcurrent probability, and improve whole unit anti-interference capability.	
	Timing control	Timing control function: time setting range(0m to 6500m)	
Running	Input signal	Running method	Keyboard/terminal/communication
		Frequency setting	10 frequency settings available, including adjustable DC(0 to 10V), adjustable DC(0 to 20mA), panel potentiometer, etc.
		Start signal	Rotate forward/reverse
		Multi-speed	At most 16-speed can be set(run by using the multi-function terminals or program)
		Emergency stop	Interrupt controller output
		Wobulate run	Process control run
		Fault reset	When the protection function is active, you can automatically or manually reset the fault condition.
		PID feedback signal	Including DC(0 to 10V), DC(0 to 20mA)
	Output	Running status	Motor status display, stop, ac/deceleration, constant speed, program running status.

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	Fault output	Contact capacity :normally closed contact 5A/AC 250V , normally open contact 3A/AC 250V , 1A/DC 30V.
	Analog output	Two-way analog output, 16 signals can be selected such as frequency, current, voltage and other, output signal range (0 to 10V / 0 to 20mA).
	Output signal	At most 3-way output, there are 40 signals each way
Run function		Limit frequency, jump frequency, frequency compensation, auto-tuning, PID control
DC current braking		Built-in PID regulates braking current to ensure sufficient braking torque under no overcurrent condition.
Running command channel		Three channels: operation panel, control terminals and serial communication port. They can be switched through a variety of ways.
Frequency source		Total 5 frequency sources: digital, analog voltage, analog current, multi-speed and serial port. They can be switched through a variety of ways.
Input terminals		6 digital input terminals, compatible with active PNP or NPN input mode, one of them can be for high-speed pulse input(0 to 100 kHz square wave); 2 analog input terminals for voltage or current input.
Output terminals		2 digital output terminals, one of them can be for high-speed pulse output(0 to 100kHz square wave); one relay output terminal; 2 analog output terminals respectively for optional range (0 to 20mA or 0 to 10V), they can be used to set frequency, output frequency, speed and other physical parameters.
Protection function	Inverter protection	Overvoltage protection, undervoltage protection, overcurrent protection, overload protection, overheat protection, overcurrent stall protection, overvoltage stall protection, losing-phase protection (optional), communication error, PID feedback signal abnormalities, PG failure and short circuit to ground protection.
	IGBT temperature display	Displays current temperature IGBT
	Inverter fan control	Can be set
	Instantaneous power-down restart	Less than 15 milliseconds: continuous operation. More than 15 milliseconds: automatic detection of motor speed, instantaneous power-down restart.

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	Speed start tracking method	The inverter automatically tracks motor speed after it starts	
	Parameter protection function	Protect inverter parameters by setting administrator Password and decoding	
Display	LED/OLED display keyboard	Running information	Monitoring objects including: running frequency, set frequency, bus voltage, output voltage, output current, output power, output torque, input terminal status, output terminal status, analog AI1 value, analog AI2 value, motor Actual running speed, PID set value percentage, PID feedback value percentage.
		Error message	At most save three error message, and the time, type, voltage, current, frequency and work status can be queried when the failure is occurred.
	LED display	Display parameters	
	OLED display ³	Optional, prompts operation content in Chinese/English text.	
	Copy parameter ³	Can upload and download function code information of frequency converter, rapid replication parameters.	
	Key lock and function selection	Lock part or all of keys, define the function scope of some keys to prevent misuse.	
	Communication	RS485	The optional completely isolated RS485 communication module can communicate with the host computer.
Environment	Environment temperature	-10 °C to 40 °C (temperature at 40 °C to 50 °C, please derating for use)	
	Storage temperature	-20 °C to 65 °C	
	Environment humidity	Less than 90% R.H, no condensation.	
	Vibration	Below 5.9m/s ² (= 0.6g)	
	Application sites	Indoor where no sunlight or corrosive, explosive gas and water vapor, dust, flammable gas, oil mist, water vapor, drip or salt, etc.	
	Altitude	Below 1000m	
	Pollution degree	2	
Product standard	Product adopts safety standards.	IEC61800-5-1:2007	
	Product adopts EMC standards.	IEC61800-3:2005	