



Innovation/Technology/High Quality



HIGH PERFORMANCE VFD300 AC DRIVES

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ShenZhen VEIKONG Electric CO., Ltd.



Shenzhen Veikong Electric CO.,Ltd. a high-tech enterprise which has been specializing in researching, manufacturing and trading high, medium and low voltage inverter, providing our clients with integrated system solutions. We have professional R&D and devoted management team with more than 20 years' experience of theoretical research, product development and quality management. Veikong also is one of the first independent AC drives company in China. We adopt SPWM, sensorless vector control and vector and torque control technology in our VFD series inverters, which has reached the international advanced standard. The products can directly replace and be equivalent of Europe and the United States, Japan and other brands, providing customers with a powerful technical support. We have achieved popularity and qualification in VFD industry. Quality is the life of enterprise,

Veikong drives keeps following ISO9001 standard to manage and supervise quality. Our products have passed CE certification and other technical approval. To better meet customer requirements and market needs, Veikong drives keeps on upgrading new technologies and new products.

The customer is the source of enterprise. We are honored to put top priority on customers' requirements as well as achieving their requirements. Our products have been widely used in petroleum, chemical, melting, hoisting, electric power, building materials, water supply, plastics, textiles, printing, packing and other industries to create value for customers.



PCBA Production Line and Test



Burn-in

Lacquer

Assemble



Automatic DT test platform

Automatic PCBA ATE test platform

Automatic FLASH test platform

Model reference

VFD300



Application Industry



VFD Voltage and Power Rating Data

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
				KW	HP
Single-phase 220V, 50/60Hz					
VFD300S-0R4GS2	1.0	5.4	2.3	0.4	0.5
VFD300S-R75GS2	1.5	8.2	4.0	0.75	1
VFD300S-1R5GS2	3.0	14	7.0	1.5	2
VFD300S-2R2GS2	4.0	23	9.6	2.2	3
Three-phase 380V-480V 50/60Hz					
VFD300-R75GT4	1.5	3.4	2.1	0.75	1
VFD300-1R5GT4	3.0	5.0	3.8	1.5	2
VFD300-2R2GT4	4.0	5.8	5.1	2.2	3

VFD Voltage and Power Rating Data

Model	Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor	
				KW	HP
Single-phase 220V, 50/60Hz					
VFD300S-0R4GS2	1	5.4	2.3	0.4	0.5
VFD300S-R75GS2	1.5	8.2	4	0.75	1
VFD300S-1R5GS2	3	14	7	1.5	2
VFD300S-2R2GS2	4	23	9.6	2.2	3
Three-phase 220V, 50/60Hz					
VFD300-0R4GT2	1.5	3.4	2.1	0.4	0.5
VFD300-R75GT2	3	5	3.8	0.75	1
VFD300-1R5GT2	4	5.8	5.1	1.5	2
VFD300-2R2GT2	5.9	10.5	9	2.2	3
VFD300-3R7GT2	8.9	14.6	13	3.7	5
VFD300-5R5GT2	17	26	25	5.5	7.5
VFD300-7R5GT2	21	35	32	7.5	10
VFD300-011GT2	30	46.5	45	11	15
VFD300-015GT2	40	62	60	15	20
VFD300-018GT2	57	76	75	18.5	25
VFD300-022GT2	69	92	91	22	30
VFD300-030GT2	85	113	112	30	40
VFD300-037GT2	114	157	150	37	50
VFD300-045GT2	134	180	176	45	60
VFD300-055GT2	160	214	210	55	75
VFD300-075GT2	231	307	304	75	100
Three-phase 380V-480V, 50/60Hz					
VFD300-R75GT4	-	1.5	3.4	2.1	0.75
VFD300-1R5GT4	-	3	5	3.8	1.5
VFD300-2R2GT4	-	4	5.8	5.1	2.2
VFD300-3R7GT4	-	5.9	10.5	9	3.7
VFD300-5R5GT4	VFD300-5R5PT4	8.9	14.6	13	5.5
VFD300-7R5GT4	VFD300-7R5PT4	11	20.5	17	7.5
VFD300-011GT4	VFD300-011PT4	17	26	25	11
VFD300-015GT4	VFD300-015PT4	21	35	32	15
VFD300-018GT4	VFD300-018PT4	24	38.5	37	18.5
VFD300-022GT4	VFD300-022PT4	30	46.5	45	22
VFD300-030GT4	VFD300-030PT4	40	62	60	30
VFD300-037GT4	VFD300-037PT4	57	76	75	37
VFD300-045GT4	VFD300-045PT4	69	92	91	45
VFD300-055GT4	VFD300-055PT4	85	113	112	55
VFD300-075GT4	VFD300-075PT4	114	157	150	75
VFD300-090GT4	VFD300-090PT4	134	180	176	90
VFD300-110GT4	VFD300-110PT4	160	214	210	110

VFD Voltage and Power Rating Data

Three-phase 380V, 50/60Hz						
VFD300-R75GT4	-	1.5	3.4	2.1	0.75	1
VFD300-1R5GT4	-	3	5	3.8	1.5	2
VFD300-2R2GT4	-	4	5.8	5.1	2.2	3
VFD300-3R7GT4	-	5.9	10.5	9	3.7	5
VFD300-5R5GT4	VFD300-5R5PT4	8.9	14.6	13	5.5	7.5
VFD300-7R5GT4	VFD300-7R5PT4	11	20.5	17	7.5	10
VFD300-011GT4	VFD300-011PT4	17	26	25	11	15
VFD300-015GT4	VFD300-015PT4	21	35	32	15	20
VFD300-018GT4	VFD300-018PT4	24	38.5	37	18.5	25
VFD300-022GT4	VFD300-022PT4	30	46.5	45	22	30
VFD300-030GT4	VFD300-030PT4	40	62	60	30	40
VFD300-037GT4	VFD300-037PT4	57	76	75	37	50
VFD300-045GT4	VFD300-045PT4	69	92	91	45	60
VFD300-055GT4	VFD300-055PT4	85	113	112	55	75
VFD300-075GT4	VFD300-075PT4	114	157	150	75	100
VFD300-090GT4	VFD300-090PT4	134	180	176	90	125
VFD300-110GT4	VFD300-110PT4	160	214	210	110	150
VFD300-132GT4	VFD300-132PT4	192	256	253	132	175
VFD300-160GT4	VFD300-160PT4	231	307	304	160	210
VFD300-200GT4	VFD300-200PT4	250	385	377	200	260
VFD300-220GT4	VFD300-220PT4	280	430	426	220	300
VFD300-250GT4	VFD300-250PT4	355	468	465	250	350
VFD300-280GT4	VFD300-280PT4	396	525	520	280	370
VFD300-315GT4	VFD300-315PT4	445	590	585	315	420
VFD300-355GT4	VFD300-355PT4	500	665	650	355	470
VFD300-400GT4	VFD300-400PT4	565	785	725	400	530
VFD300-450GT4	VFD300-450PT4	630	883	820	450	600
VFD300-500GT4	VFD300-500PT4	710	1000	930	500	660
VFD300-560GT4	VFD300-560PT4	800	1120	1020	560	750

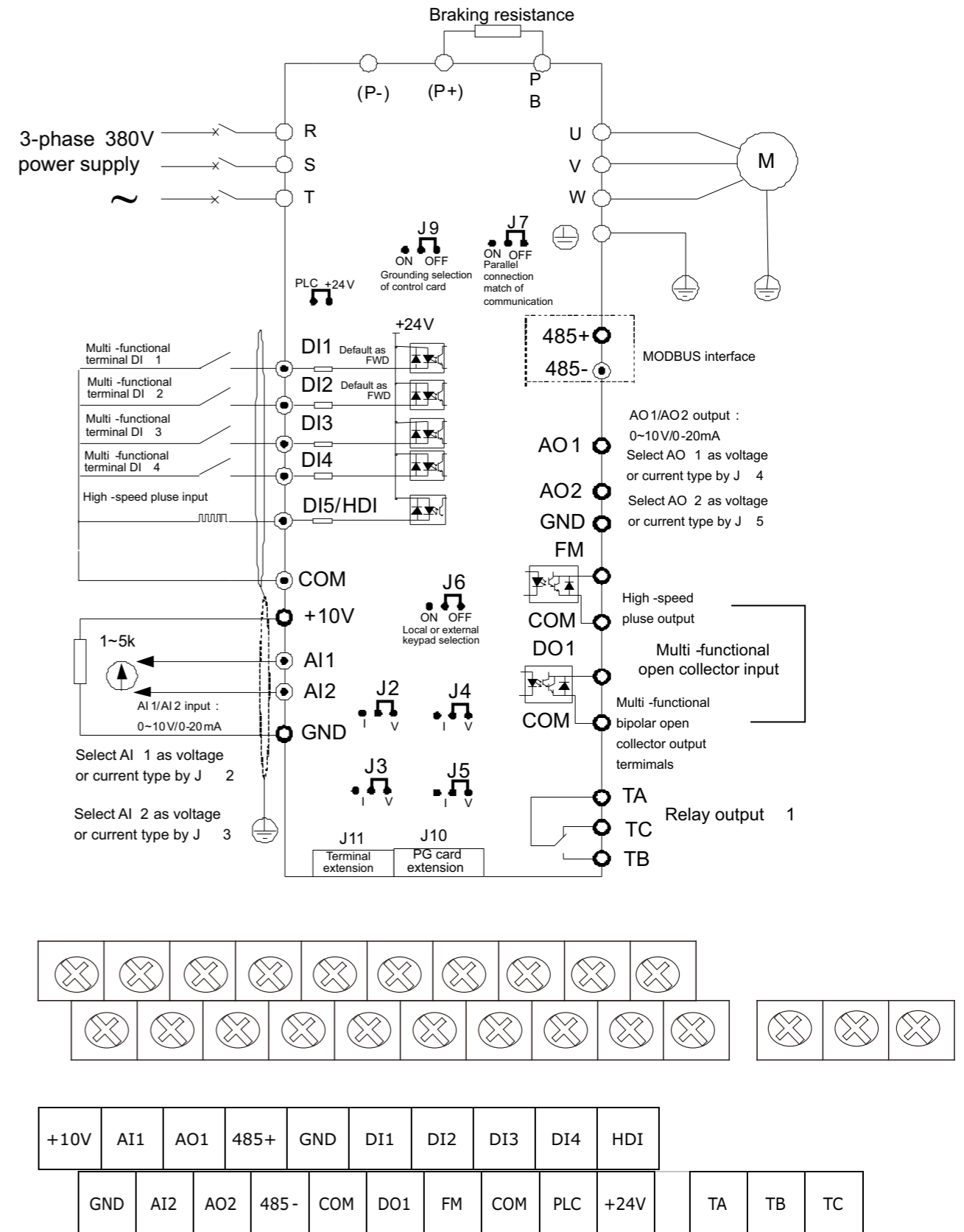
General Technical Data

	Torque limit and control	(Excavator characteristics) It can limit the torque automatically and prevent frequently over current tripping during the running process. Torque control can be implemented in the VC mode.
Individualized functions	High performance	Control of asynchronous motor is implemented through the high-performance current vector control technology.
	Instant power off not stop	The load feedback energy compensates the voltage reduction so that the frequency inverter can continue to run for a short time.
	Rapid current limit	To avoid frequently over current faults of the frequency inverter.
	Timing control	Time range: 0.0~6500.0 minutes
	Multiple communication protocols	Currently supports communication bus via Modbus-RTU and later will support PROFIBUS-DP, CANopen, etc.
	Motor overheat protection	The optional I/O extension card enables AI3 to receive the motor temperature sensor input (PT100, PT1000) so as to realize motor overheat protection.
	Multiple encoder types	It supports incremental encoder and encoder such as differential encoder, open-collector encoder, resolver, UVW encoder, and SIN/ COS encoder.
	Advanced background software	It supports the operation of frequency inverter parameters and virtual oscillograph function, by which the state of frequency inverter can be monitored.
Run	Running command giving	key panel Control terminals Serial communication port You can switch between these giving in various ways.
	Frequency giving	There are 10 kinds frequency giving: digital setting, analog voltage setting, analog current setting, pulse setting, serial communication port setting, panel potentiometer, etc. You can switch between these giving in various ways.
	Auxiliary frequency giving	There are 10 kinds auxiliary frequency giving. It can implement tiny tuning of auxiliary frequency and frequency synthesis.
	Input terminal	Standard: 5 digital input (DI) terminals, one of which supports up to 100 kHz high-speed pulse input 2 analog input (AI) terminals, support 0V~10 V voltage input or 0 mA~20 mA current input Expanding capacity: 5 DI terminals 1 AI terminal supports -10V~10 V voltage input.

General Technical Data

Item	Specifications		
Standard functions	Maximum frequency	0~3200.00Hz	
	Carrier frequency	0.5~16 KHz(The carrier frequency is automatically adjusted based on the load features.)	
	Input frequency resolution	Digital setting: 0.01 Hz Analog setting: maximum frequency x 0.025%	
	Control mode	Sensor-less flux vector control (SFVC) Closed-loop vector control (CLVC) (+PG Card) Voltage/Frequency (V/F) control	
	Startup torque	G type: 0.3Hz/150% (SFVC) ; 0 Hz/180% (CLVC) P type: 0.5Hz/100%	
	Speed range	1: 200 (SFVC)	1:1000 (CLVC)
	Speed stability accuracy	± 0.5% (SFVC)	± 0.02% (CLVC)
	Torque control accuracy	±5% (CLVC)	
	Overload capacity	G type: 60s for 150% of the rated current, 3s for 180% of the rated current P type: 60s for 120% of the rated current, 3s for 150% of the rated current	
	Torque boost	Auto boost; Manual boost: 0.1%~30.0%	
	V/F curve	Straight-line V/F curve Multi-point V/F curve N-powerV/F curve (1.2-power, 1.4-power, 1.6-power, 1.8-power, square)	
	V/F separation	Two types: complete separation; half separation	
	Acceleration/deceleration curve	Straight-line ramp S-curve ramp Four groups of acceleration/deceleration time with the range of 0.00s~65000s	
	Standard functions	DC braking	DC braking frequency: 0.00 Hz ~ maximum frequency Braking time: 0.0~100.0s Braking trigger current value: 0.0%~100.0%
JOG control		JOG frequency range: 0.00Hz~50.00 Hz JOG acceleration/deceleration time: 0.00s~65000s	
Built-in PLC, multiple speeds		It realizes up to 16 speeds via the simple PLC function or combination of DI terminal states.	
Built-in PID		It realizes closed loop control system easily.	
Auto voltage regulation (AVR)		It can keep constant output voltage automatically when the mains voltage fluctuation.	
Overvoltage/Over current stall control		The current and voltage are limited automatically during the running process so as to avoid frequently tripping due to overvoltage/over current.	
Rapid current limit function	It can auto limit running current of frequency inverter to avoid frequently tripping.		

Control Circuit and Main Circuit Wiring



Control circuit terminals

Type	Terminal Symbol	Terminal Name	Terminal function description
Power Supply	+10V-GND	External +10V power supply	Provide +10V power supply to external unit. Maximum output current:10mA Generally, it provides power supply to external potentiometer with resistance range of 1 kO~5kO
	+24V-COM	External +24V power supply	Provide +24 V power supply to external unit. Generally, it provides power supply to DI/DO terminals and external sensors. Maximum output current: 200 mA
	PLC-+24V	External power supply	The factory default setting is connected PLC with +24V terminal. When using the external signal to drive DI1~DI5, it will disconnect the connector slip of PLC
Analog input	AI1-GND	Analog input terminal 1	1. Input range: DC 0V~10V/ 0mA~20mA, decided by jumper J12 on the control board 2. Impedance: 22 kO (voltage input), 500 O (current input)
	AI2-GND	Analog input terminal 2	1. Input range: DC 0V~10V/ 0mA~20mA, decided by jumper J5 on the control board 2. Impedance: 22 kO (voltage input), 500 O (current input)
Digital input	DI1	Digital input 1	1. Optical coupling isolation, compatible with dual polarity input 2.Input Impedance: 2.4 kO 3. Voltage range for level input: 9V~30 V
	DI2	Digital input 2	
	DI3	Digital input 3	
	DI4	Digital input 4	
	DI5/HDI	High Speed Pulse Input Terminal	Besides features of DI1~DI4and it can be used forhigh-speed pulse input. Maximum input frequency: 100 kHz
Analog output	AO1-GND	Analog output terminal 1	Voltage or current output is decided by jumper J4. Output voltage range: 0V~10 V Output current range: 0mA~20 mA
	AO2-GND	Analog output terminal 2	Voltage or current output is decided by jumper J5. Output voltage range: 0V~10 V Output current range: 0mA~20 mA
Digital output	DO1-CME	Digital output 1	Optical coupling isolation, dual-polarity open collector output Output voltage range: 0V~24 V Output current range: 0mA~50 mA Note that CME and COM are internally insulated, but they are shorted by jumper externally by factory default. In this case DO1 is driven by +24 V, If you want to drive DO1 by external power supply, please remove jumper between CME and COM.
	FM- COM	High Speed Pulse Output Terminal	It is set by b4-00 (FM terminal output modeselection) As high-speed pulse output, the maximum frequency achieves to 100 kHz. As open-collector output, its function is thesame as that of DO1.
Relay output	TA-TB	NC terminal	Contact driving capacity: 250 VAC, 3 A, COS ϕ = 0.4 DC 30 V, 1 A
	TA-TC	NO terminal	

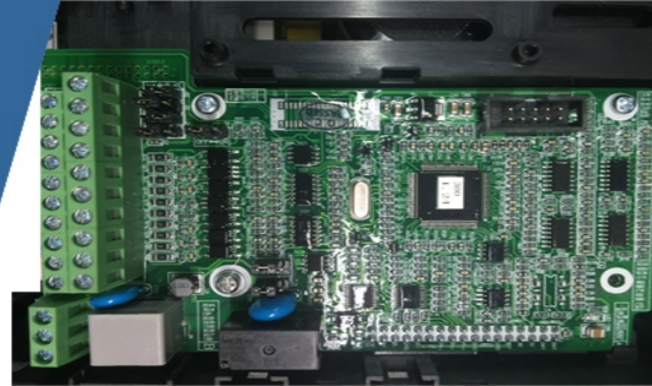
VFD300 Option Parts

PHOTO	MODEL	DESCRIPTION
	Open collector PG card	1,A+/A-,B+/B-,Z+/Z- Pluse input 2,Max input Frequency:100KHz 3,PG power output:+15V
	Rotary PG card	1,10KHz 7V Rms output,DB9 port,no frequency division output,resolution 12 digits
	Incremental or Differential PG card	1.A+/A-.B+/B-,Z+/Z- Pulse input 2,Max input Frequency;500KHz 3,PG power Output;+5v
	injection moulding machine signal converting Card	Support 2 channels analog input,current input range:0-1A and 0-2A optional
	remote keypad	Rj45 port ,remote control within 100m

product details

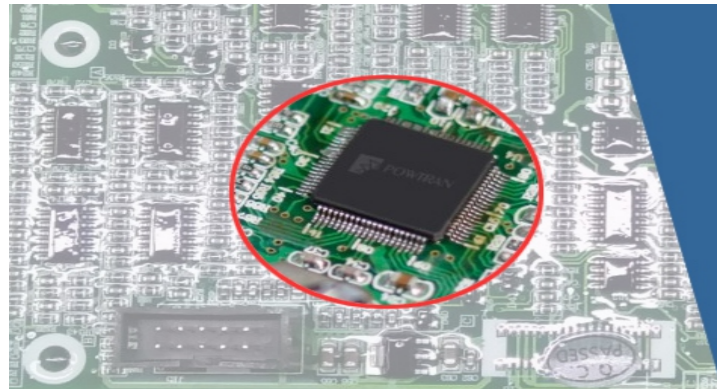
Steady speed precision high speed range
 Steady speed precision: plus or minus 0.5% (open loop), plus or minus 0.02% (closed loop).
 Speed range: 1:100 (open loop), 1:1000 (closed loop)

The torque response <40ms (open loop)
 Automatic torque increase function, the realization of V/F control mode and low frequency (1Hz) with large output torque
 control: 110% rated stable operation, 1min 150% rated load, 180% rated load 3s.



High speed high performance control DSP

core control unit
 Simple PLC
 Parameter auto-tuning
 Low frequency high torque strong performance of vector control



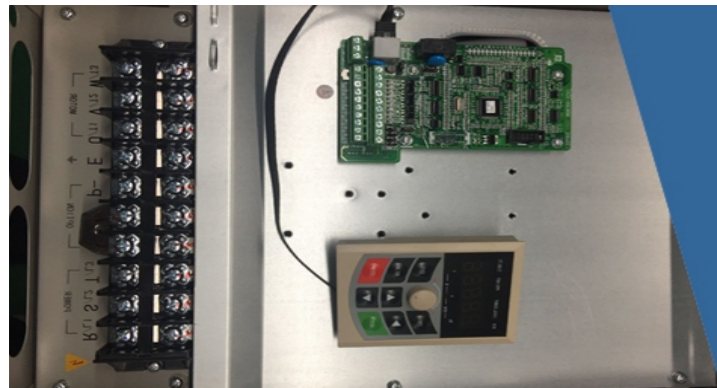
Function of automatic voltage regulator (AVR)

Three-phase high precision automatic ac voltage stabilizer
 With functions of automatic voltage regulation, when the grid voltage plus or minus 15% change, can automatically maintain a constant output voltage



Strong and weak electricity, built-in 485

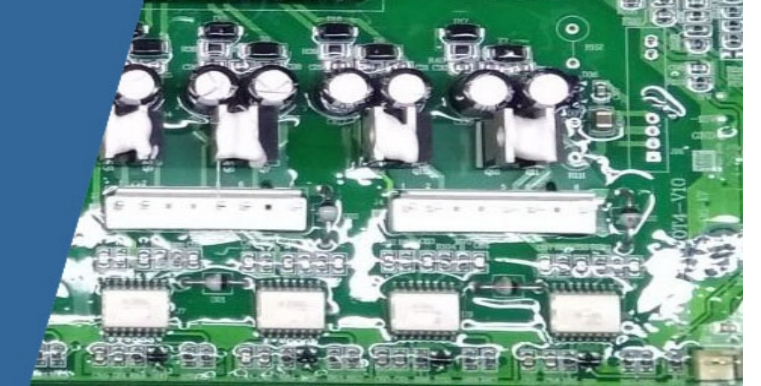
Separately strong and weak electricity, reduction interference from high voltage part of weak current
 Programming logic controller for more than 485 section frequency automatic control



product details

Anti-corrosion paint protection circuit
Anti-corrosion paint processing
Prolong the service life

Superior insulation moisture-proof
 Prevent electric leakage shock-proof dust-proof
 Corrosion resistance aging corona resistance, etc



Avago photoelectric coupler

Adopted USA Avago company Photoelectric coupler that was not in the power of optical coupling isolation with high stability, high reliability



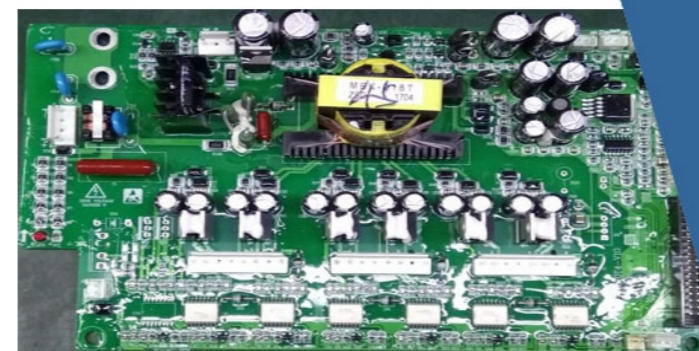
Infineon PIM integrated power module

integrated power devices
 Integrated all parts and circuits small size, large power
 Low loss, more stable



Multiple defensive function

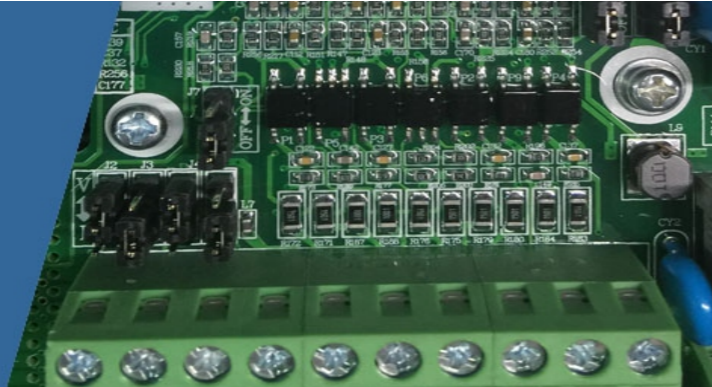
Over-voltage protection, low-voltage protection, over-current protection, over-load protection
 Over-heating protection, loss of speed protection, phase protection
 External fault, communication error, PID feedback signal abnormalities, PG failures, current detection fault, motor self-learning fault, EEPROM operation fault,
 Such as multiple protection mechanism.



product details

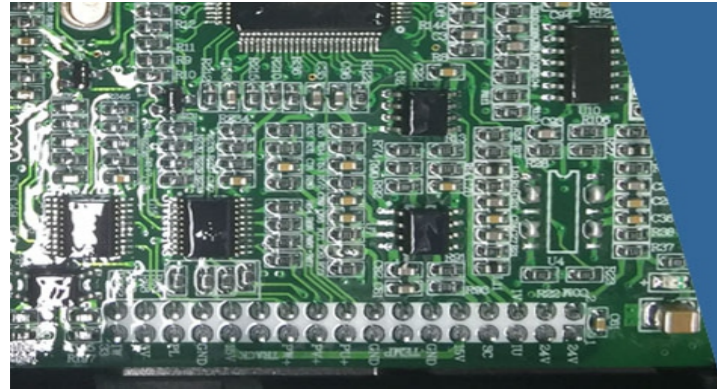
Multistage speed operation function

Through the user-defined control terminal can realize simple function of PLC
Through control terminal it can achieved



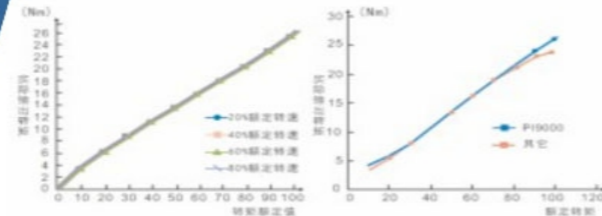
PID control

Features:fast speed,short response time
Effect:to ensure product quality improve production efficiency meet the technical requirements



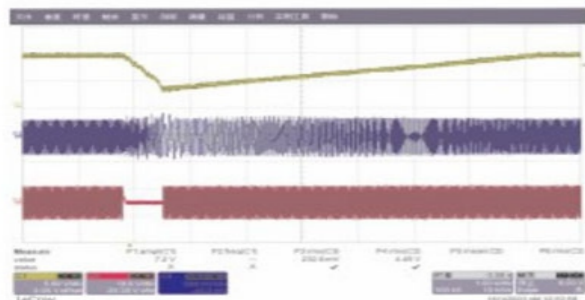
High torque at low speed small torque ripple

Stable output torque,low speed large torque
Torque mode and speed mode switch easily
Closed-loop vector mode,linear torque linearity
error within 3%



Keep working when instantaneous power failure

Function:when the grid instantaneous fall or blackout,inverter can keep working by feedback energy
Application:suitable for equipment operation requiring high continuity
Such as textile production,chemical fiber...



product details

Humanized design keyboard

Potentiometer speed control
Easy operated
Reasonable layout
LED display
RJ45 Port and support 100m control



Intelligent fan control

Through software using the intelligent fan start-stop control
When the inverter is up and running,to start the fan cooling
When the inverter dormancy or downtime,a cooling fan to enter
Delay stop state,later will automatically stop running
Save electricity and prolong the service life of fan



The whole machine temperature rise test

A rated load temperature rise test and overload temperature rise test
The test results conform to the thermal design safety margin
Ensure safe and stable operation of the converter



Textile frequency control

Specially designed for the textile industry spindels molding process the application of specially designed function
The main measure is to output frequency of frequency converter according to the similar triangle wave shape type
a timely change.In order to adapt to a variety of different process conditions,such as coarse yarn fine,paper Jane

