

Frequency Inverter



VFD500 Series High Performance AC drive

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— We can do it more! —

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ShenZhen VEIKONG Electric CO., Ltd.

VEIKONG INDUSTRIAL CO.,LIMITED (HK)

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COMPANY PROFILE

COMPANY CERTIFICATIONS



Professional R&D team

Brief introduction

Shenzhen VEIKONG ELECTRIC CO., LTD is a reputable high-tech enterprise that specializes in researching, manufacturing, and trading both medium and low voltage inverters and solar pumping inverter. We offer our clients integrated system solutions, and our professional R&D team and devoted management with over 20 years of experience have made us one of the first independent AC drives companies in China.

We incorporate latest high efficiency mppt calculations and SPWM, sensorless vector control, and vector and torque control technology into our VFD and solar pump inverter which have reached international advanced standards, making them able to directly replace and be equivalent to Europe, the United States, Japan, and other brands, providing our clients with the highest level of technical support.

Quality is the foundation of our enterprise, and we consistently follow ISO9001 standards to manage and supervise quality. Our products have passed CE and IEC certifications and other technical approvals, and we continuously upgrade our technologies and products to better meet our customers' requirements and market needs.

VEIKONG team believes that the customer is the source of our enterprise. We take great pride in placing our customers' requirements first and ensuring that we meet and exceed their expectations. Our products have been widely used in various industries, including solar pumping, petroleum, chemical, melting, hoisting, electric power, building materials, water supply, plastics, textiles, printing, packing, and more, to create value for our customers.

VEIKONG, your trusted supplier!

20+

Over 20 years of professional management experience



VFD500
series AC DRIVE

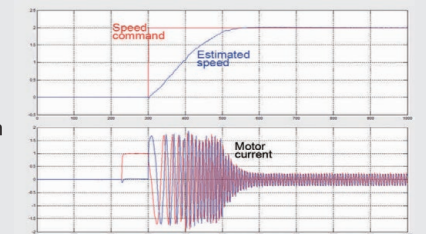
Product Features

PRODUCT FEATURES

VFD500
series
AC DRIVE

High speed stabilization accuracy, wide speed range

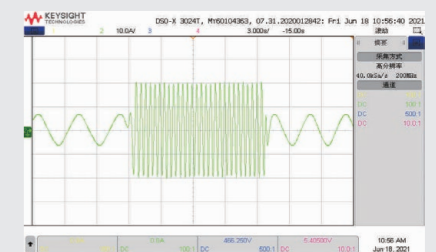
- . Stable speed accuracy: $\pm 0.5\%$ (V/f), $\pm 0.2\%$ (SVC) ;
- . Speed adjustment range: 1:200 (SVC) 、 1:1000 (VC) ;
- . Heavy duty overload capacity : Running stably with 110% rated current in long time ;
- . 150% rated current 60S ;
- . 180% rated current 10S



100hz step response

Big torque in low frequency ,fast response for output torque

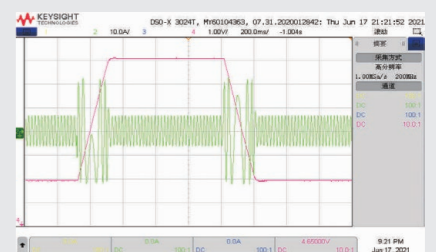
- load capacity in low frequency: VF: 150%/0.5Hz(V/f) ;
- SVC: 180%@0.25HZ



150% load added in 0.25hz

Fast Dynamic response

- In SVC mode, the acceleration and deceleration time can be set arbitrarily (even 0.0s) The inverter runs stably without alarming, esp in some occasions requiring quick response



0.0s acceleration and deceleration time fast forward and reverse

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PRODUCT FEATURES

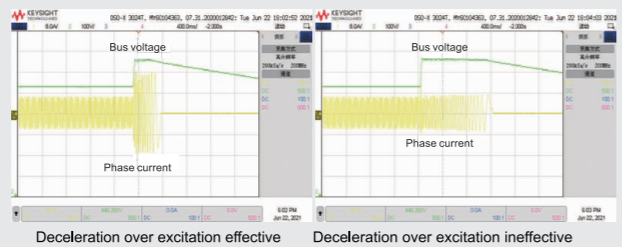


VFD500 series AC DRIVE

Advanced Features

Deceleration over excitation function

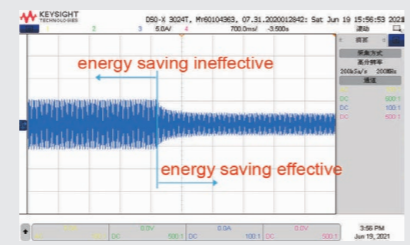
The over-excitation function is set to convert the mechanical energy of the motor when it is decelerated into motor heat to be consumed, which can shorten the deceleration time and save accessories such as braking resistors in the occasions where braking is infrequent.



Energy-saving operation of fans and pumps

With excellent automatic energy-saving function, only need to set the maximum energy-saving target. When the operation meets the energy-saving conditions, it can enter the automatic energy-saving state. By setting the VF function, one-to-multiple and long-distance control applications can be realized to meet the application of transformation occasions

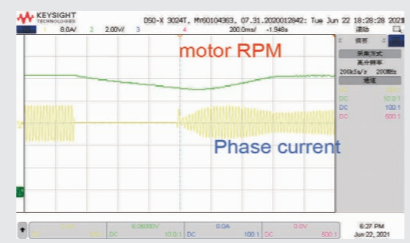
automatic energy saving



Excellent speed tracking function

Achieve smooth start without impact for the motor which does not stop rotating

Speed tracking current waveform



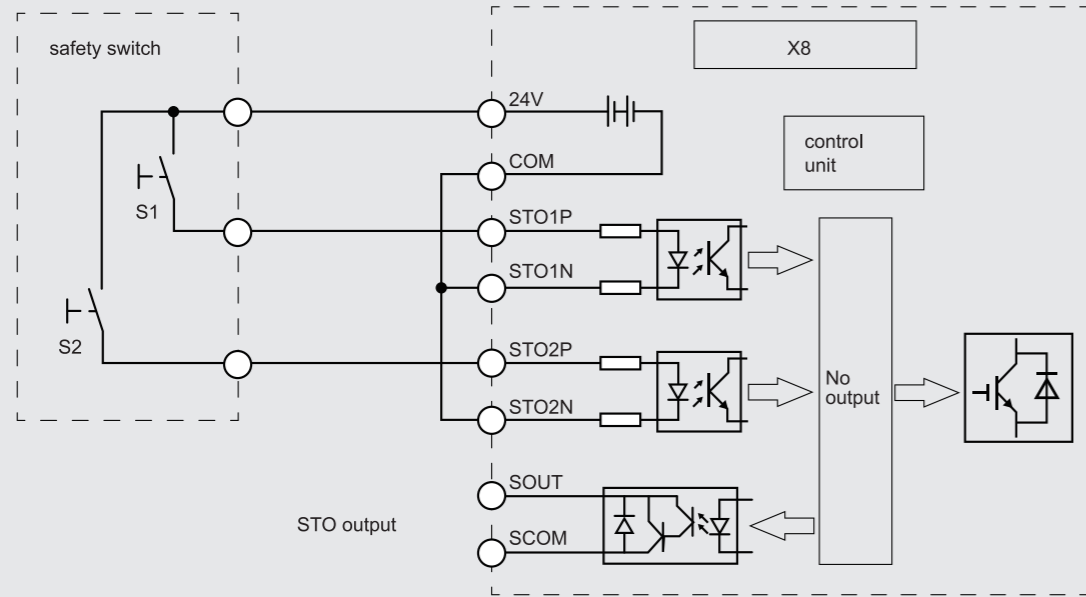
Strong PC tool commission

Strong PC tool commission, equipped with Modbus communication as standard, up ports virtual terminals. Programmable logic applications and complete protection functions;

Parameter No.	Parameter Name	Parameter Value	Current Value	Default Value	Unit	Scale
01	Motor type	0	0	0	A	
02	Motor rated power	4.0	4.0	4.0	KW	
03	Motor rated voltage	200	200	200	V	
04	Motor rated current	8.80	8.80	8.80	A	
05	Motor rated frequency	50.00	50.00	50.00	Hz	
06	Motor rated RPM	1440	1440	1440	Rev/min	
07	Motor rated power factor	0.8500	0.8500	0.8500		
08	Motor rated torque	20.0	20.0	20.0	Nm	
09	Number of motor poles/pole pairs	2	2	2		
10	Auto-tuning function	0	0	0		
11	Motor resistor of asynchronous motor	1.000	1.000	1.000	Ohm	
12	Motor inductor of asynchronous motor	0.000	0.000	0.000	Ohm	
13	Leakage inductance of asynchronous motor	0.00	0.00	0.00	ms	
14	Motor inductor of asynchronous motor	1.000	1.000	1.000	Ohm	
15	No-load resistor current of asynchronous motor	0.00	0.00	0.00	A	
16	Over-current protection level	1.100	1.100	1.100		

STO (Safe Torque Off) function

Compliant with IEC 62061-SIL3. Enhancing safety by immediately shutting off torque output to the connected motor, making it an effective measure for preventing accidents in industrial settings.



TCP protocol

VEIKONG VFD500 series are updated with TCP protocol which has the following advantages:

1. Reliability: TCP is a reliable protocol, ensuring that all data packets are delivered to the intended recipient.
2. Error-checking: TCP has built-in error-checking mechanisms, ensuring that transmitted data is accurate and error-free.
3. Streamlined communication: TCP minimizes unnecessary network traffic, reducing delays and improving efficiency.
4. Security: TCP provides encryption and authentication mechanisms for secure transmission of sensitive data.
5. Scalability: TCP can be easily scaled for larger networks, making it a cost-effective option in the long run.

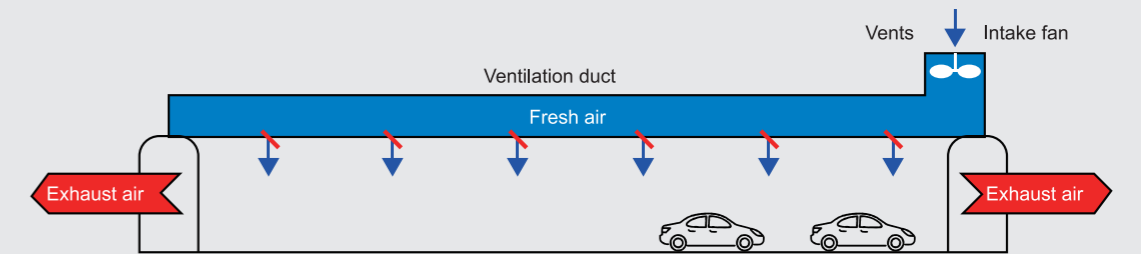
Overall, using TCP protocol in VFD ensures efficient, secure, and reliable communication.

Fire mode in urgent situations

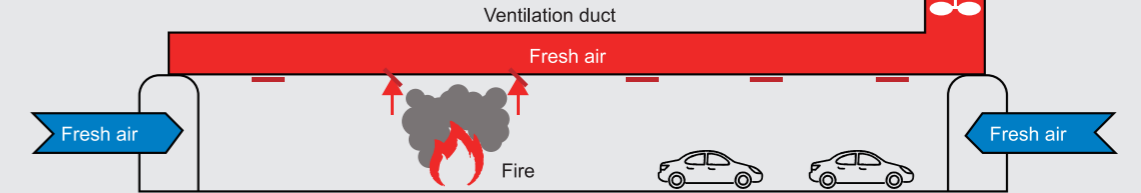
This safety feature prevents the VFD from shutting down for self-protection. Instead, the drive will continue the vital fan operation even with a control signal, warning or alarm. Fire mode are critical to ensuring safer evacuation of people from buildings in the event of a fire.

Activating the "Fire Mode" function in VEIKONG drives ensures safe and continuous operation in applications such as parking lot exhaust fans, smoke extraction and essential service functions.

Semi-transverse ventilation system in normal mode



Semi-transverse ventilation systems in case of fire



Rich communication card for options

1. Modbus RS485 standard
2. Profinet Canopen optional
3. Profibus is in developing

ADVANCED FEATURES

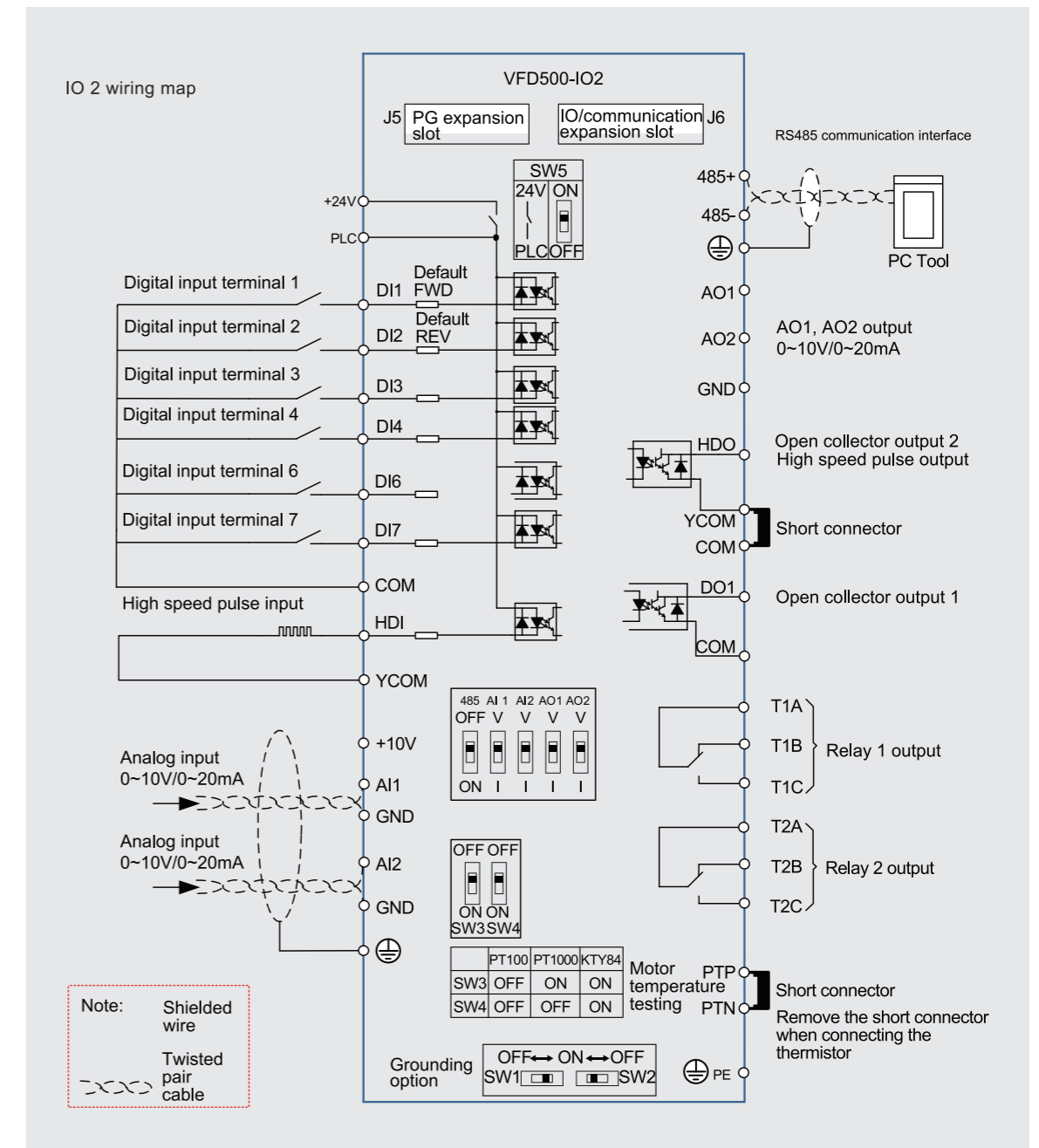
VFD500
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IO 2 board wiring map

IO 2 BOARD (OPTIONAL) WIRING MAP

VFD500
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AC DRIVE

IO 2 board



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OPTIONAL ACCESSORIES



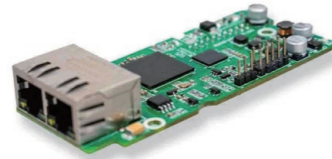
VFD500 series AC DRIVE

Industrial Application

Extension cards for options



CANOPEN card



Profinet card



IO extension card



Incremental PG card



Frequency division PG card



Rotary/Evolver PG card

Multiple display for options



Version 1 LCD



Version 2 LCD



Version 2 LED



Shuttle display with potentiometer



Keypad bracket

DC reactor and braking chopper for options

18.5-200 KW can be built-in DC reactor for options, 30-75KW can be built-in braking unit for options

Support non-standard software custom development

VEIKONG OEM service has helped more and more clients been unique and special in his own market and grow better step by step. Besides, what makes VEIKONG different from other supplier lays on the high standard technology we can achieve for our clients like the nonstandard software custom development.

VEIKONG, your trusted supplier for higher standard VFD project!



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APPLICATION OCCASIONS

VFD500 series AC DRIVE



VFD500 series AC DRIVE

Model Instruction

VFD500 - 4R0G/5R5P - T 4 B

Product series

Model Type and power rating
(G-General Type,P-Fan and pupm Type)

Phase(T-Three Phase,S-Single Phase)

Voltage Class
(2-220V,4-380V,6-690V)

B means breaking units



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VFD500
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Product Series Instruction

PRODUCT SERIES INSTRUCTION

VFD500
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AC DRIVE

Model	Power capacity	Input current	Output current(A)		Adaptable Motor	SIZE	Brake Unit	
			Heavy	Light				
Three phase: 380-480V, 50/60Hz								
VFD500-R75GT4B	1.5	3.4	2.5	4.2	0.75kW	SIZE A	Internal	
VFD500-1R5GT4B	3	5	4.2	5.6	1.5kW			
VFD500-2R2GT4B	4	5.8	5.6	9.4	2.2 kW			
VFD500-4R0G/5R5PT4B	5.9	10.5	9.4	13.0	3.7 kW	SIZE B		
VFD500-5R5G/7R5PT4B	8.9	14.6	13.0	17.0	5.5 kW			
VFD500-7R5G/011PT4B	11	20.5	17.0	23.0	7.5 kW	SIZE C		
VFD500-011G/015PT4B	17	26.0	25.0	31.0	11 kW			
VFD500-015G/018PT4B	21	35.0	32.0	37.0	15 kW			
VFD500-018G/022PT4B	24	38.5	37.0	45.0	18.5 kW	SIZE D		
VFD500-022G/030PT4B	30	46.5	45.0	57.0	22 kW			
VFD500-030G/037PT4	40	62.0	60.0	75.0	30 kW	SIZE E	option	
VFD500-037G/045PT4	50	76.0	75.0	87.0	37 kW			
VFD500-045G/055PT4	60	92.0	90.0	110.0	45 kW	SIZE F		
VFD500-055G/075PT4	75	113.0	110.0	135.0	55 kW			
VFD500-075G/090PT4	104	157.0	152.0	165.0	75 kW	SIZE G		
VFD500-090G/110PT4	112	170.0	176.0	210.0	90 kW			
VFD500-110G/132PT4	145	220.0	210.0	253.0	110 kW	SIZE H		External
VFD500-132G/160PT4	170	258.0	253.0	304.0	132 kW			



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PRODUCT SERIES INSTRUCTION



VFD500
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Technical Specifications

Model	Power capacity	Input current	Output current(A)		Adaptable Motor	SIZE	Brake Unit
			Heavy	Light			

Three phase: 380-480V, 50/60Hz

VFD500-160G/185PT4	210	320.0	304.0	360.0	160 kW	SIZE I	External
VFD500-185G/200PT4	245	372.0	360.0	380.0	185 kW	SIZE J	
VFD500-200G/220PT4	250	380.0	380.0	426.0	200 kW	SIZE K	
VFD500-220G/250PT4	280	425.0	426.0	465.0	220 kW		
VFD500-250G/280PT4	315	479.0	465.0	520.0	250 kW	SIZE L	
VFD500-280G/315PT4	350	532.0	520.0	585.0	280 kW		
VFD500-315G/355PT4	385	585.0	585.0	650.0	315 kW	SIZE M	
VFD500-355G/400PT4	420	638.0	650.0	725.0	355 kW		
VFD500-400G/450PT4	470	714.0	725.0	820.0	400 kW		
VFD500-450G/500PT4	530	810.0	820.0	900.0	450 kW		
VFD500-500G/560PT4	585	900.0	900.0	980.0	500 kW	SIZE N	
VFD500-560G/630PT4	660	969.0	980.0	1080.0	560 kW		
VFD500-630GT4	720	1100.0	1120.0	1260.0	630 kW		
VFD500-710GT4	800	1245.0	1260.0	1380.0	710 kW		

Single phase :220V ,50/60HZ

VFD500-R40GS2B	1.3	6.0	3.2	5.6	0.4 kW	SIZE A	Inbuilt
VFD500-R75GS2B	2.4	11.0	5.6	8.0	0.75 kW		
VFD500-1R5GS2B	3.5	15.0	8.0	10.6	1.5 kW		
VFD500-2R2GS2B	5.5	25.0	10.6	14.0	2.2 kW		
VFD500-4R0GS2B	7.7	35.0	23.0	23.0	4.0 kW	SIZE B	
VFD500-5R5GS2B	8.9	53.0	25.0	31.0	5.5kW	SIZE C	
VFD500-7R5GS2B	11	67.0	32.0	37.0	7.5kW		

Three phase 220V ,50/60HZ

VFD500-R40GT2B	4	6.0	3.2	5.6	0.4	SIZE A	Inbuilt	
VFD500-R75GT2B	4	11.0	5.6	8.0	0.75			
VFD500-1R5GT2B	3.5	15.0	8.0	10.6	1.5			
VFD500-2R2GT2B	5.5	25.0	10.6	14.0	2.2			
VFD500-4R0GT2B	11	35.0	17.0	23.0	4.0	SIZE B		
VFD500-5R5GT2B	17	53.0	25.0	31.0	5.5	SIZE C		
VFD500-7R5GT2B	21	67.0	32.0	37.0	7.5			
VFD500-011GT2B	30	46.5	45.0	/	11	SIZE D	Optional	
VFD500-015GT2	40	62.0	60.0	/	15	SIZE E		
VFD500-018GT2	50	76.0	75.0	/	18.5	SIZE F		
VFD500-022GT2	60	92.0	90.0	/	22			
VFD500-030GT2	75	113.0	110.0	/	30			
VFD500-037GT2	104	157.0	152.0	/	37	SIZE G		External
VFD500-045GT2	112	170.0	176.0	/	45	SIZE G		
VFD500-055GT2	145	220.0	210.0	/	55	SIZE H		
VFD500-075GT2	145	320.0	304.0	/	75	SIZE I		

Item		Specification
Input	Input Voltage	1phase/3phase 220V: 200V~240V 3 phase 380V-480V: 380V~480V
	Allowed Voltage fluctuation range	-15%~10%
	Input frequency	50Hz/ 60Hz, fluctuation less than 5%
Output	Output Voltage	3phase: 0~input voltage
	Overload capacity	General purpose application: 60S for 150% of the rated current Light load application: 60S for 120% of the rated current
Control	Control mode	V/f control Sensorless flux vector control without PG card (SVC) Sensor speed flux vector control with PG card (VC)
	Operating mode	Speed control, Torque control (SVC and VC)
	Speed range	1:100(V/f) 1:200(SVC) 1:1000(VC)
	Speed control accuracy	±0.5% (V/f) ±0.2% (SVC) ±0.02% (VC)
	Speed response	5Hz(V/f) 20Hz(SVC) 50Hz(VC)
	frequency range	0.00~600.00Hz(V/f) 0.00~200.00Hz(SVC) 0.00~400.00Hz(VC)
	Input frequency resolution	Digital setting: 0.01 Hz Analog setting: maximum frequency x 0.1%
	Startup torque	150%/0.5Hz(V/f) 180%/0.25Hz 180%/0Hz(VC)
	Torque control accuracy	SVC: within 5Hz10%, above 5Hz5% VC:3.0%
	V/f curve	V / f curve type: straight line, multipoint, power function, V/f separation; Torque boost support: Automatic torque boost (factory setting),manual torque boost
	Frequency giving ramp	Support linear and S curve acceleration and deceleration; 4 groups of acceleration and deceleration time, setting range 0.00s ~60000s
	DC bus voltage control	VdcMax Control: Limit the amount of power generated by the motor by adjusting the output frequency to avoid over-voltage trip; VdcMin control: Control the power consumption of the motor by adjusting the output frequency, to avoid jump undervoltage fault
	Carrier frequency	1kHz~12kHz(Varies depending on the type)
	Startup method	Direct start (can be superimposed DC brake); speed tracking start
	Stop method	Deceleration stop (can be superimposed DC braking); free to stop

Item		Specification	
Function	Main control function	Jog control, droop control, up to 16-speed operation, dangerous speed avoidance, swing frequency operation, acceleration and deceleration time switching, VF separation, over excitation braking, process PID control, sleep and wake-up function, built-in simple PLC logic, virtual Input and output terminals, built-in delay relay, built-in comparison unit and logic unit, parameter backup and recovery, perfect fault record, fault reset, two groups of motor parameters freely switch, software swap output wiring, terminals UP / DOWN	
	Keypad	LED Digital keyboard and LCD keypad(option)	
	Communication	Standard: MODBUS communication Option:Profinet and CAN OPEN	
	PG card	Incremental Encoder Interface Card (Differential Output and Open Collector), Rotary transformer Card	
	Input terminal	Standard: 5 digital input terminals, one of which supports high speed pulse input up to 50kHz; 2 analog input terminals, support 0~10V voltage input or 0~20mA current input; Option card: 4 digital input terminals 2 analog input terminals.support-10V- +10V voltage input	
	Output terminal	Standard: 1 digital output terminal; 1 high-speed pulse output terminal (open collector type), support 0~50kHz square wave signal output; 1 relay output terminal 2 analog output terminals, support 0~20mA current output or 0~10V voltage output; Option card: 4 digital output terminals	
	Protection	Refer to Chapter 6 "Troubleshooting and Countermeasures" for the protection function	
	Environment	Installation location	Indoor, no direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapor, drip or salt.
		Altitude	Lower than 1000 m
		Ambient temperature	-10°C~+40°C (derated if the ambient temperature is between 40°C and 50°C)
Humidity		Less than 95%RH, without condensing	
Vibration		Less than 5.9 m/s ² (0.6 g)	
Others	Storage temperature	-20°C ~ +60°C	
	Installation	Wall-mounted, floor-controlled cabinet, transmural	
	Protection level	IP20	
	Cooling method	Forced air cooling	

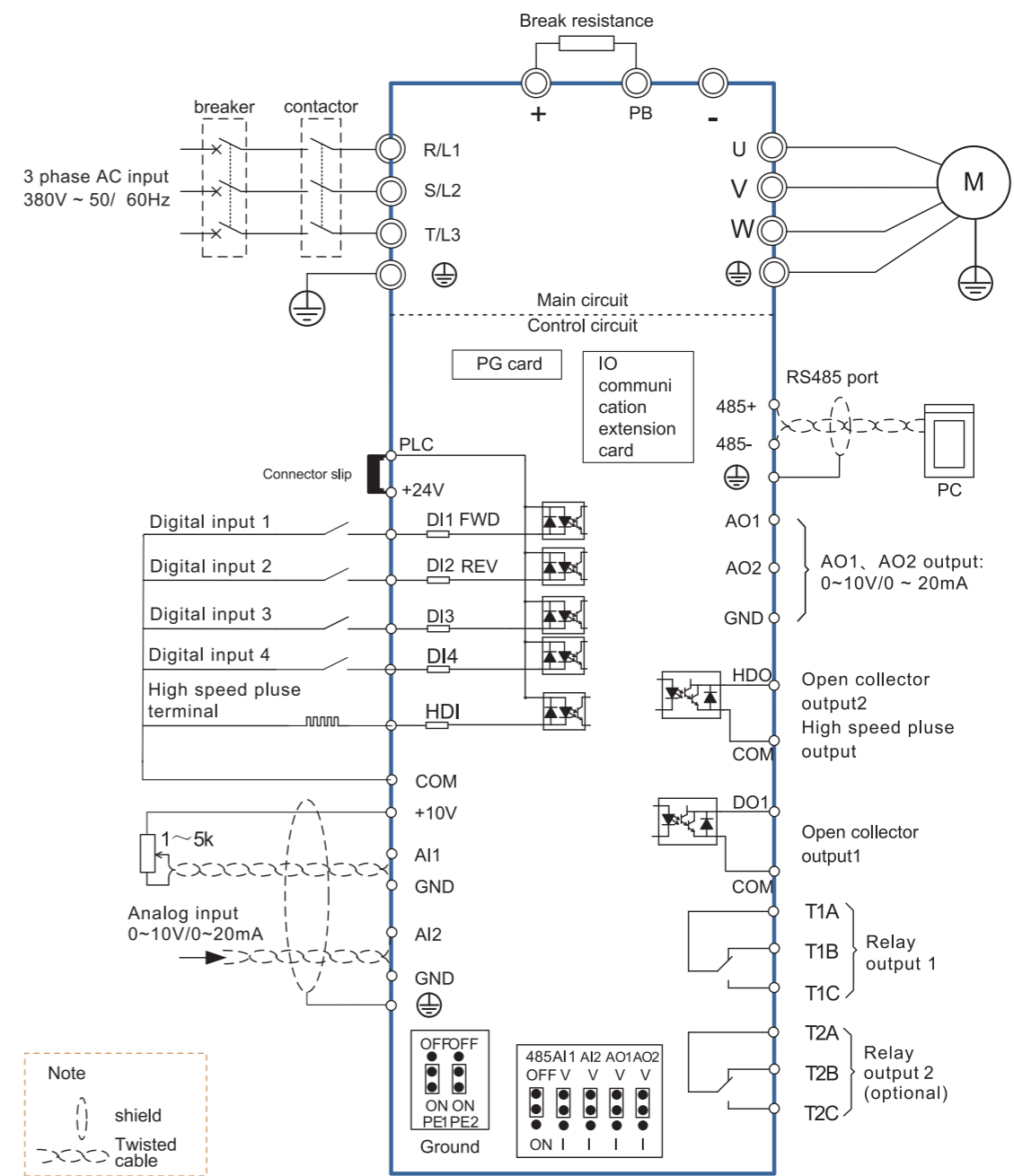
PRODUCT SPECIFICATION

VFD500
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Standard Wiring Diagram

STANDARD WIRING DIAGRAM

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Product Appearance and Installation dimension

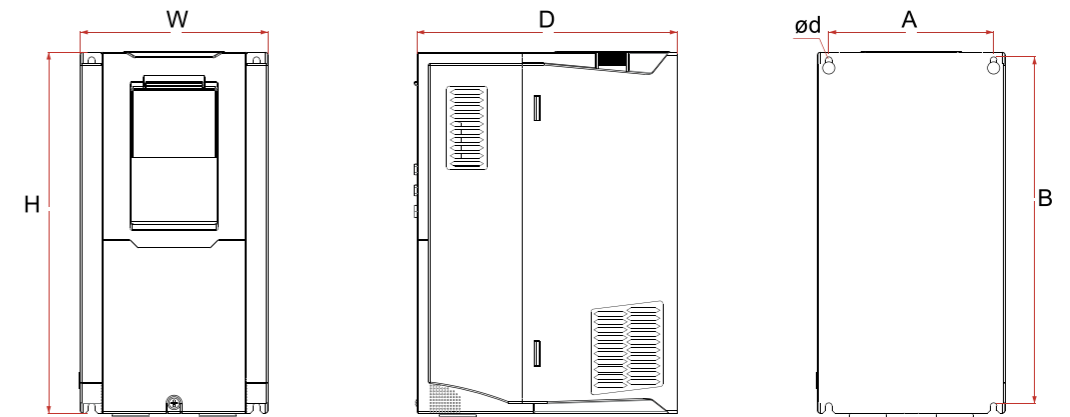
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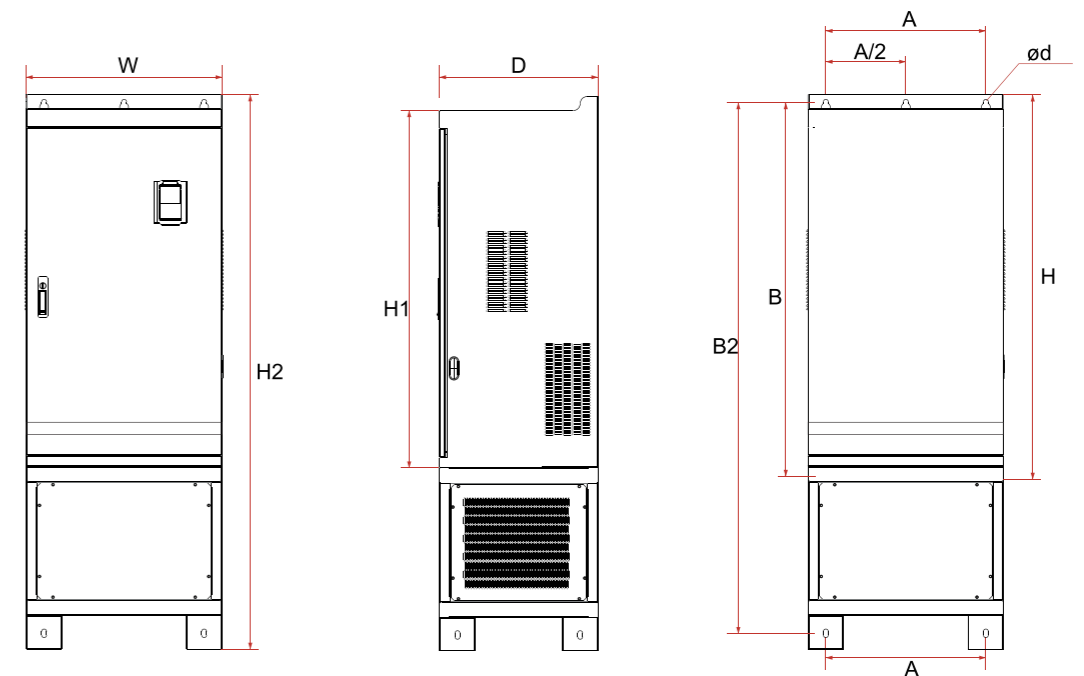
PRODUCT APPEARANCE AND INSTALLATION DIMENSION

VFD500
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AC DRIVE

SIZE J



SIZE J1



PRODUCT SIZE



SIZE	Appearance and installation dimension (mm)									
	A	B	B2	H	H1	H2	W	D	fd	Mountion
0.75KW-4KW	87	260.5	/	215	/	/	100	170	ø5.0	M4*16
5.5KW-7.5KW	113	239.5	/	250	/	/	130	180	ø5.0	M4*16
11KW-15KW	153	299	/	310	/	/	170	193	ø6.0	M5*16
18.5KW-22KW	165	350	/	370	335	/	210	196	ø6.0	M5*16
30KW-37KW	218	438	/	452.5	424	/	260	230	ø7.0	M6*16
45KW-55KW	250	535	/	555	520	/	320	275	ø10.0	M8*20
75KW-90KW	280	620	/	640	605	/	350	290	ø10.0	M8*20
110KW	280	695	915	715	660	935	370	313	ø11.0	M8*25
132KW-160KW	280	705	925	725	670	945	360	338	ø11.0	M8*25
185KW-200KW	360	795	1145	816	762	1166	490	358	ø11.0	M10*25
220KW-250KW	360	795	1145	816	762	1166	490	358	ø11.0	M10*25
	Flooring mounting:H2*W*D=1166*490*358									
280KW-315KW	450	1045	1495	1075	1005	1560	550	450	ø13.0	M12*30
	Flooring mounting:H2*W*D=1560*550*450									
355KW-400KW	630	1013	1425	1045	970	1495	730	450	ø13	M12*30
	Flooring mounting:H2*W*D=1495*730*450									
450KW-500KW	660	1063	1505	1095	1020	1575	785	450	ø13	M12*30
	Flooring mounting:H2*W*D=1575*785*450									
560KW-710KW	Only for Flooring mounting:H2*W*D=1800x1080x500									M12*30



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