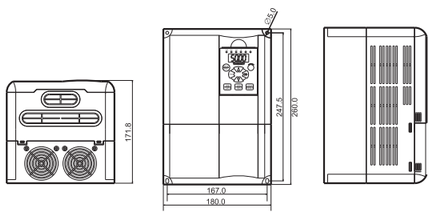
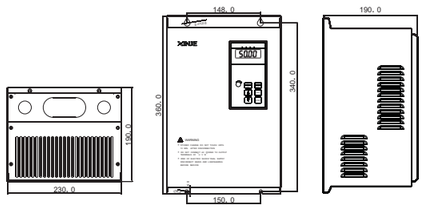
Dimension and Appearance (unit :mm)

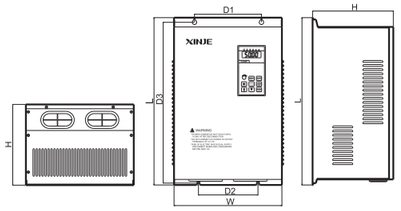
VB5 three-phase 5.5KW-7.5KW



VB4 three-phase 0.75KW

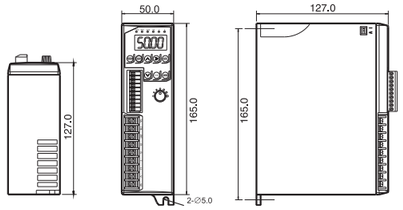


V5 three-phase 11-55KW

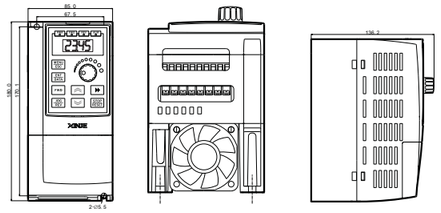


Type	W	D1	L	D2	H	D3
V5-4011	230	120	420	160	218	400
V5-4015						
V5-4018	290	180	450	210	217	430
V5-4022						
V5-4030	375	230	581	230	261	551
V5-4037						
V5-4045						
V5-4055						

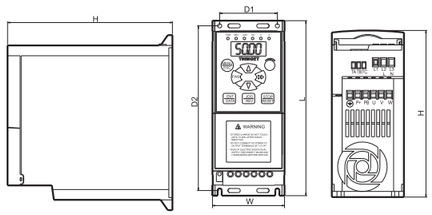
VB3 single-phase 0.75 KW



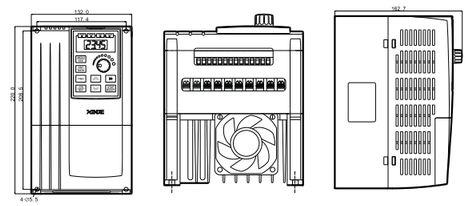
VB5N single-phase 0.75 KW



VB3、VB5 single 0.75-3.7 KW



VB5N three-phase 2.2KW-3.7KW



Type	W	D1	L	D2	H
VB5-20P7	70	56	170	160	162
VB5-21P5					
VB5-22P2					
VB3/VB5-40P7	80	56	200	190	162
VB3/VB5-41P5					
VB3/VB5-42P2					
VB3/VB5-43P7					

XINJE
Xinje Electronic Co.,Ltd
4th Floor Building7,Originality
Park,100Dicui Road,WuXi City,Jiangsu
Province 214072
Tel:0510-85134136 / 85134174 / 85134228
Fax:0510-85111290
http://www.xinje.com
E-Mail:xinje@xinje.com

XINJE

stable performance
easy operation

Match the motor 0.75-55 KW

General inverter VB3/VB5/VB5N/VD4/V5 Series

Excellent product performance

VB5N brings enhanced product performance

- VB5N brings enhanced product performance;
- Rich and flexible input ,output terminals and control methods;
- SMT produce and NBC manage process ,stable product ;
- Built-in PID tune and simple PLC function ,more convenient for customer to operate ;
- Complete Protection function ,built-in over heating ,over voltage,over current,over load and over current protection ,especially the self short protect ,reduce the external environment damage to inverter ;
- Standard RJ-45 network interface (panel and main control panel connect);
- Good cooling fan design.

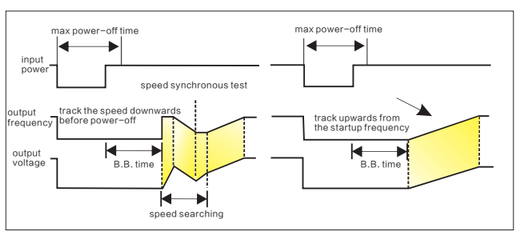
Complete basic functions

Built-in PI tune function
- Easy to make process close loop control system , improve the precision .

High speed pulse input and output
- X6 terminal supports maximum 20KHz pulse input for pulse frequency speed tune;
- D0 terminal supports maximum 20KHz pulse output , self-defined functions .PLC and other controllers can read the internal variable of inverter via frequency testing .

Flexible I/O terminals
- I/O terminals can be defined to diverse functions.

Speed tracking function
- Before motor stops and need to start up again ,inverter can track the motor speed and startup it without impact.



Modify the parameters online
- Modify the inverter parameters when it is running ,more convenient to operate .

Energy consumption brake
- The inverter has built-in brake unit ,when brake unit is not enough , can connect external brake unit ,and we provide different kinds of brake units.

Auto energy-saving running
- Auto-optimize the V/F curve according to the load ; perform auto energy -saving running .

Up to 9 channels for frequency setting
- Set the frequency through potentiometer ,keyboard , UP/DOWN terminal ,VI/CI terminal ,pulse terminal setting , combination setting ,remote setting from serial port .

Function group is easy to set
- Function group P0-PB is easy to set and check.

Built-in simple PLC function
- The simple PLC function is a multi-segment generator . The inverter will switch the frequency and direction as the running time .

Excellent performance

Communication function

RS485 port, Modbus-RTU protocol

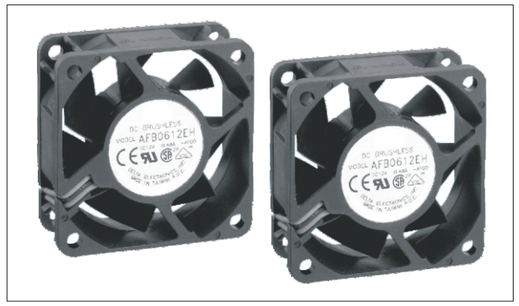
Master -slave multi-inverter linkage function

Compact design
- Protection level accords to IP20 .
- Compact volume,save space,seamless installation .

Complete protection functions
- Over current protection
- Over voltage protection
- Under voltage protection
- Over heating protection ,Inverter will cut the output and free stop.
- Over load protection.Inverter will cut the output and free stop.

Moveable numeric keyboard

Moveable cooling fan (for inverter up 11KW)



Moveable rotary potentiometer

Optional accessories:installation seat of operation panel and extension cable
- User can remote operate the invertion with the accessories.

Filtering unit
- The inverters up 30KW are equipped with reactor to restrain the higher harmonic and improve the power factor.

Product name

VB5N - 4 3 P 7 - S

Show	Series name
VB5N	VVVFcontrol

Show	Voltage level
2	220V
4	380V

Show	Max suitable motor capacity
0P7	0.7 KW
3P7	3.7 KW

*P：radix point

VB5N series inverter contains 220V and 380V voltage level , -S in type mean simplify type .Simplify type and the general type differences is following :

Type	485 communicate	X6high speed pulse input	relay output
VB5N-20P7	√	×	×
VB5N-20P7-S	×	×	×
VB5N-42P2	√	√	√
VB5N-42P2-S	×	×	×
VB5N-43P7	√	√	√
VB5N-43P7-S	×	×	×

* Note : × no √ yes

Rich models

The models include VB3、VB5、VD4、VB5N,V5 series,voltage level contains single-phase 220V, three-phase 380V, motor capacity contains 0.75 KW to 55 KW.

Types selection

Power (KW)	Current (A)	Single-phase 220V			3-phase 380V				
		VB3	VB5N	VB5	VB3	VB5N	VB5	VD4	V5
0.75	4.7	VB3-20P7	VB5N-20P7(-S)	VB5-20P7					
	2.5				VB3-40P7		VB5-40P7		
1.5	7.5			VB5-21P5					
	4.0				VB3-41P5		VB5-41P5		
2.2	10.0			VB5-22P2					
	6.0				VB3-42P2	VB5N-42P2(-S)	VB5-42P2		
3.7	9.6				VB3-43P7	VB5N-43P7(-S)	VB5-43P7		
5.5	14.0						VB5-45P5		
7.5	17.0						VB5-47P5		
11.5	25.0							VD4-4011	V5-4011
15	33.0							VD4-4015	V5-4015
18.5	38.0								V5-4018
22	46.0								V5-4022
30	60.0								V5-4030
37	75.0								V5-4037
45	90.0								V5-4045
55	110								V5-4055

Standard specification 220V types

Type		VB3-20P7	VB5N-20P7(-S)	VB5-20P7	VB5-21P5	VB5-22P2
Output	Compatible motors (KW)	0.75	0.75	0.75	1.5	2.2
	Rated output current(A)	4.7	4.7	4.7	7.5	10.0
	Rated voltage (V)	AC 220				
	Frequency range (Hz)	0~500				
	Frequency resolution(Hz)	0.01				
	Overload capability	150% of rated current 1 minute ,180% of rated current 1 second				
Input	Rated voltage/frequency	Single-phase 220V、50/60HZ				
	Allowable range of AC voltage fluctuation	Voltage:-20%to20%,voltage imbalance rate :<3%				
	Allowable range of frequency fluctuation	Frequency：±5%				
	Power supply capacity(KVA)	1.5	1.5	1.5	2.8	4.5

Standard specification 380V types

Type VB3-4___		0P7	1P5	2P2	3P7
Output	Compatible motors (KW)	0.75	1.5	2.2	3.7
	Rated output current(A)	2.5	4.5	6.0	9.6
	Rated voltage (V)	AC 380			
	Frequency range (Hz)	0~500			
	Frequency resolution(Hz)	0.01			
	Overload capability	150% of rated current 1 minute ,180% of rated current 1 second			
Input	Rated voltage/frequency	Single-phase 380V、50/60HZ			
	Allowable range of AC voltage fluctuation	Voltage:-20%to20%,voltage imbalance rate :<3%			
	Allowable range of frequency fluctuation	Frequency：±5%			
	Power supply capacity(KVA)	2.1	2.5	3.0	5.9

Type VB5N-4___		2P2 (-S)	3P7 (-S)
Output	Compatible motors (KW)	1.5	3.7
	Rated output current(A)	4.5	9.6
	Rated voltage (V)	AC 380	
	Frequency range (Hz)	0~500	
	Frequency resolution(Hz)	0.01	
	Overload capability	150% of rated current 1 minute ,180% of rated current 1 second	
Input	Rated voltage/frequency	Single-phase 380V、50/60HZ	
	Allowable range of AC voltage fluctuation	Voltage:-20%to20%,voltage imbalance rate :<3%	
	Allowable range of frequency fluctuation	Frequency：±5%	
	Power supply capacity(KVA)	2.5	5.9

Type VB5-4___		0P7	1P5	2P2	3P7	5P5	7P5
Output	Compatible motors (KW)	0.75	1.5	2.2	3.7	5.5	7.5
	Rated output current(A)	2.5	4.5	6.0	9.6	14.0	17.0
	Rated voltage (V)	AC 380					
	Frequency range (Hz)	0~500					
	Frequency resolution(Hz)	0.01					
	Overload capability	150% of rated current 1 minute ,180% of rated current 1 second					
Input	Rated voltage/frequency	Single-phase 380V、50/60HZ					
	Allowable range of AC voltage fluctuation	Voltage:-20%to20%,voltage imbalance rate :<3%					
	Allowable range of frequency fluctuation	Frequency：±5%					
	Power supply capacity(KVA)	2.1	2.5	3.0	5.9	8.5	11.0

Type V5-4___		011	015	018	022	030	037	045	055
Output	Compatible motors (KW)	11	15	18.5	22	30	37	45	55
	Rated output current(A)	25.0	33.0	38.0	46.0	60.0	75.0	90.0	110.0
	Rated voltage (V)	AC 380							
	Frequency range (Hz)	0~500							
	Frequency resolution(Hz)	0.01							
	Overload capability	150% of rated current 1 minute ,180% of rated current 1 second							
Input	Rated voltage/frequency	Single-phase 380V、50/60HZ							
	Allowable range of AC voltage fluctuation	Voltage:-20%to20%,voltage imbalance rate :<3%							
	Allowable range of frequency fluctuation	Frequency：±5%							
	Power supply capacity(KVA)	15	20	25	30	40	50	60	75

Standard specification/performance

型号VD4-4___		011	015
Output	Compatible motors (KW)	11	15
	Rated output current(A)	25.0	33.0
	Rated voltage (V)	AC 380	
	Frequency range (Hz)	0~500	
	Frequency resolution(Hz)	0.01	
	Overload capability	150% of rated current 1 minute ,180% of rated current 1 second	
Input	Rated voltage/frequency	Single-phase380V、50/60HZ	
	Allowable range of AC voltage fluctuation	Voltage:-20%to20%,voltage imbalance rate :<3%	
	Allowable range of frequency fluctuation	Frequency：±5%	
	Power supply capacity(KVA)	15	20

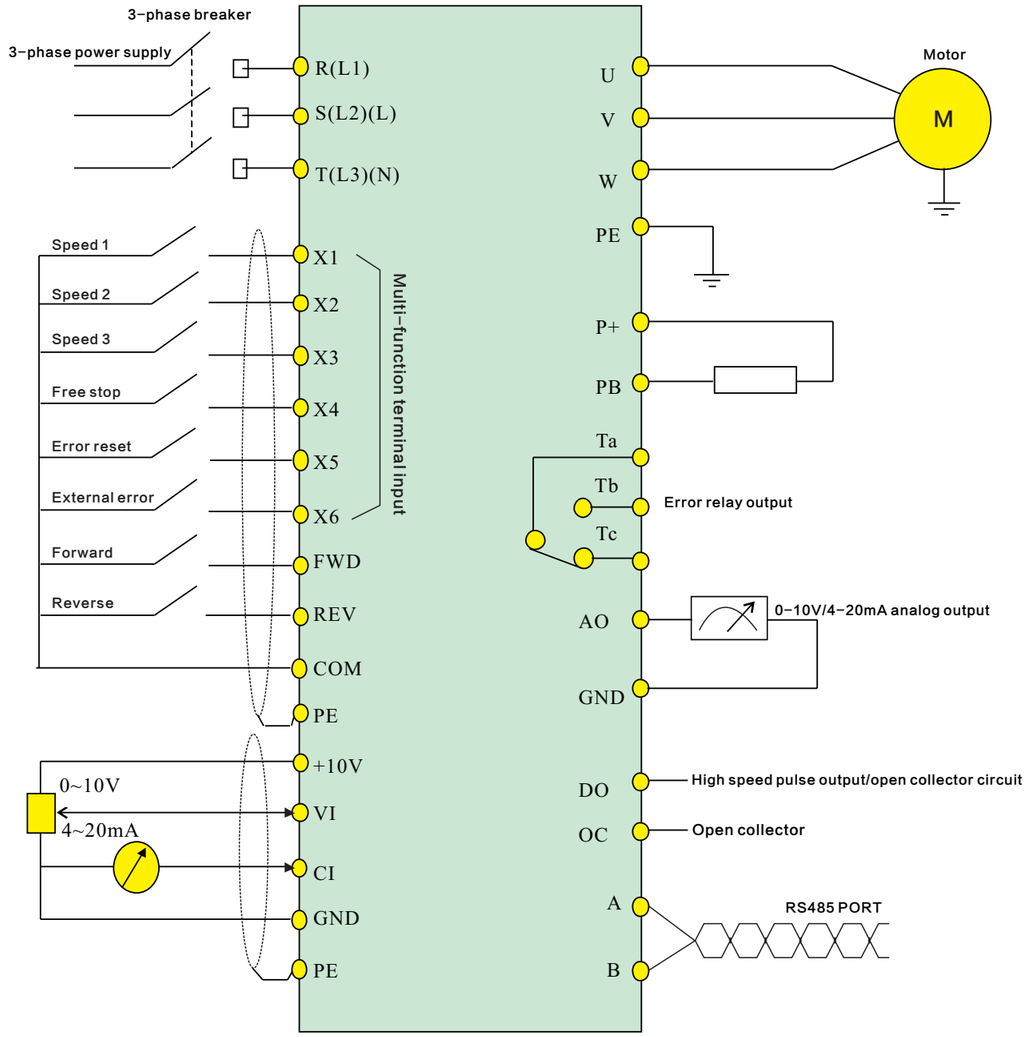
Environment and structure

Item		Specification
Environment	Using place	Indoor,protect from direct sunlight,dustless,no corrosive gas,no oil mist ,no steam
	Altitude	Lower than 1000 meters (need derate when higher than 1000 meters)
	Ambient temperature	-10 ℃~+40℃
	Humidity	<90% RH ,no condensation
	Vibration	<5.9m/s2 (0.6G)
	Storage temperature	-20℃~ +60℃
Structure	Protection structure	IP20(when use keyboard or status display unit)
	Cooling code	Forced air-cooling
Installation mode		Wall-mounted ,cabinet-mounted

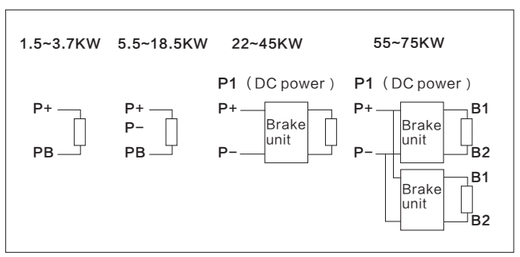
Performance specification

Control functions	Modulation mode	Optimal space voltage vector modulation SVPWM
	Control mode	Space voltage vector modulation SVPWM(optimal low-frequency dead zone compensation)
	Frequency accuracy	Digital setting: the highest frequency × ±0.01% Analog setting: the highest frequency × ±0.2%
	Frequency resolution	Digital setting: 0.01HzAnalog setting: the highest frequency × 0.1%
	Startup frequency	0.20Hz~20.00Hz
	Torque increase	Automatic increase the torque, manual increase the torque by 0.1% to 30.0%
	V/F curve	Five modes: constant torque V/F curve, 1 kind of user-defined multi-segment V/F curve, 3 kinds of torque falling curve(2nd power,1.7th power,1.2nd power)
	Acceleration and deceleration curve	2 modes: linear acceleration/deceleration, S curve acceleration/deceleration; 7 kinds of acceleration/deceleration time, units options: minute/second, up to 6000 minutes
	DC brake	Start frequency of DC brake: 0 to 15.00Hz Brake time: 0 to 60.0 s Brake current: 0 to 80%
	Energy consumption brake	Built-in energy consumption brake unit, enable to connect external brake resistor
	Jog	Jog frequency range: 0.1 to 50.00Hz, jog acceleration/deceleration time: 0.1 to 60.0 s
	Built-in PI	Easy to form the closed loop control system
	Multi-speed running	Run in multi-speed mode via built-in PLC or control terminals
	Textile swing frequency	Swing frequency with adjustable preset and center frequency
	Automatic voltage regulation(AVR)	Maintain the stability of the output voltage when the power line voltage is changing
	Automatic energy-saving running	Automatic optimize the V/F curve according to the load condition to fulfill the energy-saving running
	Automatic current restriction	Automatic limit the current to prevent from over current and trip when running
	Fixed-length control	The inverter stops running when reach the preset length
	Communication function	RS-485 port, support Modbus-RTU protocol. support master-slave linkage function
Running functions	Command running channel	Set via control panel , Set via control terminals, Set via serial port 3 modes can switch to each other
	Frequency setting channel	Set via the potentiometer Set via up/down buttons Set via function code Set via serial port Set via analog voltage Set via analog current Set via pulse Set via combination Kinds of modes can switch to each other
	Switch setting channel	Forward/backward command; 6 channels programmable digital input,35 kinds of functions, X6 supports 0~20KHz pulse input
	Analog input channel	2 channels analog input: 4 to 20mA/0 to 10 V
	Analog output channel	1 channel analog output: 0 to 10 V,4 to 20mA, Output the preset frequency, output frequency
	Switch, pulse output channel	1 channel programmable open collector output，1 channel relay output，1 channel 0 to 20 KHz pulse output，Output multi-signal
Control panel	LED digital display	Display the preset frequency, output voltage, output current, etc.
	External meter display	Display the output frequency, output current, output voltage, etc.
	Key lock	Lock all the keys
Protection functions		Over current protection, overvoltage protection, under voltage protection, overheat protection, overload protection
Accessories		Brake unit, control panel, extension cable of the control panel

Standard wiring diagram



The brake wiring diagram for inverters:



Accessories

O.75 KW –15 KW inverters have brake unit inside .Please refer to the following table to choose brake unit if there are energy –consumption brake requirements .The inverters above 18.5KW need to connect external brake unit.Please refer to wiring diagram the previous page .

Brake unit and resistor

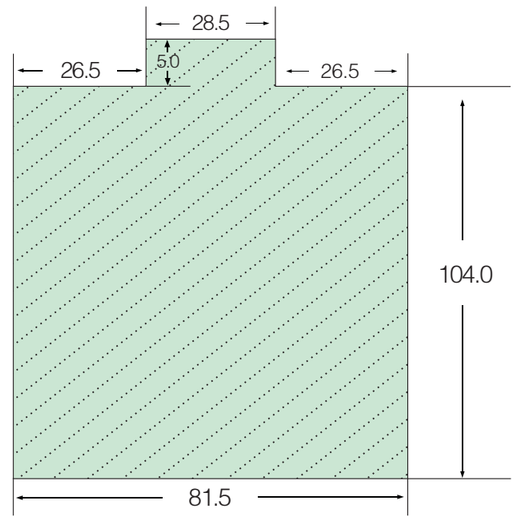
Type (KW)		Brake unit		Brake resistor	
		Type	Quantity	Equivalent brake resistor (Ω)	Equivalent brake power (W)
220V	0.75	Built-in	1	150	200
	1.5		1	100	400
	2.2		1	70	500
380V	1.5	Built-in	1	300	400
	2.2		1	200	500
	3.7		1	200	500
	5.5		1	100	500
	7.5		1	75	1000
	11		1	50	1000
	15		1	40	1500
	18.5	BRU-4045	1	32	5000
	22		1	27.2	5000
	30		1	20	6000
	37		1	16	9600
	45		1	13.6	9600
	55		1	10	12000

Operate panel and extension cable

Operate panel	Power range (KW)	Suitable type	Mounting dimension of control panel W×H (mm)	Extension cable type
VD4-OPU-05	11~55	VB4 3-phase	71*131	YC-ECC-10
VB5-OPU-01	0.75~2.2	VB5 single-phase	62*75	YC-ECC-05
	0.75~3.7	VB3,VB5 3-phase		
	5.5~7.5	VB5 single-phase		
V5-OPU-03	11~55	V5 series	71*131	YC-ECC-10

*Note:The length type of extension cable :1m、2m、3m、5m .

CPU board connection type is D-CN-1.5 ,default length is 1.5M, panel hole dimension :



unit: mm