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HIGH PERFORMANCE VECTOR FREQUENCY CONVERTER

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Products are continuously updated and parameters are just for reference.

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Over **18** years
Industry Experience



294
Effective IP Rights



80+
Worldwide Business Footprints



6
Key Marketing Zones

With 18 years of dedication and professionalism, SAJ has established itself as a pioneer in the renewable energy industry. We are committed to providing reliable products and services in Residential & Commercial Smart Energy Storage, Smart Power Generation, and Industrial Automation sectors. Our R&D team has mastered over 20 core technologies and

obtained over 260 patents in the energy field. With four R&D centers and over 500 square meters of highly equipped laboratories, we are constantly innovating and breaking through technological barriers. Our three intelligent manufacturing bases, with an area of about 18.2 hectares, ensure stable and fast delivery capacity. SAJ's products are welcomed in over 80 countries and regions. We have also established local professional marketing, technical, and service teams to respond quickly to customer needs.

Together with SAJ, build a greener and brighter future.



VM1000B

High Performance Vector Frequency Converter



Single-phase 220V : 0.75~2.2kW
Three-phase 220V : 0.75~15kW
Three-phase 380V : 0.75~400kW



Wide power range
Dual voltage optional



Multi-dimensional protection
Safe and reliable



Cabinet installation
Strong heat dissipation capacity



Compatible with synchronous
motor & asynchronous motor



Random carrier function
Quiet and efficient



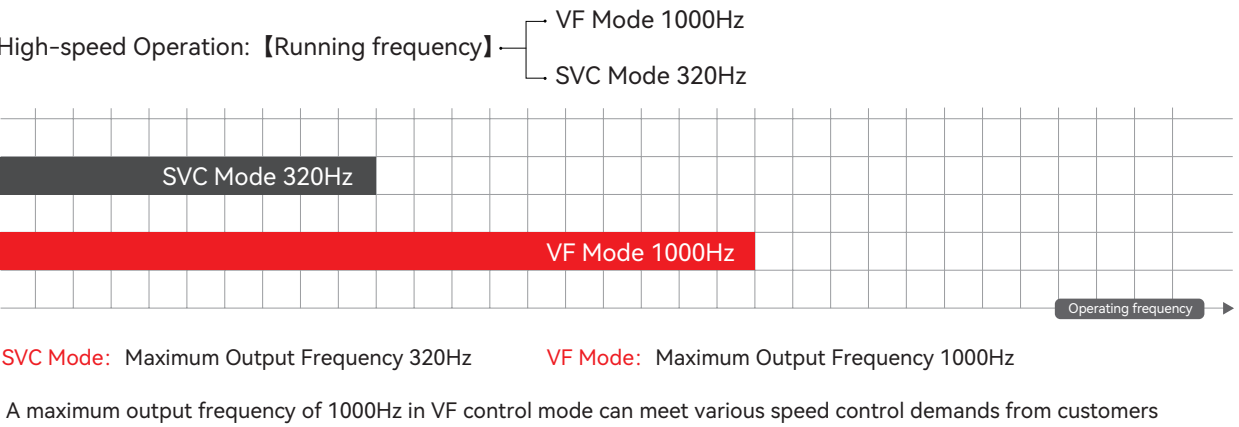
Multi-type I/O function
Flexible control

Specification Parameter

Item		Description	
Control Characteristics	Control Mode	Sensorless vector control (SVC)	V/F Control
	Starting Torque	0.5Hz/150%	0.5Hz/100%
	Speed Adjustment Range	1: 100	1: 50
	Speed Holding Precision	±0.5%	±1%
	Carrier Frequency	0.5kHz ~ 16kHz; The carrier frequency can be automatically adjusted according to the load characteristics	
	Overload Capacity	G type: 150% rated current for 60s; 180% rated current for 1s P type: 120% rated current for 60s; 150% rated current for 1s	
	Torque Compensation	Automatic: 0.0%; Manual : 0.1%~30.0%	
Operation Control	Input Voltage Range	220V/380V; fluctuation range: ±15%	
	Input Frequency Range	50/60Hz; fluctuation range: ±5%	
	Output Voltage Range	0- input voltage, Error limit 5%	
	Output Frequency Range	SVC: 0-320Hz; V/F: 0-1000Hz	
	Command Running Channel	Three kinds of channels: 1. Operation keyboard 2.Control terminal 3.Serial communication port, switchable by many ways	
	Frequency Source	Digital setting, Potentiometer of operation board, Analog Voltage Signal, Analog Current Signal, Communication port settin, switchable by many ways	
	Auxiliary Frequency Source	Multiple auxiliary frequency source, capable of frequency synthesis and frequency trimming	
Basic Functions	Input Terminals	◆ 6 Digital Input Terminals ◆ 2 Analot Input Terminals	
	Output Terminals	◆ 1 Open Collector Output Terminals; ◆ 2 Relay Output Terminals ◆ 2 Analog Output Terminals (Model with a power of less than 7.5kW only have one)	
	DC Braking	Braking time: 0.0s ~ 100.0s, Braking current value: 0.0% ~ 100.0%	
	V/F Curve	Three types: linear, multipoint, square V/F curve	
	Acceleration and Deceleration Curve	Linear mode and S curve acceleration and deceleration mode; 4 groups of acceleration and deceleration time; the range of acceleration and deceleration time0.0~6500.0S	
	Simple PLC, Multi-speed Control	Up to 16 steps speed can be realized by integrated sjimple PLC and control terminals function	
	Integrated PID	Closed-loop control system	
	AVR Function	When grid voltage changes, it keeps output voltage constant automatically	
	Control of Overvoltage, Overcurrent, Speed Stall	The current and voltage are limited automatically during the running process so as to avoid frequent tripping due to overvoltage/overcurrent	
	Rapid Current Limit	Decrease overcurrent at max, protect VFD to operate regularly	
	Torque Limit and Control	Limit the torque automatically and prevent frequent over current trippingduring the running process	
	Power peripheral and Safety Self-checking	To realize self checking of peripheral equipment at power on, such as grounding fault, short circuit fault, etc	
	Timing Control	Timing control range:0h~65535h	
	Protection Functions	Motor short-circuit detection at power-on, input/output phase loss protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection and overload protection etc	
Display and Panel Operation	LED Display	5 bits LED Display	
	Parameter Lock	Define whether the parameter is locked in running or stopped state in case of misoperation	
	MF.K Key	Programmable: Command channel switching / forward rotation and reverse rotation / JOG function selection / menu mode switching	
Application Environment	Operation Place	Indoor, free from direct sunlight, no dust, no corrosive gas, no combustible gas, no oil smoke, no vapor, no drip or salt.	
	Altitude	Lower than 1000m. Service in derated capacity when above 1000m. Derate 1% capacity every 100m increase in height.	
	Ambient Temperature	-10℃~+40℃,A33Service in derated capacity when temperature higher than 40℃. Derate 1% capacity every 1℃ increase in temperature.And the maximum environmental temperature is 50 ℃.	
	Humidity	≤ 95%RH, no water condensatainon	
	Vibration	< 5.9m/s ² (0.6G)	
	Storage Temperature	-25℃ ~ +60℃	

Product Advantage

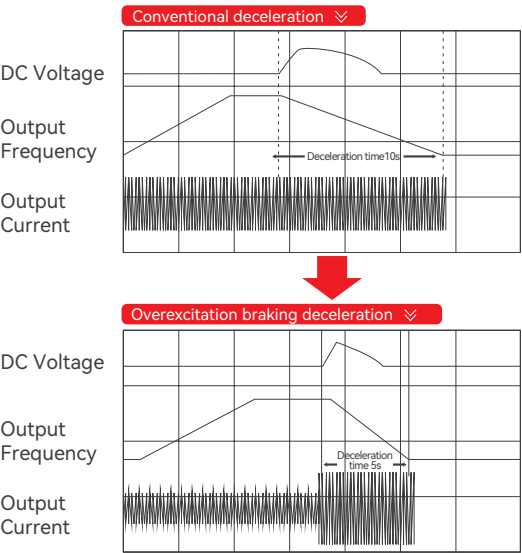
Maximum Output Frequency Improved



Excellent Braking Function

【Over-excitation Braking Function】

The over-excitation braking function can help with a prompt braking action even without the braking unit on some occasions.



【Dynamic Braking Function】

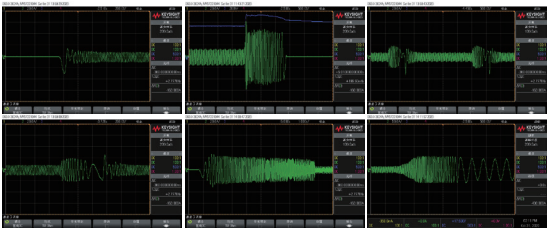
The braking torque could be higher and braking time shorter if working with a braking resistor. The 0.75-22kW models are designed with built-in braking units.

(Remarks) The braking performance varies from motor characteristics and load conditions.

Random Carrier Function

【Superior Control Performance】

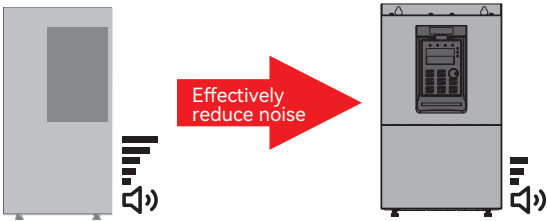
The improved low frequency and high torque quickstarting performance brings a faster response speed and a higher production efficiency. The probability of equipment failure and shutdown can be reduced effectively with the enhanced current suppression algorithm so as to ensure a more stable processing capacity of the equipment.



Note: Burning Synchronous Motor Special Control Procedure

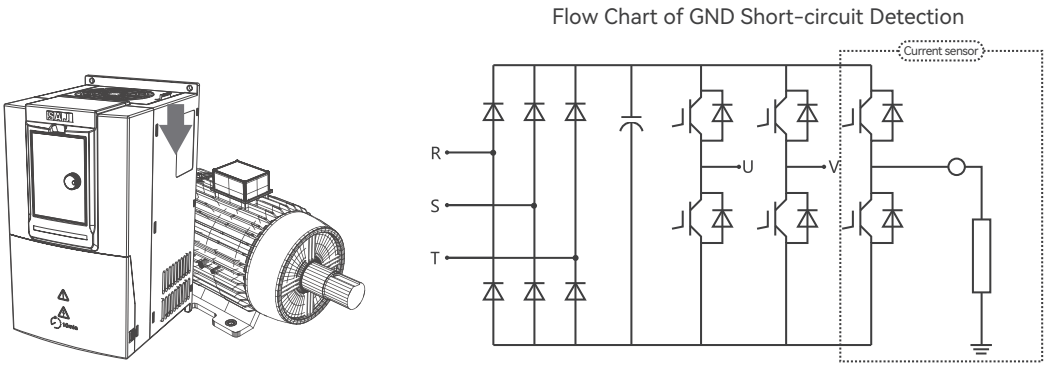
【Noise Reduction】

The random carrier function helps reduce the noise of the equipment so as to improve the environmental comfort.



Motor GND Short-Circuit Detection

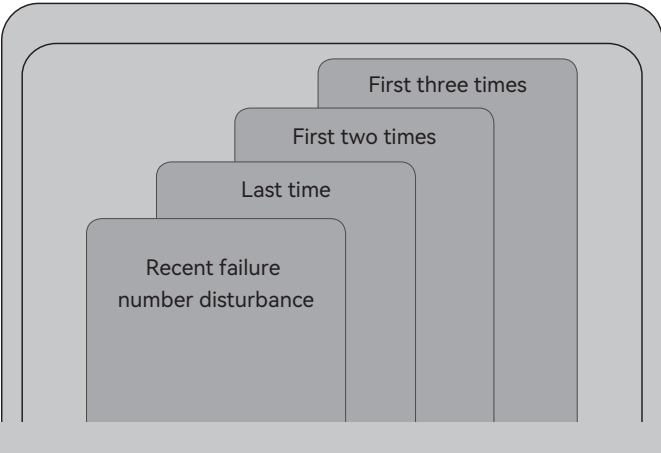
The motor GND short-circuit detection function makes sure that the equipment is operating under normal and safe conditions thus improving the safety coefficient.



Optimized fault record

It can save up to 15 on-site data records when failures occur, and the data records are more complete, which is more conducive to analysis and processing.

- Frequency
- Electric current
- Bus voltage
- Output terminal status
- Inverter temperature



G/P Dual Power Marked

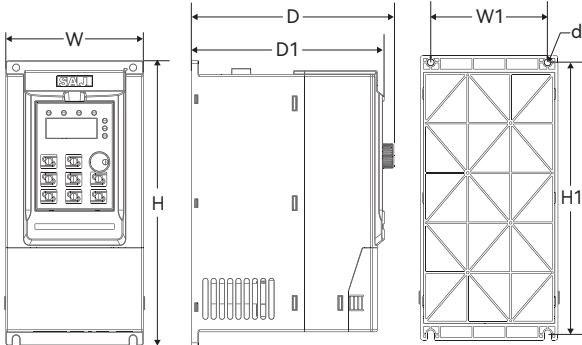
G/P dual power marking is more convenient for model selection which allows customers to select a G or P operation mode according to their load demands.

GP model settings	Overload capacity	Load characteristics	Applicable overload capacity
G type	Standard overload	Type selection according to the power of G-type machine	Rated current 150% 60s, 180% 1s
P type	Mild overload	Type selection according to the power of P-type machine	Rated current 120% 60s, 150% 1s

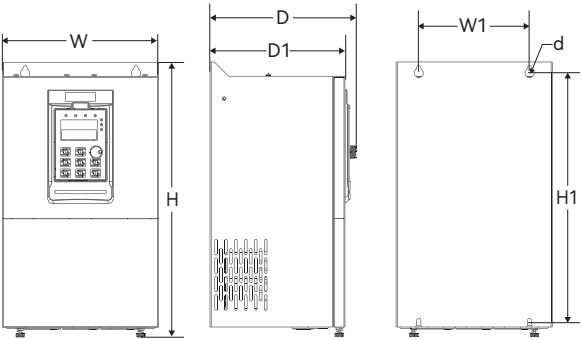
SELECTION GUIDE

Specification Model	Power	Power Capacity	Input Current	Output Current	Adapted Motor	
	kW	kVA	A	A	kW	HP
Single phase input 220V and three-phase output 0-220V						
VM1000B-2SR75GB-E	0.75	1.5	8.2	4.5	0.75	1
VM1000B-2S1R5GB-E	1.5	3	14	7	1.5	2
VM1000B-2S2R2GB-E	2.2	4	23	9.6	2.2	3
Three phase input 220V and three-phase output 0-220V						
VM1000B-2TR75GB-E	0.75	1.5	5	3.8	0.75	1
VM1000B-2T1R5GB-E	1.5	3	5.8	5.1	1.5	2
VM1000B-2T2R2GB-E	2.2	4	10.5	9	2.2	3
VM1000B-2T004GB-E	4	5.9	14.6	13	4	5.5
VM1000B-2T5R5GB-E	5.5	8.9	26	25	5.5	7.5
VM1000B-2T7R5GB-E	7.5	11	35	32	7.5	10
VM1000B-2T011GB-E	11	17	46.5	45	11	15
VM1000B-2T015G-E	15	21	62	60	15	20
Three phase input 380V and three-phase output 0-380V						
VM1000B-4TR75GB-E	0.75	1.5	3.4	2.5	0.75	1
VM1000B-4T1R5GB-E	1.5	3	5	3.8	1.5	2
VM1000B-4T2R2GB-E	2.2	4	5.8	5.1	2.2	3
VM1000B-4T004GB/5R5PB-E	4/5.5	5.9/8.9	10.5/14.6	9/13	4/5.5	5.5/7.5
VM1000B-4T5R5GB/7R5PB-E	5.5/7.5	8.9/11	14.6/20.5	13/17	5.5/7.5	7.5/10
VM1000B-4T7R5GB-E	7.5	11	20.5	17	7.5	10
VM1000B-4T011GB/015PB-E	11/15	17/21	26/35	25/32	11/15	15/20
VM1000B-4T015GB/018R5PB-E	15/18.5	21/24	35/38.5	32/37	15/18.5	20/25
VM1000B-4T018R5GB/022PB-E	18.5/22	24/30	38.5/46	37/45	18.5/22	25/30
VM1000B-4T022GB/030PB-E	22/30	30/40	46.5/62	45/60	22/30	30/40
VM1000B-4T030G/037P-E	30/37	40/57	62/76	60/75	30/37	40/50
VM1000B-4T037G/045P-E	37/45	57/69	76/92	75/91	37/45	50/60
VM1000B-4T045G/055P-E	45/55	69/85	92/113	91/110	45/55	60/70
VM1000B-4T055G/075P-E	55/75	85/114	113/157	112/150	55/75	70/100
VM1000B-4T075G/093P-E	75/93	114/134	157/180	150/170	75/93	100/125
VM1000B-4T093G/110P-E	93/110	134/160	180/214	170/210	93/110	125/150
VM1000B-4T110G/132P-E	110/132	160/192	214/256	210/253	110/132	150/180
VM1000B-4T132G/160P-E	132/160	192/231	256/307	253/304	132/160	180/220
VM1000B-4T160G/185P-E	160/185	231/245	307/345	304/340	160/185	220/250
VM1000B-4T185G/200P-E	185/200	245/260	345/385	340/377	185/220	250/275
VM1000B-4T200G/220P-E	200/220	260/280	385/430	377/426	200/220	275/300
VM1000B-4T220G/250P-E	220/250	280/355	430/468	426/465	220/250	300/340
VM1000B-4T250G/280P-E	250/280	355/396	468/525	465/520	250/280	340/380
VM1000B-4T280G/315P-E	280/315	396/445	525/590	520/585	280/315	380/430
VM1000B-4T315G/355P-E	315/355	445/500	590/665	585/650	315/355	430/480
VM1000B-4T355G/400P-E	355/400	500/565	665/785	650/725	355/400	480/545
VM1000B-4T400G-E	400	565	785	725	400	545

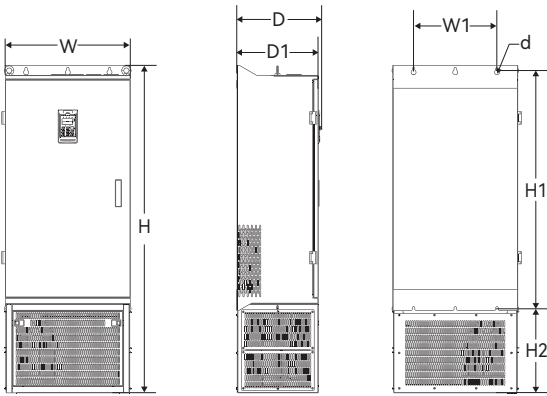
DIMENSION (UNIT: MM)



Model	Outline size				Installation dimension		Opening size
	H	W	D	H1	H1	W1	d
VM1000B-2SR75GB-E	187	88	138	130	177	73	5
VM1000B-2S1R5GB-E							
VM1000B-2S2R2GB-E							
VM1000B-2TR75GB-E							
VM1000B-2T1R5GB-E							
VM1000B-4TR75GB-E							
VM1000B-4T1R5GB-E	207	100	147	139	197	85	5
VM1000B-4T2R2GB-E							
VM1000B-2T2R2GB-E							
VM1000B-4T004GB/5R5PB-E							
VM1000B-2T004GB-E	247	130	167	159	237	113	5
VM1000B-4T5R5GB/7R5PB-E							
VM1000B-4T7R5GB-E							



Model	Outline size				Installation dimension		Opening size
	H	W	D	H1	H1	W1	d
VM1000B-2T5R5GB-E	348	182	211	196	331	156	6
VM1000B-2T7R5GB-E							
VM1000B-4T011GB/015PB-E							
VM1000B-4T015GB/018R5PB-E							
VM1000B-2T011GB-E	373	220	205	190	356	156	6
VM1000B-4T018R5GB/022PB-E							
VM1000B-4T022GB/030PB-E							
VM1000B-2T015G-E							
VM1000B-4T030G/037P-E	435	256	222	208	419	170	6
VM1000B-4T037G/045P-E							
VM1000B-4T045G/055P-E							
VM1000B-4T055G/075P-E	543	310	280	265	523	245	10
VM1000B-4T075G/093P-E							
VM1000B-4T093G/110P-E							
VM1000B-4T110G/132P-E							



Note: H2 is the base height, the 132-185kW base is not standard, and the 200-400KW base is standard.

Model	Outline size					Installation dimension		Opening size
	H	H2	W	D	D1	H1	W1	d
VM1000B-4T132G/160P-E	1199	350	502	355	342	842	320	10
VM1000B-4T160G/185P-E								
VM1000B-4T185G/200P-E								
VM1000B-4T200G/220P-E	1570	426	600	408	398	1147	400	12
VM1000B-4T220G/250P-E								
VM1000B-4T250G/280P-E								
VM1000B-4T280G/315P-E								
VM1000B-4T315G/355P-E	1696	426	800	408	398	1266	520	12
VM1000B-4T355G/400P-E								
VM1000B-4T400G-E								

VM600G

Economical Frequency Converter



Single-phase 220V: 0.75~2.2kW
Three-phase 380V: 0.75~7.5kW



Compact in size



Better protection function



Professional motor drive
Superior performance



Simple installation
Convenient speed regulation



Compatible with synchronous
Motor & asynchronous motor



The product is safer to use

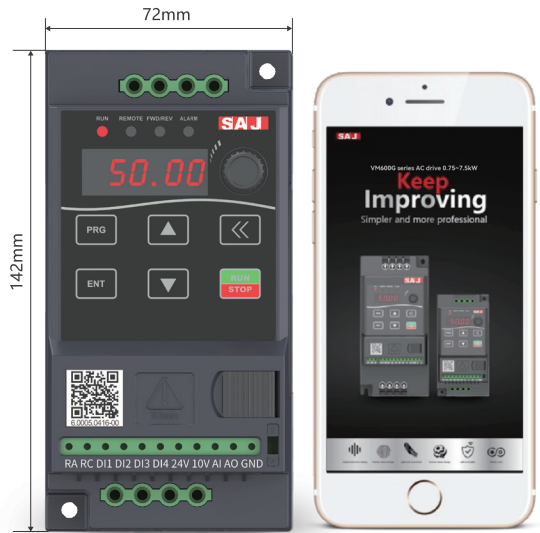
Specification Parameter

Item		Description
Control characteristic	Control mode	V/F control
	Output frequency range	0~1000Hz
	Starting torque	0.5Hz/130%
	Carrier frequency	0.6~15.0kHz
	Overload capacity	150% rated current 60s, 180% rated current 1s
	Torque lift	Automatic torque lift/manual torque lift 0.1 ~ 30.0%
I/O terminals	Analog input	1 way
	Digital input	4 way
	Analog output	1 way
	Relay output	2.2kW (including) models below 1 normal open; For 4kW or more models, 1 channel is normally open and 1 channel is normally closed
	RS485 communication terminal	1 Integrated in the RJ45 cable port
	10V power terminal	1 way
	24V power terminal	1 way
Basic functions	Run command channel	Three channels: set operation panel, control terminal, and RS485 communication control, which can be switched in various ways
	Frequency source	Digital set, panel potentiometer set, analog voltage set, analog current set, RS485 communication set, PID control set, switchable by many ways
	DC braking function	DC braking frequency: 0~50Hz, braking time: 0~60s Braking action current value: 0~150%
	V/F curve	Linear; 1.1~1.9 power; Square type; Customize V/F curves
	Simple PLC, multi-speed control	Up to 15 speed to achieve simple PLC operation
	Integrated PID	It is convenient to realize process control closed-loop control system
	Protection function	Input/output phase loss protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, power-on short circuit detection etc
	LED display	5-bit LED display
	Parameter locking function	The parameter read-only function can be set to prevent misoperations
	Automatic voltage adjustment AVR function	When the grid voltage changes, the output voltage can be kept constant automatically
Application environment	Operation place	Indoor, free from direct sunlight, no dust, no corrosive gas, no combustible gas, no oil mist, no water mist, no drip or salt,etc.
	Altitude	Lower than 1000m. Service in derated capacity when above 1000m. Derate 1% capacity every 100m increase in height.
	Ambient temperature	-10 °C to +50 °C (If the ambient temperature is 40°C to 50 °C, please reduce the amount to use)
	Humidity	≤ 95%RH, no water condensation
	Vibration	< 5.9m/s ² (0.6G)
	Storage temperature	-25°C ~ 60°C
	Protection class	IP20

Product Advantage

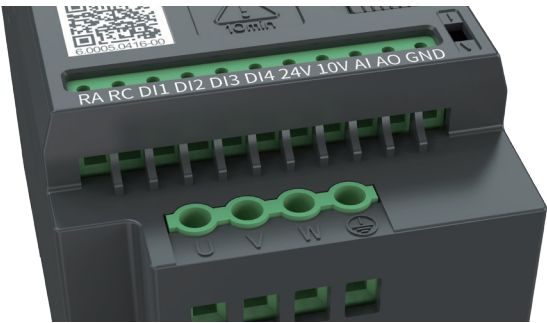
Compact Design

Compared with the previous product, the installation size is reduced by 30% and the volume is reduced by 45%, which is more conducive to saving installation space.



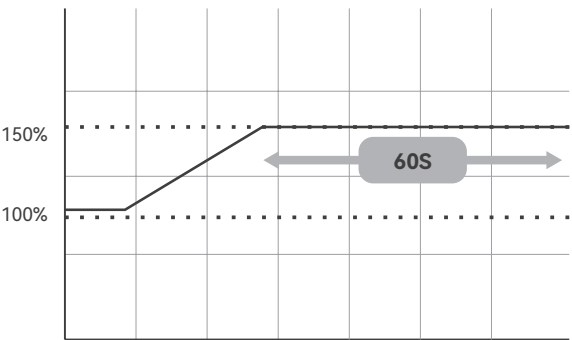
High-efficiency Debugging

Equipped with marco function parameter, which will automatically adjust all related parameters when being adjusted then improve the setting efficiency.



Excellent driving ability

The output frequency range is wide which meets speed regulation requirements for most industrial scenes. Overload capability is 150% rated current for 60S, which provides a wide range of strong driving capability.



Compatible with single-phase motor and three-phase asynchronous motor

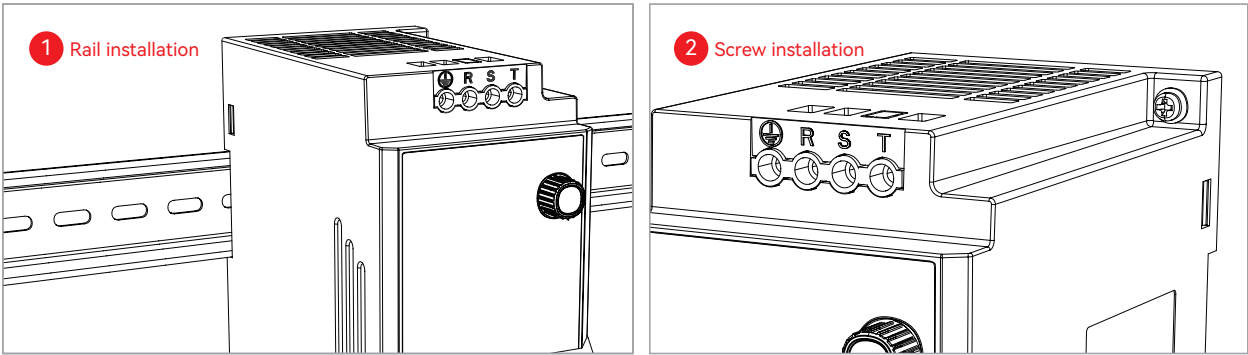
Single Phase Motor Option

Changing speed for single phase motor, wide speed changing range, no current shock, equipment service time will be longer

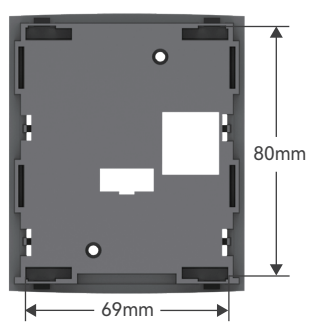


Two Installation Options

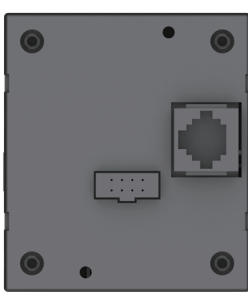
Improve installation convenience and installation efficiency, and further save installation space, suitable for side-by-side installation.



External keyboard effect diagram



Tray opening size



Extension of the network port on the back of the keyboard

Dismountable Keypad

Support parameter copy

Note: LCD keyboard is under development

Multiple Protection Mechanisms

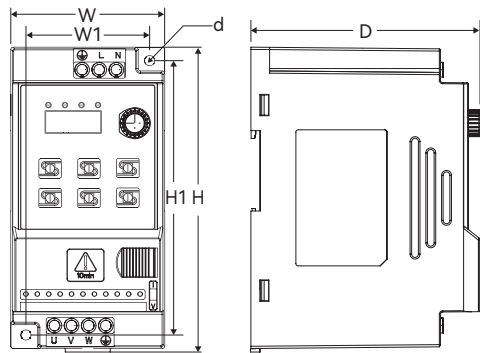
AC Drive overcurrent, overvoltage, short circuit protection, motor overload protection, Input/output phase loss protection, etc.



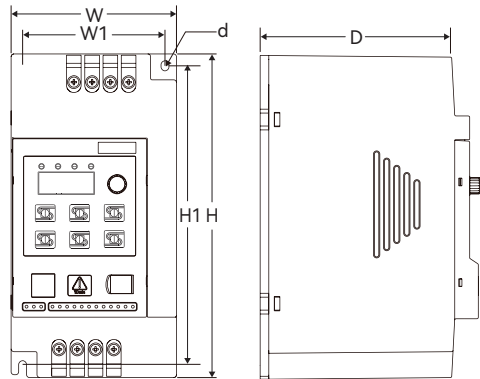
SELECTION GUIDE

Model	Rated Power	Power capacity	Input current	Output current	Motor G/P	
	kW	kVA	A	A	kW	HP
Single 220V input three-phase 0-220V output						
VM600G-2SR75-E	0.75	1.5	8.2	4	0.75	1
VM600G-2S1R5-E	1.5	3	14	7	1.5	2
VM600G-2S2R2-E	2.2	4	23	9.6	2.2	3
Three 380V output three-phase 0-380V output						
VM600G-4TR75-E	0.75	1.5	3.4	2.5	0.75	1
VM600G-4T1R5-E	1.5	3	5	3.8	1.5	2
VM600G-4T2R2-E	2.2	4	5.8	5.1	2.2	3
VM600G-4T004-E	4	5.9	10.5	9	4	5.5
VM600G-4T5R5-E	5.5	8.9	14.6	13	5.5	7.5
VM600G-4T7R5-E	7.5	11	20	17	7.5	10

DIMENSION (UNIT: MM)



Model	Outline size			Installation dimension		Opening size
	H	W	D	H1	W1	d
VM600G-2SR75-E	142	72	116	130	59	5
VM600G-2S1R5-E						
VM600G-2S2R2-E						
VM600G-4TR75-E						
VM600G-4T1R5-E						
VM600G-4T2R2-E						



Model	Outline size			Installation dimension		Opening size
	H	W	D	H1	W1	d
VM600G-4T004-E	196	95	132	179	79	5.5
VM600G-4T5R5-E	225	115	154	208	99	5.5
VM600G-4T7R5-E						

eSolar Pump O&M Platform

Real Time Monitoring

Intelligent Alert

Remote Setup

Device Management

Data Analysis

Smart Operation



PRODUCT APPLICATION

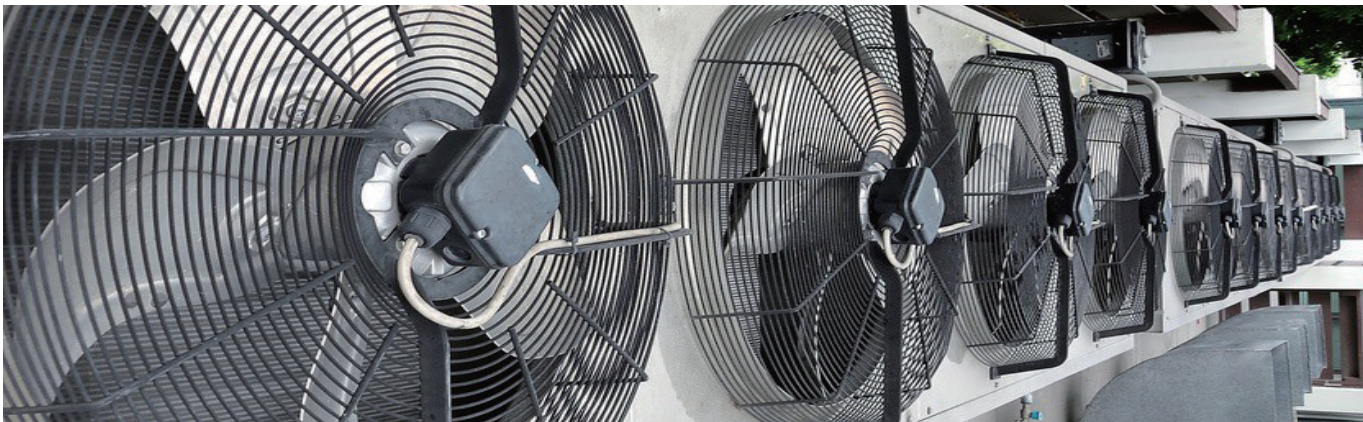
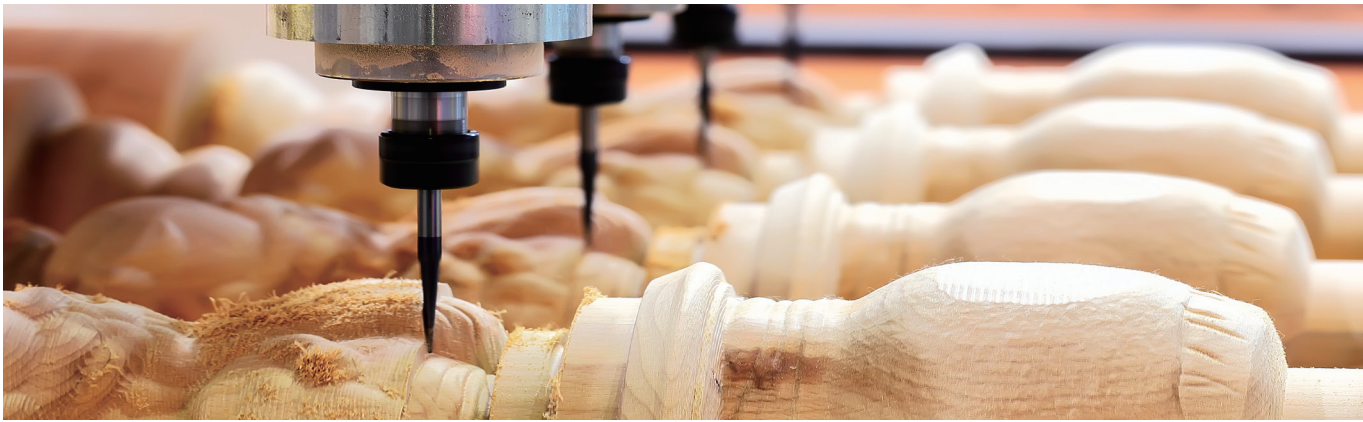
VM1000B Application

VM1000B frequency inverter can be used in machine tools, metal products, petrochemical, gas, lifting equipment, pulp and paper, textile, printing and dyeing, ceramics and other industries.



VM600G Application

VM600G frequency inverter can be used in packaging machinery, woodworking machinery, food processing, moving machinery, printing machinery, fan pump etc.



GLOBAL STRUCTURE

2 Manufacturing
Bases

80+ Worldwide Business
Footprints

6 Key Marketing
Zones

