AE-T-600 Vector Frequency Inverter

(3phase 380V-480V, 690V, 1140V 0.4KW-450KW)

Applications:

Sawing Machine, Textile Machine, Lifting Equipment, Fans and Pumps, Printing Equipment, Compressor, Injection Machine, Machine Tool Equipment

Basic features:

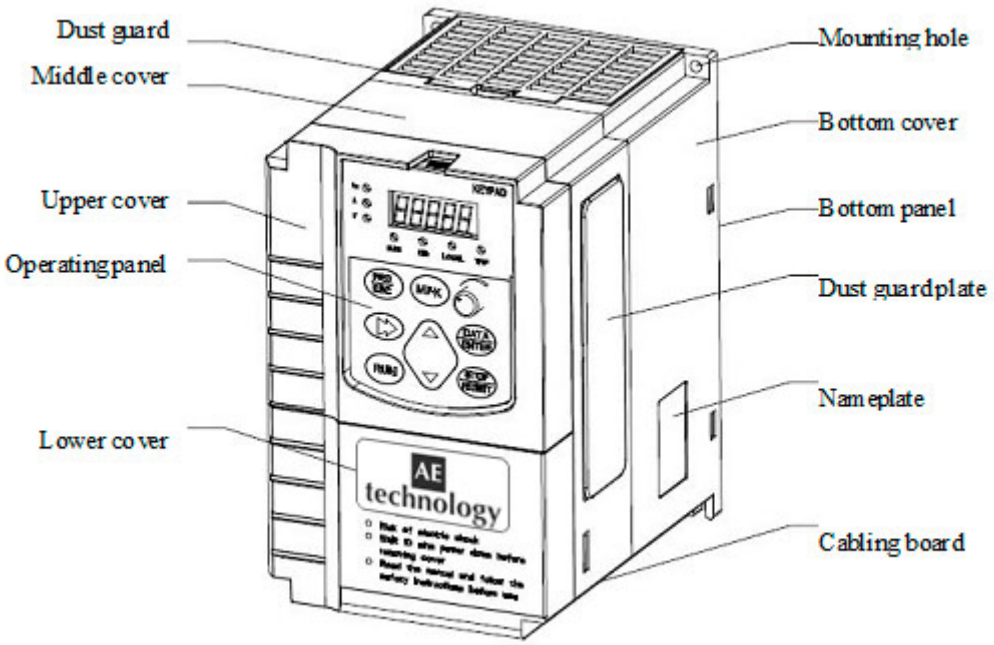
1. Four control modes: sensor-less vector control (SVC), closed-loop vector control (VC) and V/F control and V/F separately control.
2. Keyboard locator (0-5V) ,external analog (0-10V/0-20mA) ,external signal superposition….
3. 16 steps speed ,forward and reverse, hopping frequency, acceleration and deceleration, counter, jog acceleration and deceleration, wake of PID sleep, PG …..
4. Built-in 485 port independently
5. Frequency set: keyboard ,external analog, pulse frequency, PC serial communication …
6. Precision of speed control: PG feedback vector control ±0.05% rated frequency, No PG feedback vector control ±0.5% rated. frequency
7. Scope of speed control for PG feedback vector 1:1000;No PG feedback vector 1:100
8. With PG feedback vector control, torque response<150ms;No PG feedback vector control, torque response<200ms
9. PG feedback vector control:200% rated output torque/0.05HZ;No PG feedback vector control:150% rated output torque/0.5HZ
10. Precision of torque control:±5% rated output torque
11. Over-load protection, over-voltage stall, overload forecast, automatic current limit, automatic fault reset, under-voltage protection, over-heating protection, phase- lack protection
12. It supports communication via Modbus-RTU, Profibus-DP and CANopen bus.
13. It supports various encoders such as differential encoder, open-collector encoder, resolver and UVW encoders.
14. It adopts high-speed response, enhanced low-frequency loading capacity and supports torque control of SVC, which will bring you a new using experience.
15. Independent cooling channel design Prevents dust and corrosive gas damaging the circuit board, and slows down the aging speed of circuit board. It is especially important for harsh working environment, such as printing, textile, cement, ceramic, metal processing industries and so on. The cooling channel is separated with circuit board, which protects the main board under the premise of ensuring the heat dissipation effect, reduces faults and maintenance rate, extending the use life of inverter.
16. It supports vector control of three-phase AC asynchronous motor and three-phase AC permanent magnet synchronous motor (PMSM).

Models and technical data

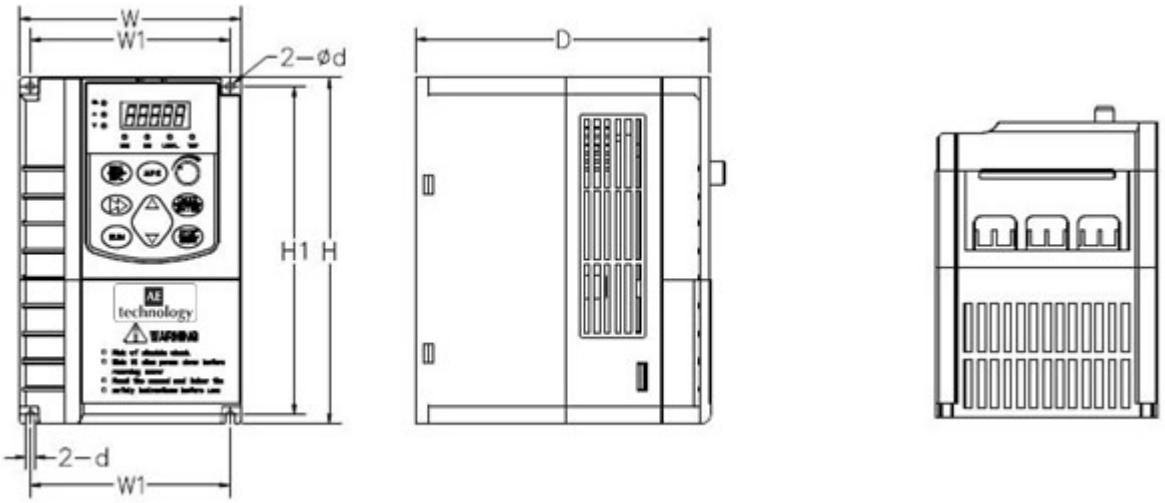
Model		Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor		Thermal Power Consumption (KW)
					KW	HP	
Three-phase 220V，50/60Hz							
AE-T-600-0R4GT2		1.5	3.4	2.1	0.4	0.5	0.016
AE-T-600-R75GT2		3	5	3.8	0.75	1	0.030
AE-T-600-1R5GT2		4	5.8	5.1	1.5	2	0.055
AE-T-600-2R2GT2		5.9	10.5	9	2.2	3	0.072
AE-T-600-3R7GT2		8.9	14.6	13	3.7	5	0.132
AE-T-600-5R5GT2		17	26	25	5.5	7.5	0.214
AE-T-600-7R5GT2		21	35	32	7.5	10	0.288
AE-T-600-011GT2		30	46.5	45	11	15	0.489
AE-T-600-015GT2		40	62	60	15	20	0.608
AE-T-600-018GT2		57	76	75	18.5	25	0.716
AE-T-600-022GT2		69	92	91	22	30	0.887
AE-T-600-030GT2		85	113	112	30	40	1.11
AE-T-600-037GT2		114	157	150	37	50	1.32
AE-T-600-045GT2		134	180	176	45	60	1.66
AE-T-600-055GT2		160	214	210	55	75	1.98
AE-T-600-075GT2		231	307	304	75	100	2.02
Three-phase 380V，50/60Hz							
AE-T-600-R75GT4		1.5	3.4	2.1	0.75	1	0.027
AE-T-600-1R5GT4	AE-T-600-1R5PT4	3	5	3.8	1.5	2	0.050
AE-T-600-2R2GT4	AE-T-600-2R2PT4	4	5.8	5.1	2.2	3	0.066
AE-T-600-3R7GT4	AE-T-600-3R7PT4	5.9	10.5	9	3.7	5	0.120
AE-T-600-5R5GT4	AE-T-600-5R5PT4	8.9	14.6	13	5.5	7.5	0.195
AE-T-600-7R5GT4	AE-T-600-7R5PT4	11	20.5	17	7.5	10	0.262
AE-T-600-011GT4	AE-T-600-011PT4	17	26	25	11	15	0.445
AE-T-600-015GT4	AE-T-600-015PT4	21	35	32	15	20	0.553
AE-T-600-018GT4	AE-T-600-018PT4	24	38.5	37	18.5	25	0.651
AE-T-600-022GT4	AE-T-600-022PT4	30	46.5	45	22	30	0.807
AE-T-600-030GT4	AE-T-600-030PT4	40	62	60	30	40	1.01
AE-T-600-037GT4	AE-T-600-037PT4	57	76	75	37	50	1.20
AE-T-600-045GT4	AE-T-600-045PT4	69	92	91	45	60	1.51
AE-T-600-055GT4	AE-T-600-055PT4	85	113	112	55	75	1.80
AE-T-600-075GT4	AE-T-600-075PT4	114	157	150	75	100	1.84
AE-T-600-090GT4	AE-T-600-090PT4	134	180	176	90	125	2.08
AE-T-600-110GT4	AE-T-600-110PT4	160	214	210	110	150	2.55
AE-T-600-132GT4	AE-T-600-132PT4	192	256	253	132	200	3.06

Model		Power Capacity (KVA)	Input Current (A)	Output Current (A)	Adaptable Motor		Thermal Power Consumption (KW)
					KW	HP	
AE-T-600-160GT4	AE-T-600-160PT4	231	307	304	160	250	3.61
AE-T-600-200GT4	AE-T-600-200PT4	250	385	377	200	300	4.42
AE-T-600-220GT4	AE-T-600-220PT4	280	430	426	220	300	4.87
AE-T-600-250GT4	AE-T-600-250PT4	355	468	465	250	400	5.51
AE-T-600-280GT4	AE-T-600-280PT4	396	525	520	280	370	6.21
AE-T-600-315GT4	AE-T-600-315PT4	445	590	585	315	500	7.03
AE-T-600-355GT4	AE-T-600-355PT4	500	665	650	355	420	7.81
AE-T-600-400GT4	AE-T-600-400PT4	565	785	725	400	530	8.51
AE-T-600-450GT4	AE-T-600-450PT4	630	883	820	450	600	9.23

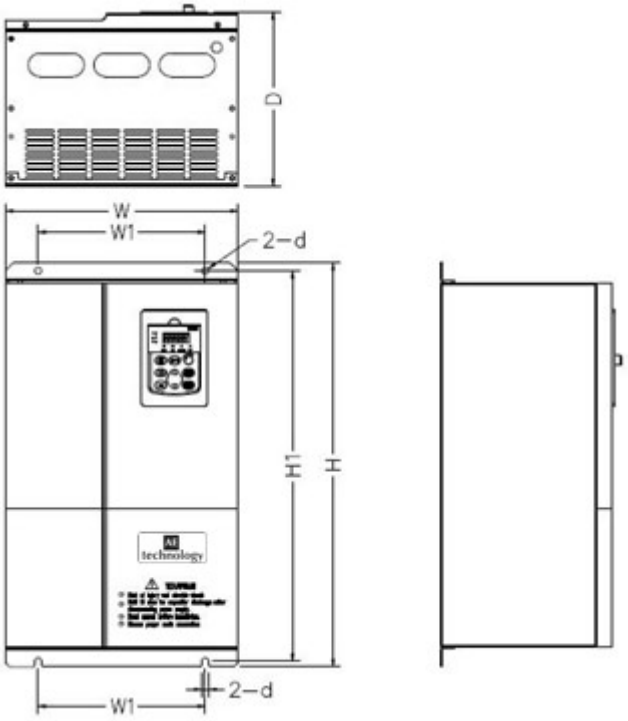
Product appearance



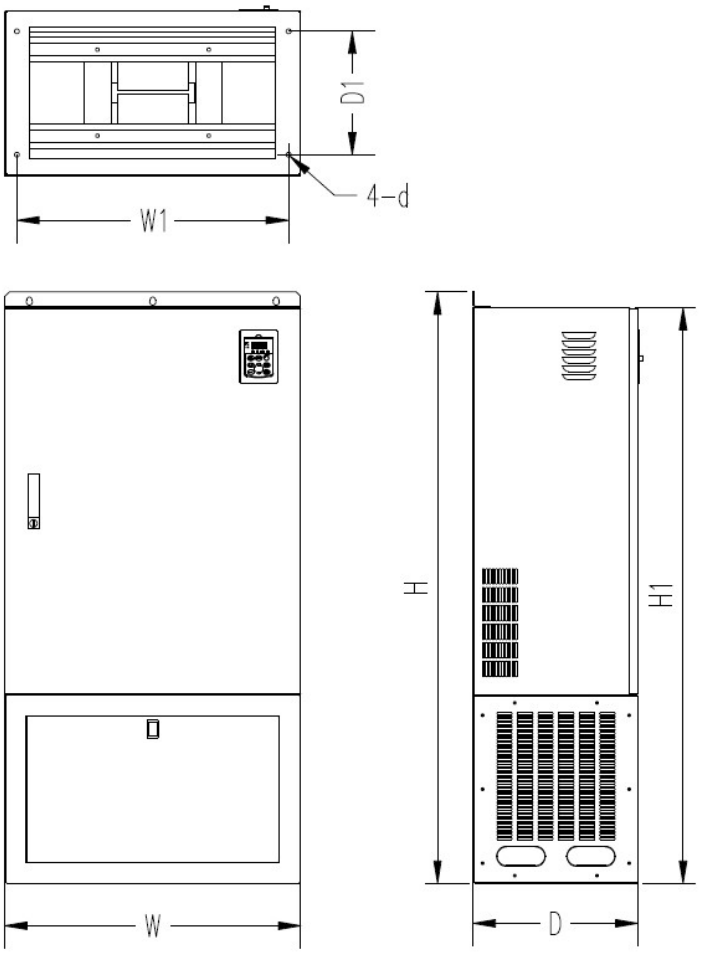
Appearance and installation dimension of AE-T-600 series (Plastic housing structure)



Appearance and installation dimension of AE-T-600 series (Metal housing structure)



Appearance and installation dimension of AE-T-600 series (Cabinet structure)

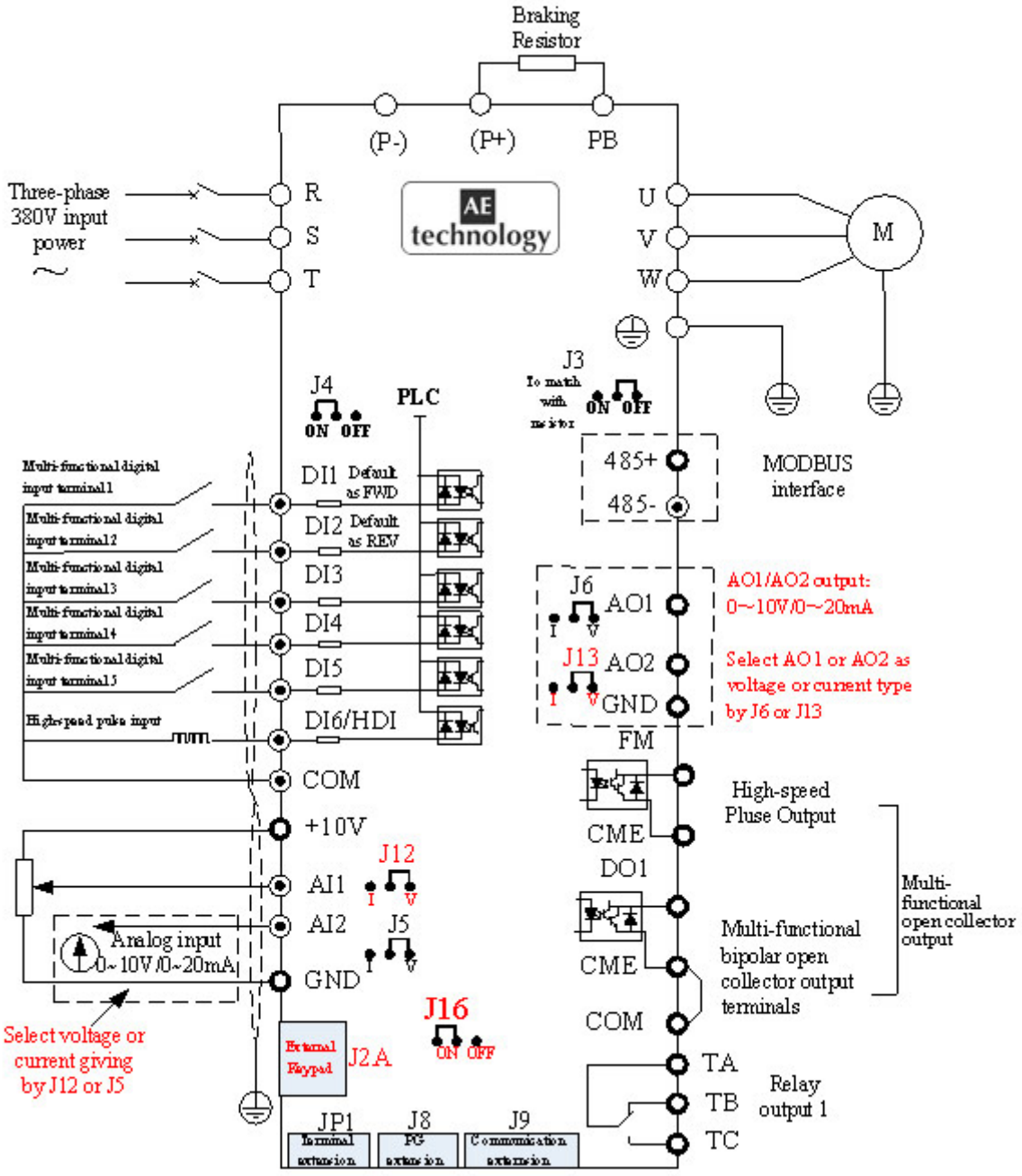


Installation dimension (mm) of AE-T-600 frequency inverter

Model	Appearance and installing dimension（mm）							Weight（kg）
	W	W1	H	H1	D	D1	Φd	
Three-phase 220V								
AE-T-600-0R4GT2	118	106.5	185	175.5	157	—	Φ4.5	
AE-T-600-R75GT2								
AE-T-600-1R5GT2								
AE-T-600-2R2GT2	160	148	247	235	177	—	Φ5.5	
AE-T-600-3R7GT2								
AE-T-600-5R5GT2	220	126	349	334	194	—	Φ7	
AE-T-600-7R5GT2								
AE-T-600-011GT2	290	230	455	440	218	—	Φ7	
AE-T-600-015GT2								
AE-T-600-018GT2	320	230	555	540	240	—	Φ10	
AE-T-600-022GT2								
AE-T-600-030GT2	410	320	635	610	239	—	Φ12	
AE-T-600-037GT2								
AE-T-600-045GT2	460	320	654	630	340	—	Φ12	

Model	Appearance and installing dimension（mm）							Weight（kg）
	W	W1	H	H1	D	D1	Φd	
AE-T-600-055GT2								
AE-T-600-075GT2	560	420	847	820	348	—	Φ14	
Three-phase 380V								
AE-T-600-R75G/1R5PT4	118	106.5	185	175.5	157	—	Φ4.5	
AE-T-600-1R5G/2R2PT4								
AE-T-600-2R2G/3R7PT4								
AE-T-600-3R7GT4A								
AE-T-600-3R7G/5R5PT4	160	148	247	235	177	—	Φ5.5	
AE-T-600-5R5G/7R5PT4								
AE-T-600-7R5G/011PT4								
AE-T-600-011G/015PT4	220	126	349	334	194	—	Φ7	
AE-T-600-015G/018PT4								
AE-T-600-018G/022PT4	290	230	455	440	218	—	Φ7	
AE-T-600-022G/030PT4								
AE-T-600-030G/037PT4								
AE-T-600-037G/045PT4	320	230	555	540	240	—	Φ10	
AE-T-600-045G/055PT4								
AE-T-600-055G/075PT4	410	320	635	610	239	—	Φ12	
AE-T-600-075G/090PT4								
AE-T-600-090G/110PT4	420	320	654	630	303	—	Φ12	
AE-T-600-110G/132PT4								
AE-T-600-132G/160PT4	560	420	848	820	403	—	Φ12	
AE-T-600-160G/200PT4								
AE-T-600-200G/220PT4								
AE-T-600-220G/250PT4	720	600	1018	980	403	—	Φ14	
AE-T-600-250G/280PT4								
AE-T-600-280G/315PT4								
AE-T-600-315G/355PT4	840	720	1129	1100	423	—	Φ14	
AE-T-600-355G/400PT4								
AE-T-600-400G/450PT4								
AE-T-600-132G/160PT4G	560	500	1238	1200	403	280	Φ12	
AE-T-600-160G/200PT4G								
AE-T-600-200G/220PT4G								
AE-T-600-220G/250PT4G	720	660	1438	1400	403	300	Φ14	
AE-T-600-250G/280PT4G								
AE-T-600-280G/315PT4G								
AE-T-600-315G/355PT4G	840	780	1544	1500	423	320	Φ14	
AE-T-600-355G/400PT4G								
AE-T-600-400G/450PT4G								

Control Circuit and Main Circuit Wiring



Technical Specifications

Item		Specifications	
Standard functions	Maximum frequency	Vector control: 0~300 Hz V/F control: 0~3000 Hz	
	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: 0.5 Hz/150% (SFVC) ; 0 Hz/180% (CLVC) P type: 0.5 Hz/100%	
	Speed range	1:100 (SFVC)	1:1000 (CLVC)
	Speed stability accuracy	± 0.5% (SFVC)	± 0.02% (CLVC)
	Torque control accuracy	±10%(SFVC)/±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-power V/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: 0.0~36.0s 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.
	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 and synchronous motor are 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.
	Virtual I/Os	Five groups of virtual DI/DO can realize simple logic control.
	Timing control	Time range: 0.0~6500.0 minutes
	Multi-motor	Two motors can be switched by two groups of motor parameters.
	Multiple communication protocols	It supports communication bus via Modbus-RTU, PROFIBUS-DP, CANlink and CANopen.
	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 various encoders 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 and serial communication port setting. 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: 6 digital input (DI) terminals, one of which supports up to 50 kHz high-speed pulse input 2 analog input (AI) terminals, both of them support 0V~10 V voltage input or 0mA~20 mA current input Expanding capacity: many DI terminals 1 AI terminal that supports -10V~10 V voltage input.
	Output terminal	Standard 1 high-speed pulse output terminal (open-collector) that supports 0–50 kHz square wave signal output 1 digital output (DO) terminal 1 relay output terminal 2 analog output (AO) terminals, both of them supports 0mA~20 mA current output or 0 V~10 V voltage output. Expanding capacity: many DO terminals many relay output terminals
Display and operation on the key panel	LED display	It displays the parameters.
	LCD display	It is optional, supports panel display in Chinese or English language.
	Parameters copy	Optional LCD keypad can copy parameters.
	Key locking and function selection	It can lock the keys partially or completely and define the function range of some keys so as to prevent misoperation.

	Protection mode	Motor short-circuit detection at power-on, input/output phase loss protection, over current protection, overvoltage protection, less voltage protection, overheat protection and overload protection,etc.
Environment	Installation location	Indoor, no direct sunlight, dust, corrosive gas, combustible gas, oil smoke, vapour, drip or salt.
	Altitude	Lower than 1000 m
	Ambient temperature	-10°C~ +40°C (de-rated if the ambient temperature is between 40°C and 50°C)
	Humidity	Less than 95%RH, without condensing
	Vibration	Less than 5.9 m/s2 (0.6 g)
	Storage temperature	-20°C ~ +60°C
Approvals		CE