

Contents

Chapter 1 Safety and Precautions	- 1 -
1.1 Safety Statement	- 1 -
1.2 Security level definition	- 1 -
1.3 Safety Precautions	- 1 -
Chapter 2 Product Information	- 6 -
2.1 Designation Rules	- 6 -
2.2 Nameplate	- 6 -
2.3 Inverter Series	- 7 -
2.3.1 Product Technical Specifications	- 11 -
2.4 Product Appearance and Installation Dimension	- 14 -
2.5 External keypad appearance and hole size	- 19 -
2.6 Braking Resistor Selection Guide	- 23 -
Chapter 3 Installation and Wiring	- 26 -
3.1 Installation Environment	- 26 -
3.2 The Installation Direction and Space	- 26 -
3.3 Disassembly and Assembly of Keypad and Cover	- 27 -
3.4 Through-wall Installation Size Description	- 29 -
3.6 Standard Wiring Diagram	- 32 -
3.7 Control Circuit Terminal	- 33 -
Chapter 4 Operation and Debugging	- 37 -
4.1 Operation and Display Interface	- 37 -
4.2 Fast Debugging	- 39 -
Chapter 5 Function Parameter Table	- 40 -
Chapter 6 Fault Shooting and Solutions	- 102 -
6.1 Fault Alarm and Countermeasures	- 102 -
6.2 Common Faults and Solutions	- 106 -
Chapter 7 Daily Maintenance	- 109 -
7.1 Daily Inspection	- 109 -
7.2 Periodic Inspection	- 110 -
7.3 Replacement of vulnerable parts of the inverter	- 111 -
7.4 Storage of the inverter	- 111 -
Appendix: Modbus Communication Protocol	- 112 -

Chapter 1 Safety and Precautions

1.1 Safety Statement

- 1) Please read and follow this safety precaution when installing, operating, and maintaining the product.
- 2) To ensure the safety of personnel and equipment, when installing, operating and maintaining the product, please follow all the safety precautions stated in the product identification and manual.
- 3) The "Danger", "Warning" and "Caution" items in the manual do not represent all safety precautions that should be followed, but only supplement all safety precautions.
- 4) This product should be used in an environment that meets the design specifications. Otherwise, it may cause malfunctions. Functional abnormalities or component damage caused by failure to comply with relevant regulations are not covered by the product quality assurance.
- 5) Our company will not bear any legal responsibility for personal safety accidents and property losses caused by illegal operation of products.

1.2 Security level definition



- "Danger" means death or serious bodily injury if not handled as specified.



- "Warning" indicates that failure to follow the instructions may result in death or serious bodily injury.



- "Caution" indicates that minor physical injury or equipment damage may result if not handled as specified.

1.3 Safety Precautions

Unpacking Acceptance



- Before unpacking, please check whether the outer packaging of the product is well protected, whether it is damaged, soaked, damp or deformed.
- Please open the package in the order of the hierarchy, strictly forbidden to beat!
- When unpacking, please check the surface of the product and product accessories for damage, rust, bumps, etc.
- Please check the product and product accessories and information carefully after unpacking.

 WARNING

- Please do not install the product or its accessories if damage, rust or signs of use are found when opening the box.
- Do not install the product when it is found that the product is filled with water, parts are missing, or parts are damaged when opening the box.

Storage and Transportation **CAUTION**

- Please store and transport according to the storage and transportation conditions of the product. The storage temperature and humidity meet the requirements.
- Avoid storing and transporting in places such as water splashing, direct sunlight, strong electric field, strong magnetic field, strong vibration.
- Avoid product storage for more than three months. When storage time is too long, please perform more stringent protection and necessary inspection.
- Please transport the product strictly after transporting the vehicle, and use a closed box for long-distance transportation.
- It is strictly forbidden to mix and transport this product with equipment or products that may affect or damage this product.

 WARNING

- Be sure to use professional loading and unloading equipment to transport large or heavy equipment and products!
- When carrying the product by hand, be sure to hold the product case to prevent the product parts from falling, otherwise there is a danger of injury!
- When handling the product, be sure to lift it gently and pay attention to the items under your feet to prevent tripping or falling. Otherwise, there is a danger of injury or product damage!
- When the equipment is lifted by the lifting tool, the person is prohibited from standing or staying under the equipment.

During Installation **WARNING**

- Please read the product instruction manual and safety precautions carefully when installing!
- It is strictly forbidden to modify this product!
- It is strictly forbidden to twist the fixing bolts and red marked bolts of the product parts and components!
- Do not install this product in a place with strong electric field or strong electromagnetic interference!
- When the product is installed in the cabinet or terminal equipment, the cabinet or terminal equipment needs to provide corresponding fireproof enclosure, electrical protection enclosure and mechanical protection enclosure. The protection level should comply with relevant IEC standards and local laws and regulations.

 DANGER

- Non-professionals are strictly prohibited from product installation, wiring, maintenance, inspection or parts replacement!

- The installation, wiring, maintenance, inspection, or parts replacement of this product can only be carried out by professionals with sufficient electrical knowledge.
- Installers must be familiar with product installation requirements and related technical information.
- When installing a device with strong electromagnetic interference such as a transformer, install a shield protection device to avoid malfunction of this product!

Wiring



DANGER

- Non-professionals are strictly prohibited from equipment installation, wiring, maintenance, inspection or parts replacement!
- Do not perform wiring work while the power is on, otherwise there is a danger of electric shock.
- Turn off the power of all devices before wiring. After the power is turned off, there is residual voltage in the internal capacitance of the device. Wait at least 10 minutes before wiring.
- Please ensure that the equipment and products are well grounded, otherwise there is a danger of electric shock.
- Observe the procedures specified in the ESD and wear an electrostatic wrist strap for wiring to avoid damage to the equipment or the internal circuits of the product.



WARNING

- Do not connect the input power to the output of the device or product. Otherwise, the device may be damaged or even cause a fire.
- When connecting the drive device to the motor, make sure that the phase sequence of the drive and the motor terminals are exactly the same, so as to avoid reverse rotation of the motor.
- The cable used for wiring must meet the requirements of the corresponding wire diameter and shielding. The shielding layer using the shielded cable requires a single-ended reliable grounding.
- After the wiring is completed, make sure that there are no dropped screws or bare cables inside the device and the product.

At power-on



DANGER

- Before powering on, please confirm that the equipment and products are installed properly, the wiring is firm, and the motor device is allowed to start.
- Before powering on, please confirm that the power supply meets the requirements of the equipment to avoid damage to the equipment or cause fire!
- When the power is turned on, the mechanical device of the device or product may suddenly move. Please keep away from the mechanical device.
- After power-on, do not open the equipment cabinet door or product protection cover, otherwise there is danger of electric shock!
- Do not touch any terminal of the device under power-on state, otherwise there is danger of electric shock!
- It is strictly forbidden to disassemble any equipment or parts of the equipment and products under power-on conditions, otherwise there is danger of electric shock!

During operation	
 DANGER	
● Do not touch any terminal of the device under running conditions, otherwise there is danger of electric shock! ● It is strictly forbidden to disassemble any equipment or parts of the equipment and products under the operating condition, otherwise there is danger of electric shock! ● Do not touch the device casing, fan or resistor to test the temperature, otherwise it may cause burns! ● Non-professional technicians are strictly forbidden to detect signals during operation, otherwise personal injury or equipment damage may result!	
 WARNING	
● During operation, avoid other items or metal objects falling into the device, otherwise the equipment may be damaged! ● Do not use the contactor on/off method to control the start and stop of the device, otherwise the device will be damaged!	
During Maintenance	
 DANGER	
● Non-professionals are strictly prohibited from equipment installation, wiring, maintenance, inspection or parts replacement! ● It is strictly forbidden to carry out equipment maintenance under power-on state, otherwise there is danger of electric shock! ● After cutting off the power of all the equipment, wait at least 10 minutes before performing equipment maintenance.	
 WARNING	
● Please carry out daily and regular inspection and maintenance of equipment and products in accordance with equipment maintenance and maintenance requirements, and keep a record of maintenance.	
During Service	
 DANGER	
● Non-professionals are strictly prohibited from equipment installation, wiring, maintenance, inspection or parts replacement! ● It is strictly forbidden to carry out equipment maintenance under power-on state, otherwise there is danger of electric shock! ● After cutting off the power of all devices, wait at least 10 minutes before performing equipment inspection and maintenance.	
 WARNING	
● Please follow the product warranty agreement for equipment repair. ● When the equipment is faulty or damaged, the equipment and products shall be trouble-shooted and repaired by the professional in accordance with the maintenance instructions, and the maintenance records shall be made.	

- Please replace it according to the product consumable replacement instructions.
- Do not continue to use the damaged machine, as it will cause a greater degree of damage.
- After replacing the device, be sure to re-check the device wiring and parameters.

When Scrapped



WARNING

- Please dispose of equipment and products in accordance with relevant national regulations and standards, so as to avoid property damage or casualties!
- Dispose of discarded equipment and products in accordance with industrial waste disposal standards to avoid environmental pollution.

Chapter 2 Product Information

2.1 Designation Rules

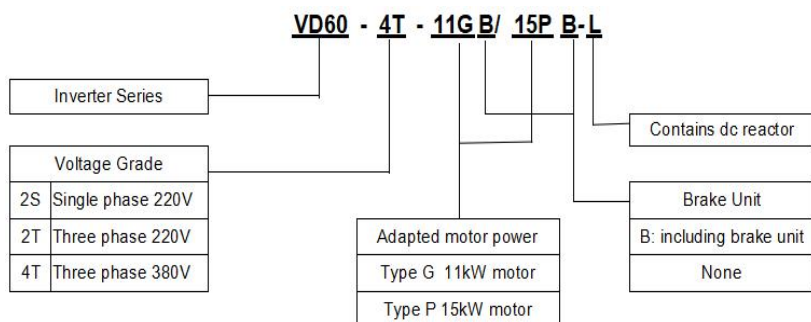


Fig 2-1 Designation Rules

2.2 Nameplate



Fig 2-2 Nameplate

2.3 Inverter Series

Table 2-1 Product specifications and technical data (Three phase 380V)

Model No.		Power (kW)	Output Current (A)	Input Current (A)	Adaptable Motor (kW)	Braking Unit	DC Reactor
VD60-4T-0.75GB/1.5PB	0.75G	0.75	2.5	3.5	0.75	Standard Built-in	No
	1.5P	1.5	3.8	4.6	1.5		
VD60-4T-1.5GB/2.2PB	1.5G	1.5	3.8	4.6	1.5		
	2.2P	2.2	5.1	6.3	2.2		
VD60-4T-2.2GB/3.7PB	2.2G	2.2	5.1	6.3	2.2		
	3.7P	3.7	9.0	11.5	3.7		
VD60-4T-3.7GB/5.5PB	3.7G	3.7	9.0	11.5	3.7		
	5.5P	5.5	13	16.8	5.5		
VD60-4T-5.5GB/7.5PB	5.5G	5.5	13	16.8	5.5		
	7.5P	7.5	17	22.0	7.5		
VD60-4T-7.5GB/11PB	7.5G	7.5	17	22.0	7.5		
	11P	11	25	32.5	11		
VD60-4T-11GB/15PB	11G	11	25	32.5	11		
	15P	15	32	41.5	15		
VD60-4T-15GB/18.5PB	15G	15	32	41.5	15		
	18.5P	18.5	37	49.6	18.5		
VD60-4T-18.5GB/22PB	18.5G	18.5	37	49.6	18.5		
	22P	22	45	59	22		
VD60-4T-22GB/30PB	22G	22	45	59	22		
	30P	30	60	65	30		
VD60-4T-30G/37P	30G	30	60	65	30	Optional Built-in	Optional Built-in
	37P	37	75	80	37		
VD60-4T-37G/45P	37G	37	75	80	37		
	45P	45	91	95	45		
VD60-4T-45G/55P	45G	45	91	95	45		
	55P	55	112	118	55		

VD60-4T-55G/75P	55G	55	112	118	55		
	75P	75	150	157	75		
VD60-4T-75G/90P	75G	75	150	157	75		
	90P	90	176	180	90		
VD60-4T-90G/110P	90G	90	176	164	90		
	110P	110	210	196	110		
VD60-4T-110G/132P	110G	110	210	196	110		
	132P	132	253	240	132		
VD60-4T-132G/160P	132G	132	253	240	132		
	160P	160	304	287	160		
VD60-4T-160G/185P	160G	160	304	287	160	Optional External	Standard Built-in
	185P	185	326	306	185		
VD60-4T-185G/200P	185G	185	326	306	185		
	200P	200	377	365	200		
VD60-4T-200G/220P	200G	200	377	365	200		
	220P	220	426	410	220		
VD60-4T-220G/250P	220G	220	426	410	220		
	250P	250	465	441	250		
VD60-4T-250G/280P	250G	250	465	441	250		
	280P	280	520	495	280		
VD60-4T-280G/315P	280G	280	520	495	280		
	315P	315	585	565	315		
VD60-4T-315G/355P	315G	315	585	565	315		
	355P	355	650	617	355		
VD60-4T-355G/400P	355G	355	650	617	355		
	400P	400	725	687	400		
VD60-4T-400G/450P	400G	400	725	687	400		
	450P	450	820	782	450		
VD60-4T-450G/500P	450G	450	820	782	450		
	500P	500	860	835	500		
VD60-4T-500G/560P	500G	500	860	835	500		

	560P	560	950	920	560		
VD60-4T-560G/630P	560G	560	950	920	560		
	630P	630	1100	1050	630		
VD60-4T-630G/710P	630G	630	1100	1050	630	/	Standard Input Reactor
	710P	710	1260	1198	710		
VD60-4T-710G/800P	710G	710	1260	1198	710		
	800P	800	1500	1428	800		

Table 2-2 Product specifications and technical data (Three phase 220V)

Model No.	Power (kW)	Output Current (A)	Input Current (A)	Adaptable Motor (kW)	Braking Unit	DC Reactor
VD60-2T-0.75GB	0.75	4.0	4.8	0.75	Standard Built-in	No
VD60-2T-1.5GB	1.5	7.0	8.8	1.5		
VD60-2T-2.2GB	2.2	9.6	12	2.2		
VD60-2T-3.7GB	3.7	17	22	3.7		
VD60-2T-5.5GB	5.5	25	32.5	5.5		
VD60-2T-7.5GB	7.5	32	41.5	7.5		
VD60-2T-11GB	11	45	59	11	Optional Built-in	
VD60-2T-15G	15	60	65	15		
VD60-2T-18.5G	18.5	75	80	18.5		

Table 2-3 Product specifications and technical data (Single phase 220V)

Model No.	Power (kW)	Output Current (A)	Input Current (A)	Adaptable Motor (kW)	Braking Unit	DC Reactor
VD60-2S-0.75GB	0.75	4.0	8.2	0.75	Standard Built-in	No
VD60-2S-1.5GB	1.5	7.0	14	1.5		
VD60-2S-2.2GB	2.2	9.6	23	2.2		
VD60-2S-3.7GB	3.7	17	35	3.7		
VD60-2S-5.5GB	5.5	25	50	5.5		
VD60-2S-7.5GB	7.5	32	61.5	7.5		
VD60-2S-11GB	11	45	90	11	Optional Built-in	
VD60-2S-15G	15	60	120	15		
VD60-2S-18.5G	18.5	75	150	18.5		

2.3.1 Product Technical Specifications

Table 2-4 Product technical specification

Power Input	Rated input voltage	200V voltage level: single/three-phase 200V~240V 400V voltage level: three phase 380V~480V
	Rated frequency	50/60Hz
	Allow voltage fluctuation	-15~+15% Voltage imbalance rated<3%
	Allow frequency fluctuation	±5%
	Rated input current	See section 2.3
Power Output	Standard adaptive motor	See section 2.3
	Rated current	See section 2.3
	Output voltage	Three-phase: 0~rated input voltage, the error is less than ±3%.
	Output frequency	0~600.00Hz
	Overload capacity	G type motor: 150% rated current for 60sec P type motor: 120% rated current for 60sec
Operation Control Characteristics	Control mode	Support vector control without PG (SVC) and vector control with PG (FVC), V/F control, support speed control and torque control
	Speed range	1:200 (SVC), 1:1000 (FVC)
	Speed control accuracy	0.5% (SVC), 0.02% (FVC)
	Torque control accuracy	5% (SVC), 3% (FVC)
	Torque boost	Auto torque boost, manual torque boost by 0.1%~10.0%
	Start torque	0.25Hz/150% (SVC), 0Hz/180% (FVC)
Basic Functions	Acceleration and deceleration time	0.0~3600.0s
	Carrier frequency	0.5kHz~12kHz
	Frequency setting method	Digital setting+operation panel Communication setting Analog setting Terminal pulse setting
	Starting method	Direct start DC braking before starting

		Speed tracking and restart
	Stop method	Decelerate to stop; coast to stop
	Energy Consumption braking capacity	Braking unit can be built-in for 110kW and below
		Braking unit operating voltage: 200V Voltage level: 325~375V 400V voltage level: 650~750V
		Use time:0.0~100.0s
	DC braking capacity	Start frequency of DC braking: 0.00~650.00Hz DC braking current: 0.0~100.0% DC braking time: 0.0~100.00s
	Input terminal	5 digit input terminal, one of which is optional to support high-speed pulse input up to 100kHz. Two analog input terminals, both of which are voltage and current input optional terminals, which can support 0~10V voltage or 0/4~20mA current input
	Output terminal	A digital output terminal, optional high-speed pulse output terminal, can support 0.01 ~ 100kHz square wave signal output A set of relay output terminals One analog output terminal, voltage and current output is optional, support 0~10V voltage or 0/4~20mA current output
Special Function	Communication terminal	One channel of 485 communication (standard), which can support up to 115200BPS communication rate One CAN communication (optional), the communication function can be configured according to the actual needs of users
		Flexible function code revealing performance and hiding performance, flexible fan control, flexible multi-function key settings, various main and auxiliary settings and switching, multiple acceleration and deceleration curve selection, analog automatic correction, parameter copy, parameter backup, common DC bus , the two groups of motor parameters can be switched freely, brake control, can support up to 16 speeds (two speeds support flexible frequency setting methods), high-precision torque limit, V/f separation control, swing frequency control operation, Fixed-length control, counting function, multiple fault records, over-excitation braking, over-voltage stall, under-voltage stall, power-off restart, hopping frequency, frequency binding, four-stage acceleration and deceleration time free switching, motor temperature protection, process PID control, simple PLC, parameter identification, field weakening control.
Protection Function		See Chapter 6 "Fault Diagnosis and Countermeasures"
Environment	Use place	Indoor, free from direct sunlight, no dust, corrosive gas, combustible gas, oil smoke, water vapor, dripping water or salt etc.

	Altitude level	0~2000 meters Derating for use above 1000 meters, the rated output current is reduced by 1% for every 100 meters increase
	Ambient temperature	-10℃~40℃, derating between 40℃~50℃, and the rated output current will be reduced by 1% for every increase of 1℃
	Humidity	5~95%, no condensation allowed
	Vibration	Less than 5.9 m/s ² (0.6g)
	Storage temperature	-20℃~+60℃
Others	Effectiveness	At rated power 7.5kW and below: ≥93%; 11~45kW: ≥95%; 55kW and above: ≥98%
	Installation	110kW (inclusive) or less supports wall-mounted and embedded installation Above 110kW supports wall mounting and cabinet mounting
	Protection grade	IP20
	Cooling method	Forced air cooling

2.4 Product Appearance and Installation Dimension

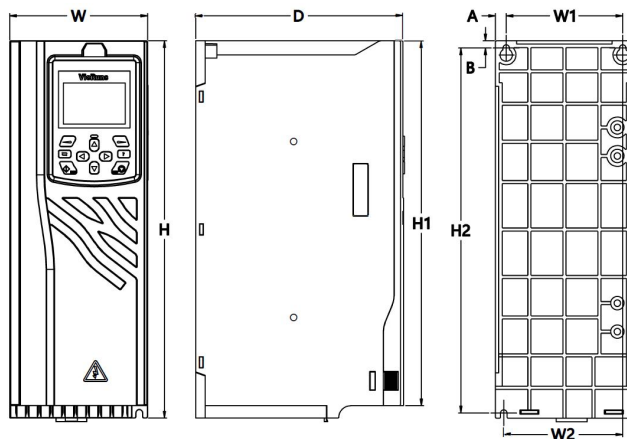


Fig 2-3 Schematic diagram of product appearance and installation dimensions

Table 2-5 Product appearance and installation dimensions of
2S-(0.75kW~5.5kW) and 4T-(0.75kW~11kW)

Model	Dimensions(mm)				Installation size(mm)					Mou nting Hole (mm)	N.W (Kg)	G.W (Kg)
	W	H	H1	D	W1	W2	H2	A	B			
Single-phase 220V, 50/60HZ												
VD60-2S-0.75GB	80	201	193	160	65	65	193	7.5	5.5	Φ5	1.45	1.75
VD60-2S-1.5GB												
VD60-2S-2.2GB	100	241	231	163	84	86	231	8	5.5	Φ5	2	2.5
VD60-2S-3.7GB												
VD60-2S-5.5GB	116	318	307	176	98	100	307	9	6	Φ5.5	3.3	4.1
Three-phase 220V, 50/60HZ												
VD60-2T-0.75GB	80	201	193	160	65	65	193	7.5	5.5	Φ5	1.45	1.75
VD60-2T-1.5GB												
VD60-2T-2.2GB	100	241	231	163	84	86	231	8	5.5	Φ5	2	2.5
VD60-2T-3.7GB												
VD60-2T-5.5GB	116	318	307	176	98	100	307	9	6	Φ5.5	3.3	4.1
Three-phase 380V, 50/60HZ												
VD60-4T-0.75GB/1.5PB	80	201	193	160	65	65	193	7.5	5.5	Φ5	1.45	1.75
VD60-4T-1.5GB/2.2PB												
VD60-4T-2.2GB/3.7PB												
VD60-4T-3.7GB/5.5PB	100	241	231	163	84	86	231	8	5.5	Φ5	2	2.5
VD60-4T-5.5GB/7.5PB												
VD60-4T-7.5GB/11PB	116	318	307	176	98	100	307	9	6	Φ5.5	3.3	4.1
VD60-4T-11GB/15PB												

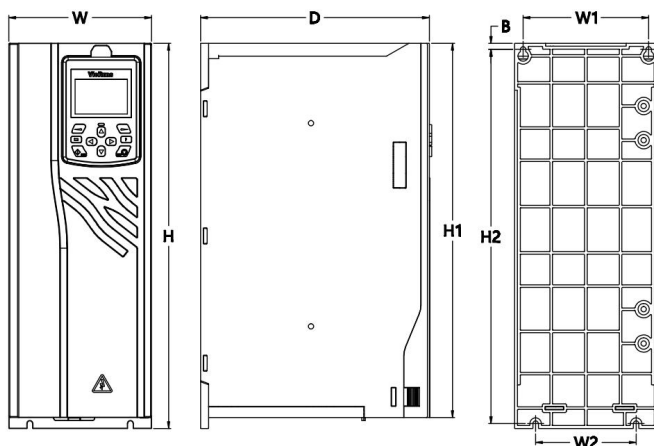


Fig 2-4 Schematic diagram of product appearance and installation dimensions

Table 2-6 Product appearance and installation dimensions of 2S-(7.5kW~11kW), 2T-(7.5kW~11kW) and 4T-(15kW~22kW)

Model	Dimensions(mm)				Installation size(mm)				Mou nting Hole (mm)	N.W (Kg)	G.W (Kg)
	W	H	H1	D	W1	W2	H2	B			
Single-phase 220V, 50/60HZ											
VD60-2S-7.5GB	142	382	372	228	125	100	372	6	Φ5.5	5.5	7
VD60-2S-11GB											
Three-phase 220V, 50/60HZ											
VD60-2T-7.5GB	142	382	372	228	125	100	372	6	Φ5.5	5.5	7
VD60-2T-11GB											
Three-phase 380V, 50/60HZ											
VD60-4T-15GB/18.5PB	142	382	372	228	125	100	372	6	Φ5.5	5.5	7
VD60-4T-18.5GB/22PB											
VD60-4T-22GB/30PB											

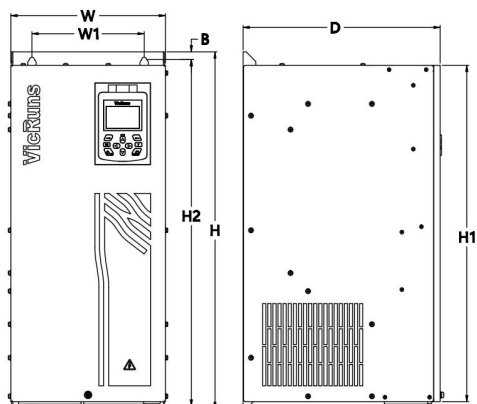


Fig 2-5 Schematic diagram of product appearance and installation dimensions

Table 2-7 Product appearance and installation dimensions of 2S-(15kW~18.5kW), 2T-(15kW~18.5kW) and 4T-(30kW~560kW)

Model	Dimensions(mm)				Installation size(mm)		Mountin g Hole (mm)	N.W (Kg)	G.W (Kg)
	W	H	H1	D	W1	H2			
Single-phase 220V, 50/60HZ									
VD60-2S-15G	174	429	396	229	150	416	Φ7	13.5	14.6
VD60-2S-18.5G									
Three-phase 220V, 50/60HZ									
VD60-2T-15G	174	429	396	229	150	416	Φ7	13.5	14.6
VD60-2T-18.5G									
Three-phase 380V, 50/60HZ									
VD60-4T-30G/37P	174	429	396	229	150	416	Φ7	13.5	14.6
VD60-4T-30GB/37PB									
VD60-4T-37G/45P									
VD60-4T-37GB/45PB									
VD60-4T-45G/55P	243	559	528	309	176	544	Φ8	26	27.5
VD60-4T-45GB/55PB									
VD60-4T-55G/75P									
VD60-4T-55GB/75PB									
VD60-4T-75G/90P									
VD60-4T-75GB/90PB									

VD60-4T-90G/110P	270	637	580	349	195	615	Φ8	36.5	40
VD60-4T-90GB/110PB									
VD60-4T-110G/132P									
VD60-4T-110GB/132PB									
VD60-4T-132G/160P	350	737	680	404	220	715	Φ10	65	72
VD60-4T-160G/185P									
VD60-4T-185G/200P	360	939	850	479	200	910	Φ18	92	103
VD60-4T-200G/220P									
VD60-4T-220G/250P									
VD60-4T-250G/280P	370	1140	1050	544	200	1110	Φ18	132	150
VD60-4T-280G/315P									
VD60-4T-315G/355P	400	1250	1145	544	340	1200	Φ18	210	225
VD60-4T-355G/400P									
VD60-4T-400G/450P									
VD60-4T-450G/500P	400	1400	1295	545	300	1360	Φ18	230	255
VD60-4T-500G/560P									
VD60-4T-560G/630P									

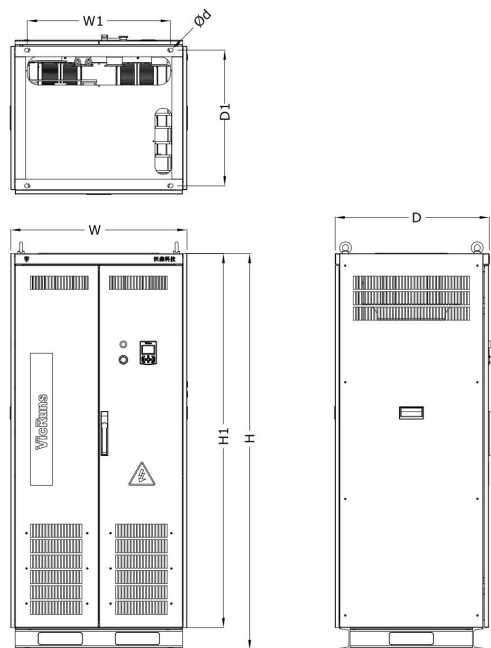


Fig 2-6 Schematic diagram of product appearance and installation dimensions 4T-(630kW~710kW)

Table 2-8 Product appearance and installation dimensions of 4T-(630kW~710kW)

Model	Dimensions(mm)				Installation size(mm)		Mounting Hole (mm)	N.W (Kg)	G.W (Kg)
	W	H	H1	D	D1	W1			
VD60-4T-630G/710P	800	1800	1700	700	617	650	Φ18	475	500
VD60-4T-710G/800P									

2.5 External keypad appearance and hole size

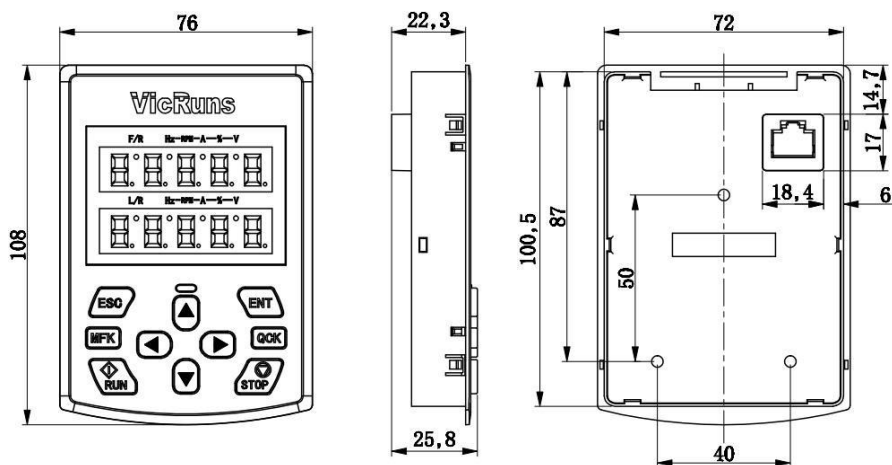


Fig 2-7 Dimensions of LED keypad (standard)

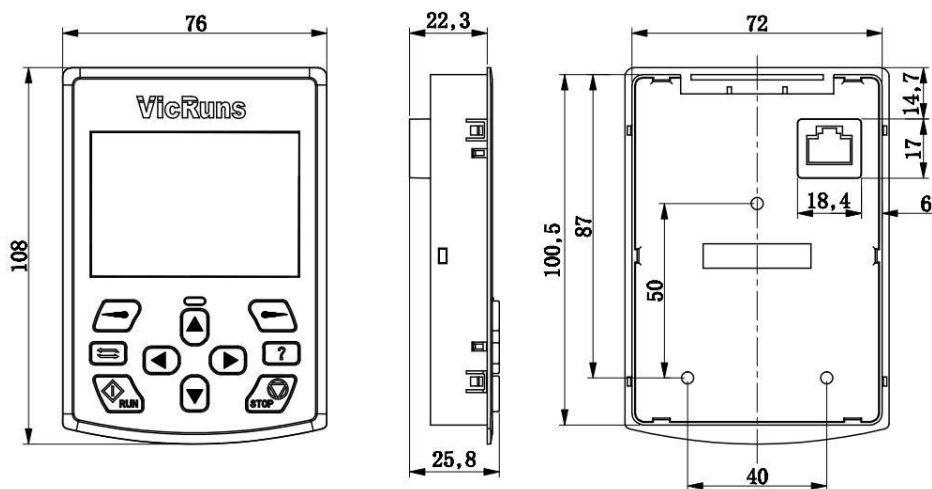


Fig 2-8 Dimensions of LCD keypad (Optional)

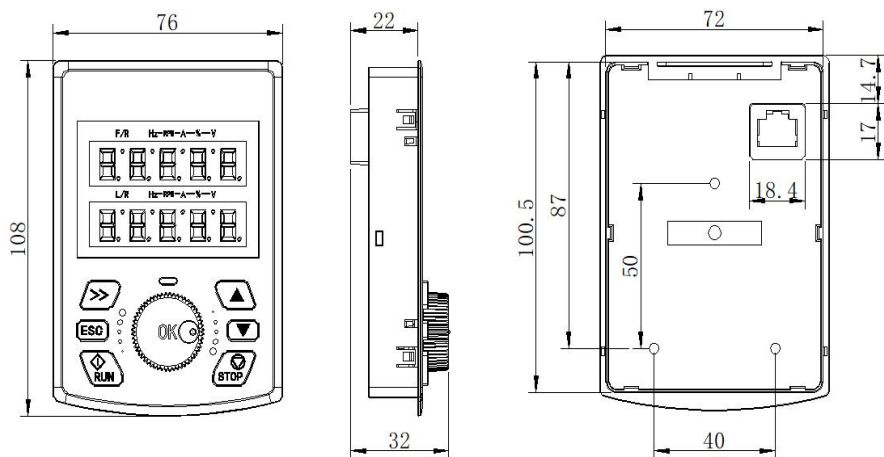


Fig 2-9 Dimensions of shuttle keypad (Optional)

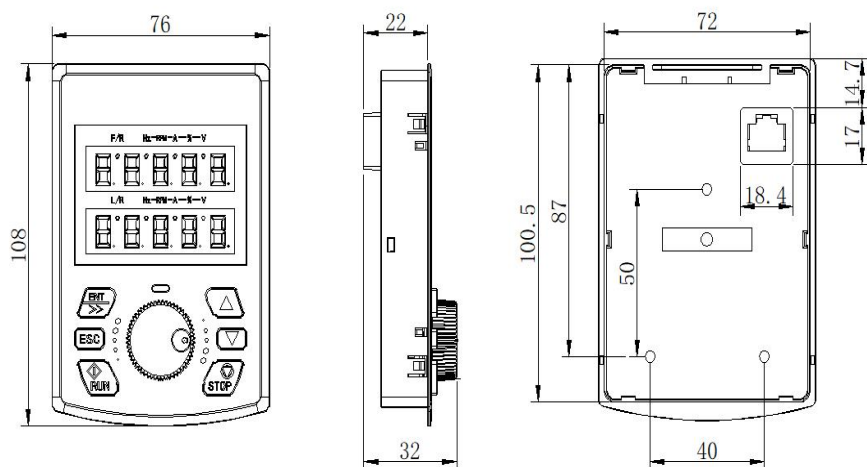


Fig 2-10 Dimensions of potentiometer keypad (Optional)

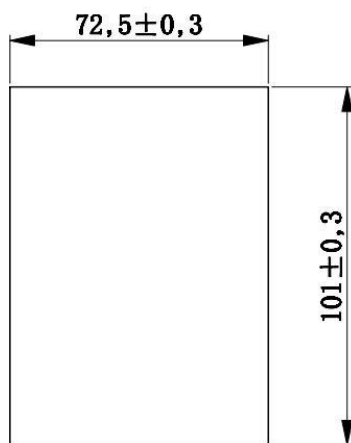


Fig 2-11 The size of the hole for the direct external introduction of the local keyboard (recommended)

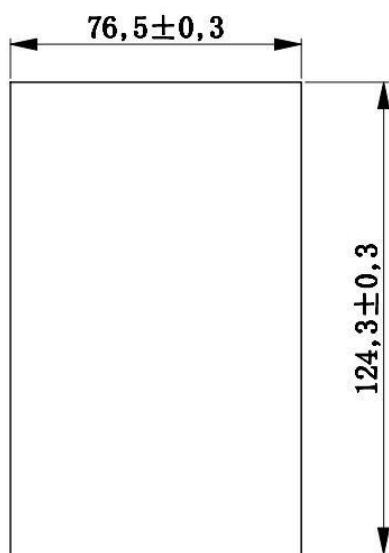


Fig 2-12 External opening size of the keyboard + tray

Remark:

- The keypad of this machine can be directly connected.

2.6 Braking Resistor Selection Guide

Table 2-9 Selection table of inverter brake components

Model	Recommend Power Braking Resistor	Recommend Resistance Braking Resistor	Braking Unit	Remarks
Single-phase 220V 50/60Hz				
VD60-2S-0.75GB	80W	≥150Ω	Standard built-in	No special instructions
VD60-2S-1.5GB	100W	≥100Ω		
VD60-2S-2.2GB	100W	≥70Ω		
VD60-2S-3.7GB	200W	≥40Ω		
VD60-2S-5.5GB	300W	≥25Ω		
VD60-2S-7.5GB	500W	≥15.5Ω		
VD60-2S-11GB	800W	≥10.6Ω		
VD60-2S-15GB	1000W	≥10Ω	Optional built-in	
VD60-2S-18.5GB	1400W	≥8Ω		
Three-phase 220V 50/60Hz				
VD60-2T-0.75GB	80W	≥150Ω	Standard built-in	No special instructions
VD60-2T-1.5GB	100W	≥100Ω		
VD60-2T-2.2GB	100W	≥70Ω		
VD60-2T-3.7GB	200W	≥40Ω		
VD60-2T-5.5GB	300W	≥25Ω		
VD60-2T-7.5GB	500W	≥15.5Ω		
VD60-2T-11GB	800W	≥10.6Ω		
VD60-2T-15G	1000W	≥10Ω	Optional built-in	
VD60-2T-18.5G	1400W	≥8Ω		
Three-phase 380V 50/60Hz				
VD60-4T-0.75GB/1.5PB	150W	≥150Ω	Standard built-in	No special instructions
VD60-4T-1.5GB/2.2PB	150W	≥150Ω		
VD60-4T-2.2GB/3.7PB	250W	≥100Ω		

Model	Recommend Power Braking Resistor	Recommend Resistance Braking Resistor	Braking Unit	Remarks
VD60-4T-3.7GB/5.5PB	300W	$\geq 75\Omega$		
VD60-4T-5.5GB/7.5PB	400W	$\geq 75\Omega$		
VD60-4T-7.5GB/11PB	500W	$\geq 75\Omega$		
VD60-4T-11GB/15PB	800W	$\geq 40\Omega$		
VD60-4T-15GB/18.5PB	1000W	$\geq 25\Omega$		
VD60-4T-18.5GB/22PB	3.7kW	$\geq 20\Omega$		
VD60-4T-22GB/30PB	4.4kW	$\geq 20\Omega$		
VD60-4T-30G/37P	6kW	$\geq 16\Omega$	Optional built-in	No special instructions
VD60-4T-37G/45P	7.4kW	$\geq 12\Omega$		
VD60-4T-45G/55P	9kW	$\geq 10\Omega$		
VD60-4T-55G/75P	11kW	$\geq 10\Omega$		
VD60-4T-75G/90P	15kW	$\geq 8\Omega$		
VD60-4T-90G/110P	18kW	$\geq 6.8\Omega$		
VD60-4T-110G/132P	22kW	$\geq 6.5\Omega$		
VD60-4T-132G/160P	26.4kW	$\geq 4.4\Omega$	Optional external	VDBU-4T-250G
VD60-4T-160G/185P	32kW	$\geq 3.6\Omega$		VDBU-4T-330G
VD60-4T-185G/200P	37kW	$\geq 3.2\Omega$		
VD60-4T-200G/220P	40kW	$\geq 2.9\Omega$		
VD60-4T-220G/250P	44kW	$\geq 2.7\Omega$		
VD60-4T-250G/280P	50kW	$\geq 2.5\Omega$		VDBU-4T-600G
VD60-4T-280G/315P	56kW	$\geq 2.1\Omega$		
VD60-4T-315G/355P	63kW	$\geq 1.9\Omega$		
VD60-4T-355G/400/P	70kW	$\geq 1.7\Omega$		
VD60-4T-400G/450P	80kW	$\geq 1.6\Omega$		VDBU-4T-800G
VD60-4T-450G/500P	90kW	$\geq 1.3\Omega$		
VD60-4T-500G/560P	100kW	$\geq 1.2\Omega$		
VD60-4T-560G/630P	120kW	$\geq 1.2\Omega$		
VD60-4T-630G/710P	/	/	None bake	/
VD60-4T-710G/800P	/	/		

Remarks:

- Table 2-9 is a guide data, user can select different resistor value and power according to actual situation.
- Selection of braking resistor is based on the motor generation power in actual application system, it is related with system inertia, deceleration time, potential load energy, it is decided by user's actual situation.
- The greater the inertia of system, the required speed deceleration is shorter, the braking is more frequent, so the braking resistor require a bigger power and smaller resistance.

Chapter 3 Installation and Wiring

3.1 Installation Environment

The ambient temperature exerts great influences on the service life of the inverter and is not allowed to exceed the allowable temperature range (-10 °C Celsius to 40°C Celsius).

The inverter shall be mounted on the surface of incombustible articles, with sufficient spaces nearby for heat sinking;

The inverter shall be mounted in locations free from direct sunlight;

The inverter shall be mounted in locations free from high humidity and condensate, Relative humidity is lower than 95%;

The inverter shall be mounted in locations free from oil dirt, dust, and metal powder;

The inverter shall be mounted in locations free from corrosive gas, explosive gas or combustible gas.

3.2 The Installation Direction and Space

It should be installed indoors and in a well-ventilated place, generally vertical installation. The installation interval and distance requirements are shown in Figure 3-1.

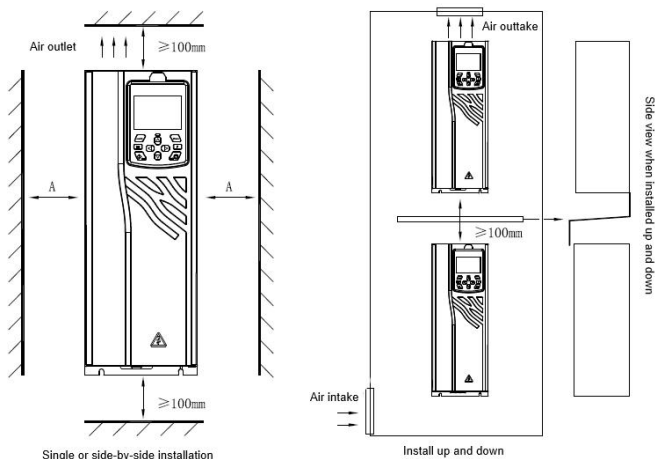


Fig 3-1 Schematic diagram of inverter installation

When single unit installation: when the inverter power is less than 22kW, the size A can be omitted. When the inverter power is higher than 22kW, the size A shall be more than 50mm.

When installation of upper and lower parts: when installing the upper and lower parts of the inverter, the insulating splitter is required.

Power Level	Mounting Dimension	
	B	A
≤22kW	≥100mm	≥10mm
30kW-37kW	≥200mm	≥50mm
≥45kW	≥300mm	

3.3 Disassembly and Assembly of Keypad and Cover

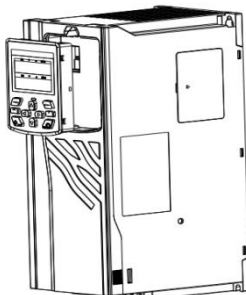


Fig 3-2 Schematic diagram of disassembly and assembly of keypad

Disassembly of keypad: put the middle finger on upper part of keypad, lightly press the upper clip and pull out.

Assembly of keypad: fixing the bottom hook of keypad to the install-claw under the tank of keypad, put middle finger on upper clip and pull in until it fixed.

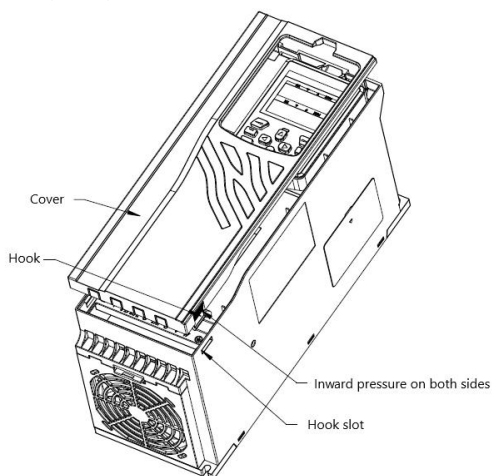


Fig 3-3 Schematic diagram of disassembly and assembly of the plastic shell cover

Disassembly of plastic shell cover: with your finger or tool to hook into the side of the flat bottom ejection force.

Assembly of plastic shell cover: fixing the bottom hook of panel to the install-claw under the tank of panel, put middle finger on upper clip and pull in until it fixed.

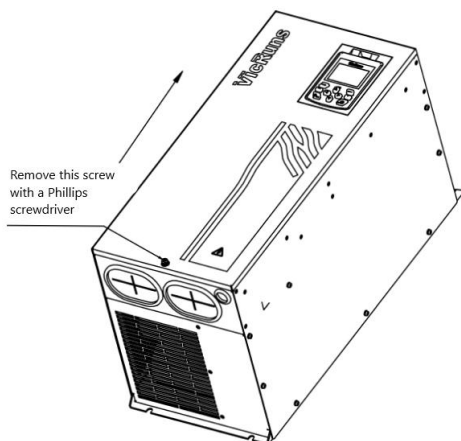


Fig 3-4 Schematic diagram of disassembly and assembly of the sheet-metal shell cover

Disassembly and assembly of sheet-metal shell cover: Use a Phillips screwdriver to unscrew the two screws at the lower end of the cover, and then slide the cover upwards to take it out; otherwise, install the cover.

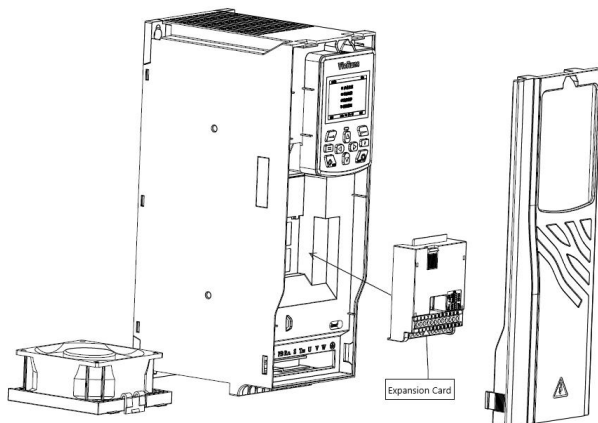


Fig 3-5 Assembly and disassembly diagram of expansion card

Assembly and disassembly of expansion card: According to the requirements, follow the arrow in the figure to install the expansion card; disassembly is complete with a single pull.

Note: Charged plugging is prohibited!

3.4 Through-wall Installation Size Description

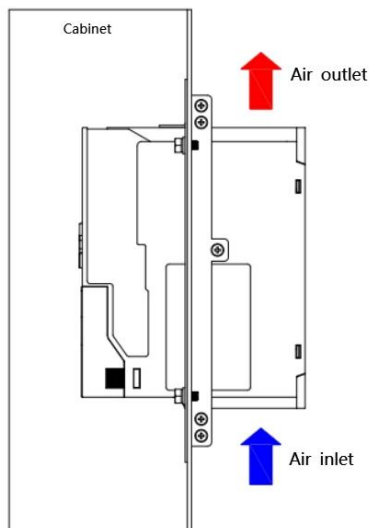


Fig 3-6 Schematic diagram of through-wall installation

Remarks: For the detailed operation steps of through-wall installation, please refer to the "through-wall installation manual" for this series of products.

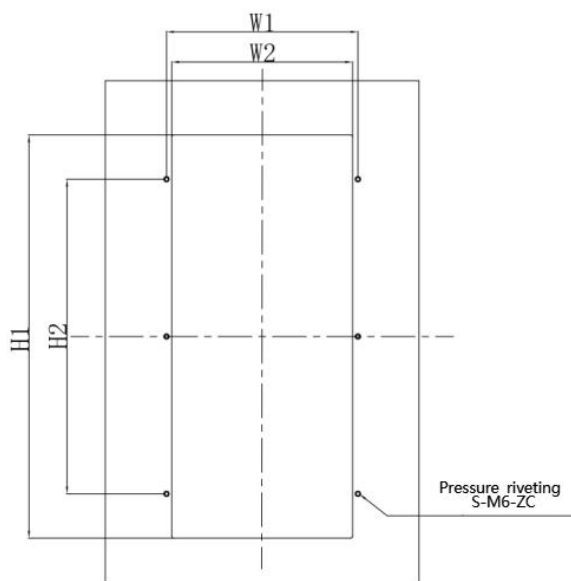


Fig 3-7 Schematic diagram of through-wall installation dimensions

Table 3-1 Through-wall installation dimensions of 0.75kW~110kW

Applicable Power Section	Installation Size (mm)				S-M6-2C quantity
	W1	W2	H1	H2	
0.75kW~2.2kW	110.5	96	256	180	4
3.7kW~5.5kW	130	119	308.5	178	4
15kW~22kW	172	160	438.5	260	4
30kW~37kW	211	196	445	330	/
45kW~75kW	272.5	260.5	606	460	6
90kW~110kW	305	288	641	500	6

3.5 Cabinet Installation Size Description

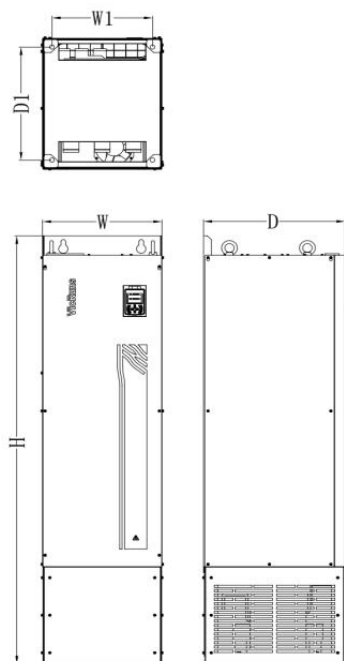


Fig 3-8 Schematic diagram of cabinet installation dimensions

Table 3-2 Cabinet installation dimensions of 185kW~ 560kW

Applicable Power Section	Installation Size (mm)					Installation Aperture (mm)
	W	H	D	W1	D1	
185kW~220kW	360	1280	480	280	410	4- ϕ 18
250kW~280kW	370	1505	550	280	480	
315kW~400kW	400	1620	555	320	480	
450kW~560kW	460	1780	545	387	470	

3.6 Standard Wiring Diagram

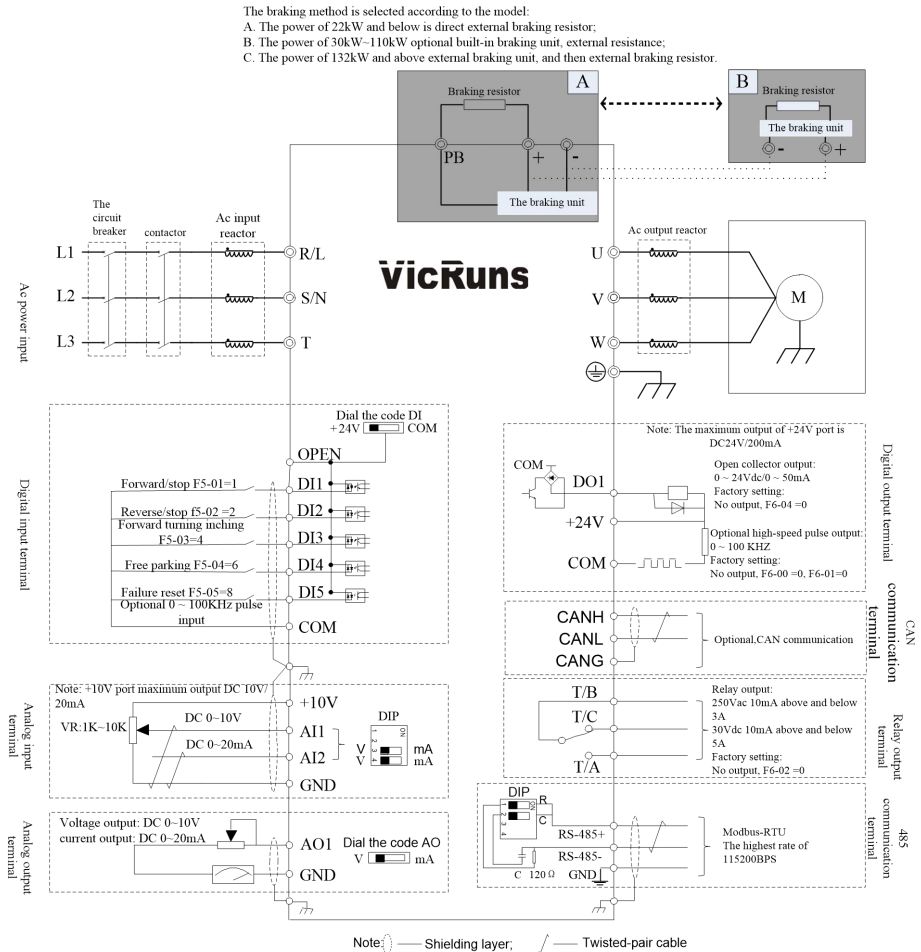


Fig 3-9 Schematic diagram of inverter standard wiring

Precautions are as follows:

- 1) Terminal © means main circuit terminal, terminal ○ means control circuit terminal;
- 2) "B" after the product model indicates the built-in braking unit of the standard model (using A braking method), and "L" after the product model indicates the built-in DC reactor in the standard case;
- 3) Braking resistor's selection is based on the user demand. refer to Table 2-9;
- 4) The signal wires and power wires must be routed separately. If the control cables and power cables cross, they should be crossed at a 90 degree angle as much as possible.

The analog signal line refers to the description in the figure and selects the line type. The power cable is best to use a shielded three-core cable (its specification is one step larger than that of an ordinary motor cable);

- 5) The power connection terminals for single-phase 220V models are L and N.

3.7 Control Circuit Terminal

3.7.1 Expansion board installation diagram

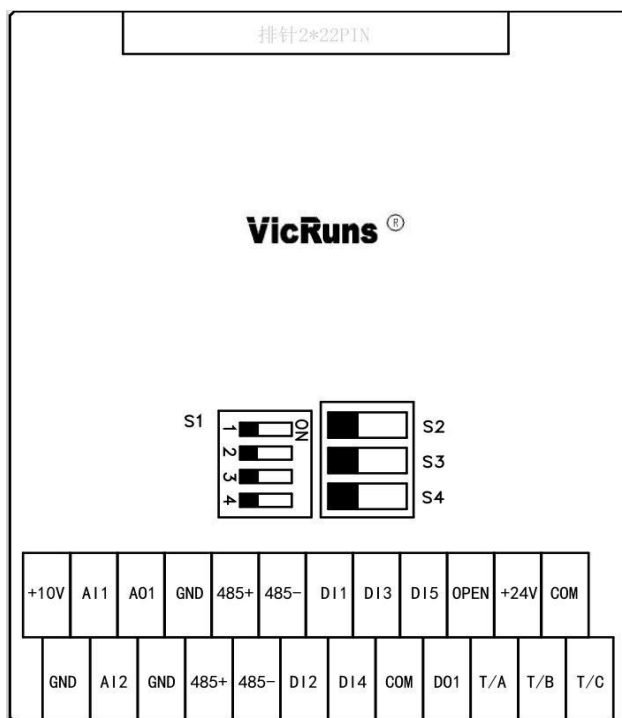


Fig 3-10 Schematic diagram of expansion board layout

3.7.2 Function Description of Control Circuit Terminal

Table 3-3 Function description of control circuit terminal

Type	Terminal Identification	Terminal Name	Function Description
Power Supply	+10V	Analog input reference voltage	1. Provide external 10V power supply. 2. Generally used as an external potentiometer power, the resistance range of the potentiometer is 1kΩ~10kΩ. 3. The maximum output current is 20mA.
	GND	Analog ground	Internal isolation from COM

Type	Terminal Identification	Terminal Name	Function Description
	+24V	+24V power supply	1. Provide external +24V power supply, which is generally used as the power supply for digital input output terminals for external sensors. 2. The maximum output current is 200mA.
	COM	+24V ground	Internal isolation from GND
	OPEN	External power input terminal	Connected with +24V or COM by select through the S4 dial switch (DI) on the expansion board: 1)  Connect with +24V (default) 2)  Connect with COM
Analog Input	AI1	Analog input terminal 1	1. Input range: DC 0V~10V or 0/4mA~20mA, select by S1 switch 3 rd gear (AI1) on the expansion board.  1)  It is DC 0V~10V signal (default)  2)  It is 0/4mA~20mA signal 2. Input impedance: 22kΩ for voltage input, 500Ω for current input.
	AI2	Analog input terminal 2	1. Input range: DC 0V~10V or 0/4mA~20mA, select by the 4 th gear (AI2) of the S1 dial switch on the expansion board.  1)  It is DC 0V~10V signal (default)  2)  It is 0/4mA~20mA signal 2. Input impedance: 22kΩ for voltage input, 500Ω for current input.
	GND	Analog ground	Internal isolation from COM
Digital Input	DI1	Digital input terminal 1	1. Optocoupler isolation, compatible with bipolar input, internal impedance 3.6kΩ.
	DI2	Digital input terminal 2	2. Multifunctional digital input, set the function through F5-01~F5-05.
	DI3	Digital input terminal 3	3. The factory default of the inverter is to provide +24V internal power supply, as shown in the figure  , and COM is the common terminal.
	DI4	Digital input terminal 4	4. When using an external power supply, the external +24V is connected to the OPEN terminal, as shown in the figure  , and COM is the common terminal (external

Type	Terminal Identification	Terminal Name	Function Description
			supply voltage range +24V±10%).
	DI5	Digital input terminal 5	Same as DI1~DI4
		High speed pulse input terminal (optional)	1. It can be combined with the OPEN terminal as a bipolar high speed pulse input terminal, the maximum input frequency is 100kHz. 2. When using an external power supply, the input voltage range is +24V±10%.
	COM	+24V ground	Internal isolation from GND
Analog Output	AO1	Analog output terminal	Support 0V~10V voltage or 0/4mA~20mA current output, selected by S2 dial switch (AO): 1)  It is 0V~10V voltage output (default) 2)  It is 0/4mA~20mA signal
	GND	Analog ground	Internal isolation from COM
Digital Output	DO1	Digital output	1. Optocoupler isolated, bipolar OC (open collector) output; 2. Pull-up voltage range: 5V~24V (pull-up resistance range: 0.48kΩ~10kΩ); 3. Output current range: 2mA~50mA; 4. The power source can be selected through the S3 dial switch (DO). 1)  To select external power output (external supply voltage+24V±10%). 2)  To select to use the internal power source output.
		High speed pulse output terminal (optional)	1. When used as a common digital output terminal, the function is the same as DO1. 2. As a high-speed pulse output terminal, the maximum output frequency is 100kHz. 3. Pull-up voltage range: 5V~24V (pull-up resistance range: 0.48kΩ ~ 10kΩ); 4. Output current range: 2mA~50mA;
	COM	+24V ground	Internal isolation from GND
Relay Output	T/A-T/B	Relay T1 normally open terminal	Common terminal is T/B, normally open contact is T/A, normally closed contact is T/C; contact driving capacity: AC250V, 3A; DC30V, 5A.
	T/B-T/C	Relay T1 normally closed terminal	
Communication	485+	485 differential signal positive	Standard RS-485 communication terminal, should use twisted pair shielded cables.
	485-	485 differential signal negative	

Type	Terminal Identification	Terminal Name	Function Description
	GND	485 communication shield grounding	
CAN Communication (Optional)	CANH	CAN bus positive	CAN communication terminal, please use twisted pair shielded cable
	CANL	CAN bus negative	
	CANG	CAN bus reference ground	
Dial Switch	485-R	OFF terminal	When the S1-1 dial code is dialed to the left end, the 120 Ω terminal resistance of the 485 communication is disconnected.
		ON terminal	When the S1-1 dial is dialed to the right end, the 485 communication 120 Ω terminal resistance is connected.
	485-C	OFF terminal	When the S1-2 dial is dialed to the left end, the 485 communication filter capacitor is disconnected.
		ON terminal	When the S1-2 dial is dialed to the right end, the 485 communication filter capacitor is connected.
	AI1	V terminal	When the S1-3 dial code is dialed to the left end, the AI1 terminal selects the input DC 0~10V voltage signal.
		mA terminal	When the S1-3 is dialed to the right end, AI1 terminal selects to input DC 0/4mA~20mA current signal.
	AI2	V terminal	When the S1-4 is dialed to the left end, AI2 terminal selects to input DC 0~10V voltage signal.
		mA terminal	When the S1-4 is dialed to the right end, AI2 terminal selects to input DC 0/4mA~20mA current signal.
	AO	V terminal	When the S2 dial code is dialed to the left end, the AO1 terminal chooses to output DC 0~10V voltage signal.
		mA terminal	When the S2 dial code is dialed to the right end, the AO1 terminal selects to output a DC 0/4mA ~ 20mA current signal.
Shield Ground	GND	Shielded cable ground terminal	1. It is used for the shielding grounding of the control cable. When the field environment is disturbed or the control circuit is long, it must be well grounded to reduce the electromagnetic interference to comply with EMC electromagnetic regulations. 2. It is strictly forbidden to connect this terminal with the power PE wire.
Auxiliary Interface	J2	Control board-Expansion card	The socket is the connection port between the main control board and the expansion card. The main control board supplies power to the expansion card and the electrical channel for signal connection between the main control board and the expansion card.

Chapter 4 Operation and Debugging

4.1 Operation and Display Interface

With the operation panel, you can modify the function parameters of the inverter, monitor the working status of the inverter, and control the operation of the inverter (start, stop). Its appearance and functional areas are shown in the figure below:

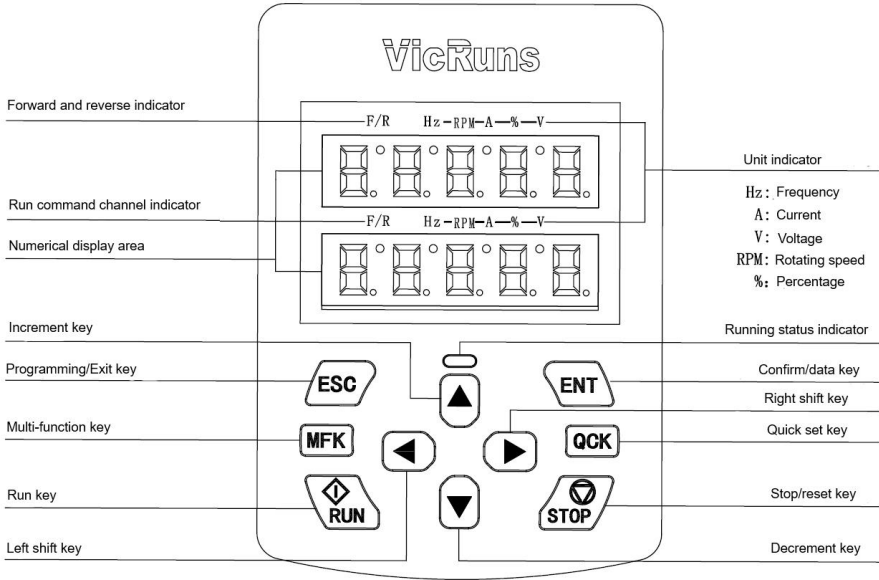


Fig 4-1 Schematic diagram of operation panel

4.1.1 Button Function Description

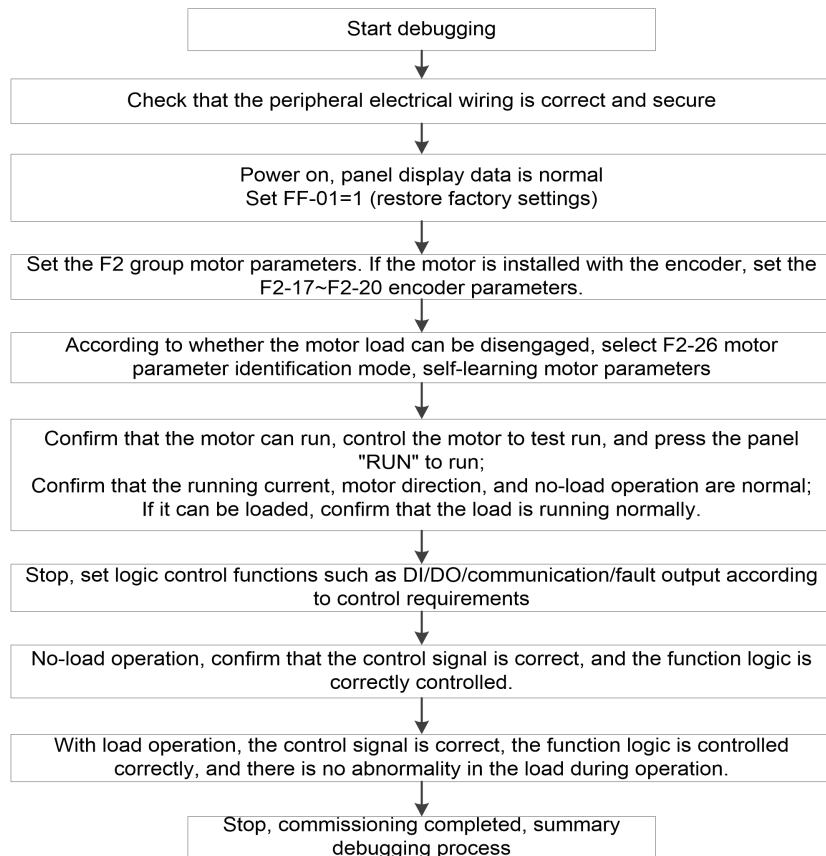
Buttons	Name	Function Description
	Programming/Exit key	Enter or exit the programming state
	Confirm/date key	Enter the menu screen level-by-level, and confirm the setting parameters
	Increment Key (UP)	Increment of data or function code
	Decrement key (DOWN)	Decrement of data or function code
	Left shift key	In the stop display interface and the running display interface, the display parameters can be selected cyclically; when modifying the parameters, the modification position of the parameters can be selected

	Right-shift key	In the stop display interface and the running display interface, the display parameters can be selected cyclically; when modifying the parameters, the modification position of the parameters can be selected
	Multifunction key	The function of this key is determined by the function code F7-00 0: Invalue 1: Command channel switch 2: Forward and reverse switch 3: Forward jog 4: Reverse jog 5: Quick debugging
	Quick set key	In keypad operation mode, it is used to quickly set the frequency, torque, pressure
	Run key	In keypad operation mode, it is used for running operation
	Stop/Reset key	In the running state, pressing this key can be used to stop the running operation, and in the fault alarm state, this key can be used to reset. Restricted by function code F7-01

4.1.2 Description of Function LED Indicator

Name	Description
RUN	Running status indicator: Red light on means that the inverter is in a fault state; green light on means that the inverter is in normal operation; red and green light off means that the inverter is in stop state. (The red light flashes once at power-on, indicating that the power-on detection is complete)
FWD/REV	Positive and negative indicator: When the light is off, the inverter is in the forward rotation state; when the light is on, the inverter is in the reverse rotation state.
L/R	Run command channel indicator: When the light is off, it is in the state of keypad operation control, the light is always on, it is in the terminal operation control state, and the light is flashing, it is in the communication operation control state.
Hz	Frequency indicator, unit: Hertz (Hz).
A	Current indicator, unit: ampere (A).
V	Voltage indicator, unit: Volt (V).
RPM	Speed indicator, unit: revolutions per minute (RPM). (Hz and A indicator lights at the same time indicate RPM)
%	Percent indicator, unit: %. (A and V indicator lights at the same time indicate %)

4.2 Fast Debugging



Chapter 5 Function Parameter Table

The symbols in the function table are described as follows:

- It indicates that the parameter setup value can be modified when the inverter is in run state;
- ◎——It indicates that the parameter setup value cannot be modified when the inverter is in the run state;
- It indicates that the numerical value of the parameter is the actually measured value, which cannot be modified;
- ☆——It indicates this parameter is "Factory default parameter" and can be set only by the manufacturer.

F0 Basic Parameter Group				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F0-00	Motor Control Mode	Led unit's digit: motor 1 0: V/F control 1: SVC 2: FVC Led ten's digit: motor 2 0: V/F control 1: SVC 2: FVC Note: If you select the vector control mode, for the best control effect, please identify the motor parameters.	00	◎
F0-01	Running Command Source Selection	0: Control panel command source (LED OFF) 1: Terminal command source (LED ON) 2: communication command source (LED flashes)	0	○
F0-02	Main Frequency Source A Selection	0: Digital setting (F0-09, UP/DOWN can be modified, no memory when power off) 1: Digital setting (F0-09, UP/DOWN can be modified, power off memory) 2: AI1 3: AI2 4: Reserved 5: PULSE setting 6: Multi-segment command 7: Simple PLC 8: PID 9: Communication setting 10: Reserved	1	◎

F0-03	Main Frequency A Gain	0.000~10.000	1.000	○
F0-04	Auxiliary Frequency Source B Selection	Same as F0-02 (Main Frequency Source A Selection)	0	◎
F0-05	Frequency Source Superposition Selection	Unit's digit: frequency source selection 0: Main frequency source A 1: Main and auxiliary operation result (The operational relationship is determined by the ten digits) 2: Main frequency source A switching with auxiliary frequency source B 3: Main frequency source A switching with main auxiliary operation result Ten's digit: frequency source main and auxiliary operation relationship 0: Main + auxiliary 1: Main – auxiliary 2: Max value of the two 3: Min value of the two	00	○
F0-06	Auxiliary Frequency Source B Range Reference Selection when Superimposed	1: Relative to the max frequency 2: Relative to frequency source A	0	○
F0-07	Auxiliary Frequency Source B Range when Superimposed	0%~150%	100%	○
F0-08	Auxiliary Frequency Source Offset Frequency when Superimposed	0.00Hz~max frequency F0-10	0.00Hz	○
F0-09	Digital Setting Frequency	0.00Hz~max frequency (F0-10)	50.00Hz	○
F0-10	Max Frequency	50.00Hz~600.00Hz	50.00Hz	◎
F0-11	Frequency Upper Limit Source	0: F0-12 setting 1: AI1 2: AI2 3: Reserved 4: PULSE setting 5: Communication setting	0	◎

F0-12	Frequency Upper Limit	Frequency lower limit F0-14~max frequency F0-10	50.00Hz	○
F0-13	Frequency Upper Limit Offset	0.00Hz~max frequency F0-10	0.00Hz	○
F0-14	Frequency Lower Limit	0.00Hz~frequency upper limit F0-12	0.00Hz	○
F0-15	Frequency Command Resolution	2: 0.01Hz	2	●
F0-16	Frequency Command UP/DOWN Reference in Running	0: Running frequency 1: Setting frequency	0	◎
F0-17	Digital Setting Frequency Memory Selection when Stop	0: No memory 1: Memory	1	○
F0-18	Acceleration Time 1	0.00s~650.00s (F0-20=2) 0.0s~6500.0s (F0-20=1) 0s~65000s (F0-20=0)	Model dependent	○
F0-19	Deceleration Time 1	0.00s~650.00s (F0-20=2) 0.0s~6500.0s (F0-20=1) 0s~65000s (F0-20=0)	Model dependent	○
F0-20	Acceleration / Deceleration Time Unit	0: 1s 1: 0.1s 2: 0.01s	1	◎
F0-21	Acceleration and Deceleration Time Reference Frequency	0: Max frequency (F0-10) 1: Setting frequency 2: 100Hz	0	◎
F0-22	Command Source Binding Frequency Source	Unit's digit: Operation panel command binding frequency source selection 0: No binding 1: Digital setting frequency 2: AI1 3: AI2 4: Reserved 5: PULSE setting 6: MS reference 7: Simple PLC 8: PID 9: Communication setting Ten's digit: terminal command binding frequency source selection	0000	○

		Hundred's digit: communication command binding frequency source selection		
F0-23	Communication Protocol Selection	0: Modbus 1: Profibus_DP 2: CANopen	0	⊙
F0-24	Motor Selection	0: Motor 1 1: Motor 2	0	⊙
F0-25	G/P Type Selection	1: G type 2: P type	1	⊙
F0-26	Quick Setting Selection	0: Frequency 1: Torque 2: Pressure	0	⊙
F1 Start/Stop Control Group				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F1-00	Start Mode	0: Direct start 1: SVC speed tracking restart 2: Pre excitation start	0	○
F1-01	Starting Frequency	0.00Hz~10.00Hz	0.00Hz	○
F1-02	Start Frequency Holding Time	0.0s~100.0s	0.0s	⊙
F1-03	Starting DC Braking Current / Pre-excitation Current	0%~100%	0%	⊙
F1-04	Starting DC Braking Time / Pre-excitation Time	0.0s~100.0s	0.00s	⊙
F1-07	Speed Tracking Excitation Gain	100~200	200	○
F1-08	Stop Mode	0: Decelerate to stop 1: Coast to stop	0	○
F1-09	Initial Frequency of Stop DC Braking	0.00Hz~max frequency	0.50Hz	○
F1-10	Waiting Time of Stop DC Braking	0.0s~100.0s	0.00s	○
F1-11	Stop DC Braking Current	0%~100%	20%	○
F1-12	Stop DC Braking Time	0.0s~100.0s	0.10s	○

F1-13	Stop Frequency	0.00Hz~max frequency	0.50	○
F1-14	Stop Frequency Holding Time	0.0s~60.0s	0.0s	○
F1-15	Restart Selection Upon Power Failure	0: Enabled 1: Disabled	1	○
F1-16	Waiting Time of Restart Upon Power Failure	0.0s~60.0s	0.0s	○
F1-17	Operation Mode of Setting Frequency is Lower than the Frequency Lower Limit	0: Running with frequency lower limit 1: Stop 2: Zero speed running	0	○
F1-18	Start Selection of Setting Frequency is Lower than the Start Frequency	0: Don't start 1: Zero speed running	1	◎
F1-19	Running Direction	0: Same direction 1: Opposite direction	0	○
F1-20	Reverse Control Enable	0: Allow reverse 1: Prohibit reverse	0	○
F1-21	FWD/REV Dead-zone Time	0.0s~3000.0s	0.0s	○
F1-22	Dynamic Braking Enable	0: Disabled 1: Enabled	0	○
F1-23	Braking Usage Rate	0%~100%	100%	○
F1-25	VF Over-excitation Gain	0~200	64	○
F1-26	Vector Over-excitation Gain	0~400	64	○
F1-27	Acceleration / Deceleration Mode	0: Straight-line acceleration/deceleration 1: S curve acceleration/deceleration A 2: S curve acceleration/deceleration B 3: Polyline acceleration/deceleration A 4: Polyline acceleration/deceleration B	0	◎
F1-28	Time Ratio of S Curve Start Segment	0.0%~(100.0%-F1-26)	30.0%	◎

F1-29	Time Ratio of S Curve End Segment	0.0%~(100.0%-F1-25)	0.0%	⊙
F1-30	Zero Frequency Voltage Output Selection	0: Non voltage output 1: Have voltage output 2: According to DC brake current output	0	○
F1-31	Speed Tracking Wait Time	0.00~5.00S	0.50s	⊙
F1-32	Polyline acceleration / deceleration Gain	0.00~10.00	1.00	○
F2 Motor 1 Parameter				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F2-00	Motor Type Selection	0: Ordinary asynchronous motor 1: Frequency conversion asynchronous motor	1	⊙
F2-01	Rated Motor Power	0.1kW~1000.0kW	Model dependent	⊙
F2-02	Rated Motor Voltage	1V~2000V	Model dependent	⊙
F2-03	Rated Motor Current	0.01A~655.35A (Inverter power≤55kW) 0.1A~6553.5A (Inverter power>55kW)	Model dependent	⊙
F2-04	Rated Motor Frequency	0.01Hz~max frequency	Model dependent	⊙
F2-05	Rated Motor Rotation Speed	1RPM~65535RPM	Model dependent	⊙
F2-06	Stator of Resistance Asynchronous Motor	0.001Ω~65.535Ω (Inverter power≤55kW) 0.0001Ω~6.5535Ω (Inverter power>55kW)	Tuning parameter	⊙
F2-07	Rotor Resistance of Asynchronous Motor	0.001Ω~65.535Ω (Inverter power≤55kW) 0.0001Ω~6.5535Ω (Inverter power>55kW)	Tuning parameter	⊙
F2-08	Asynchronous Motor Leakage Inductive Reactance	0.01mH ~655.35mH (Inverter power≤55kW) 0.001mH ~65.535Mh	Tuning parameter	⊙

		(Inverter power>55kW)		
F2-09	Asynchronous Motor Mutual Inductive Reactance	0.1mH~6553.5mH (Inverter power≤55kW) 0.01mH ~655.35mH (Inverter power>55kW)	Tuning parameter	⊙
F2-10	Asynchronous Motor No-load Current	0.01A~F2-03 (Inverter power≤55kW) 0.1A~F2-03 (Inverter power>55kW)	Tuning parameter	⊙
F2-16	Rated Power Factor of Asynchronous Motor	0.001~1.000	0.850	⊙
F2-17	Encoder Line Number	1~65535	1024	⊙
F2-18	Encoder Type	0: ABZ incremental encoder 2: Rotary encoder	0	⊙
F2-20	Encoder Phase Sequence	0: Forward 1: Reverse	0	⊙
F2-21	Encoder Installation Angle	0.0~359.9°	0.0°	⊙
F2-24	Rotary Transformer Pole Pair	1~1000	1	⊙
F2-25	Speed Feedback PG Disconnection Detection Time (Reserved)	0.0: No action 0.1s~10.0s	0.00	⊙
F2-26	Motor Parameter Identification	0: No operation 1: Static part identification 2: Dynamic complete identification 3: Static complete Identification	0	⊙
F3 Motor 1 Vector Control Parameter				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F3-00	Speed Loop Proportional Gain 1	1~100	30	○
F3-01	Speed Loop Integral Time 1	0.01s~10.00s	0.50s	○
F3-02	Switch Frequency 1	0.00~F3-05	5.00Hz	○
F3-03	Speed Loop Proportional Gain	1~100	20	○

	2			
F3-04	Speed Loop Integral Time 2	0.01s~10.00s	1.00s	○
F3-05	Switch Frequency 2	F3-02~max frequency	10.00Hz	○
F3-06	Vector Slip Gain	0%~200%	100%	○
F3-07	SVC Speed Filter Time	0.000s~0.100s	0.015s	○
F3-09	Motor Torque Upper Limit Source	0: Encode F3-10 setting 1: AI1 2: AI2 3: Reserved 4: PULSE setting 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) The full scale of options 1~7 corresponding to the F3-10	0	○
F3-10	Digital Setting for Motor Torque Upper Limit	0%~200.0%	150.0%	○
F3-11	Generator Torque Upper Limit Source	0: Encode F3-12 setting 1: AI1 2: AI2 3: Reserved 4: PULSE setting 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) The full scale of options 1~7 corresponding to the F3-12	0	○
F3-12	Digital Setting for Generator Torque Upper Limit	0.1%~200.0%	150.0%	○
F3-13	Excitation Adjustment Proportional Gain	0~60000	2000	○
F3-14	Excitation Adjustment Integral Gain	0 ~60000	1300	○
F3-15	Torque Adjustment Proportional Gain	0~60000	2000	○

F3-16	Torque Adjustment Integral Gain	0~60000	1300	○
F3-17	Speed Loop Integral Separation Enable	0: Disabled 1: Enabled	0	○
F3-18	Low Frequency Slip Coefficient	0.01~2.00	1.00	○
F3-19	Low Frequency Torque Boost	LED ten, one digit: boost mode 1 (0~39) LED thousand, hundred digit: boost mode 2 (0~49)	0000	○
F3-20	Low Frequency Cutoff Frequency	0.00~max frequency	5.00Hz	○
F3-21	Flux Adjustment Gain	0.1~8.0	2.0	○
F4 Motor 1 V/F Control Parameter				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F4-00	VF Curve Setting	0: Straight line V/F 1: Multipoint V/F 2: Square V/F 3: 1.2#power V/F 4: 1.4#power V/F 5: 1.6#power V/F 6: 1.8#power V/F 7: V/F complete separation mode 8: V/F half separation mode	0	◎
F4-01	Torque Boost Mode	0: Automatic boost mode 1 1: Manual boost 2: Automatic boost mode 2	2	◎
F4-02	Manual Torque Boost	0.0%~30.0%	Model dependent	○
F4-03	Manual Torque Boost Cutoff Frequency	0.00Hz~max frequency	50.00Hz	◎
F4-04	Multipoint VF Frequency Point 1	0.00Hz~F4-06	0.00Hz	◎
F4-05	Multipoint VF Voltage Point 1	0.0%~100.0%	0.0%	◎
F4-06	Multipoint VF	F4-04~F4-08	0.00Hz	◎

	Frequency Point 2			
F4-07	Multipoint VF Voltage Point 2	0.0%~100.0%	0.0%	⊙
F4-08	Multipoint VF Frequency Point 3	F4-05~Rated motor frequency (F2-04)	0.00Hz	⊙
F4-09	Multipoint VF Voltage Point 3	0.0%~100.0%	0.0%	⊙
F4-10	VF Slip Compensation Gain	0.0%~200.0%	0.0%	⊙
F4-12	VF Oscillation Suppression Gain	0~100	30	○
F4-14	The Separation of VF Voltage Source	0: Digital setting (F4-14) 1: AI1 2: AI2 3: Reserve 4: PULSE setting 5: Multiple instruction 6: Simple PLC 7: PID 8: Communication given Remark: 100% corresponding rated motor voltage	0	○
F4-15	VF Separation Voltage Digital Setting	0V~rated motor voltage	0V	○
F4-16	VF Separation Voltage Rise Time	0.0s~1000.0s Note: Indicates the time from 0V to the rated voltage of the motor	5.0s	○
F4-17	VF Separation Voltage Fall Time	0.0s~1000.0s Note: Indication the time when the rated voltage of the motor changes to 0V	5.0s	○
F4-18	VF Completely Separated Shutdown Mode	0: The frequency voltage is independently reduced to 0 1: After the voltage is reduced to 0, the frequency is reduced again	0	⊙
F4-19	VF Slip Filter Time	0.1~5.0s	0.1s	○
F4-20	VF Slip Compensation Delay	0.00~5.00s	0.20s	○
F4-21	VF Automatic Torque Boost Delay	0.1~5.0s	1.0s	○

F4-22	VF Automatic Torque Boost Coefficient	0.0%~50.0%	0.0%	○
F5 Input Terminal				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F5-00	Terminal Command Mode	0: Two-line mode 1 1: Two-line mode 2 2: Three-line mode 1 3: Three-line mode 2 4: Alternate control 5: Back and forth control	0	◎
F5-01	DI1 Terminal Function Selection	0: No function 1: Forward running (FWD) 2: Reverse running (REV) 3: Three-line mode run control 4: Forward Jog (FJOG) 5: Reverse Jog (RJOG) 6: Coast to stop 7: Run pause 8: Fault reset (RESET) 9: External fault normally open input 10: External fault normally closed input 11: Terminal UP 12: Terminal DOWN 13: UP/DOWN setting clear (Terminal, keypad) 14: Switching frequency source 15: Frequency source A switching with preset frequency 16: Frequency source B switching with preset frequency 17: MS reference terminal 1 18: MS reference terminal 2 19: MS reference terminal 3 20: MS reference terminal 4 21: Acceleration and deceleration time selection terminal 1 22: Acceleration and deceleration time selection terminal 2 23: PULSE frequency (Only effective for HDI1)	1	◎
F5-02	DI2 Terminal Function Selection		2	◎
F5-03	DI3 Terminal Function Selection		4	◎
F5-04	DI4 Terminal Function Selection		6	◎
F5-05	DI5 Terminal Function Selection		8	◎
F5-06	DI6 Terminal Function Selection (Expansion card)		0	◎
F5-07	DI7 Terminal Function Selection (Expansion card)		0	◎
F5-08	DI8 Terminal Function Selection (Expansion card)		0	◎
F5-09	DI9 Terminal Function Selection		0	◎

	(Expansion card)	24: Control command switching terminal 1 (keypad control ⇔ terminal control) 25: Control command switching terminal 2 (terminal control ⇔ communication control) 26: Immediate DC braking 27: Deceleration DC braking 28: External stop terminal 1 (Only effective for keypad control) 29: External stop terminal 2 (According to the deceleration time 4) 30: Emergency stop 31: PID pause 32: PID integral pause 33: PID action direction is reversed 34: PID parameter switching 35: PLC pause 36: PLC state reset 37: Swing frequency pause 38: Swing frequency reset 39: Switching between speed control and torque control 40: Torque control prohibit 41: Acceleration and deceleration prohibit 42: Reverse prohibit 43: Frequency modification prohibit 44: Counter input 45 Counter reset 46: Length count input 47: Length reset 48: Motor selection terminal 49: Reserved 50: User defined failure 1 51: User defined failure 2 52: Cleared the running time 53: Switching between two-line and three-line mode (Switch is invalid in running) 54: PID feedforward coefficient reset 55~59: Reserved		
F5-10	D11 Terminal Valid Mode Selection 1	0: Low level effective 1: High level effective Unit's digit: D11	00000	©

		Ten's digit: DI2 Hundred's digit: DI3 Thousand's digit: DI4 Ten thousand's digit: DI5		
F5-11	DI1 Terminal Valid Mode Selection 2	0: Low level effective 1: High level effective Unit's digit: DI6 Ten's digit: DI7 Hundred's digit: DI8 Thousand's digit: DI9	00000	⊙
F5-12	DI Filter Time	0.000s~1.000s	0.010s	○
F5-13	DI1 Close Delay Time	0.0s~3600.0s	0.0s	⊙
F5-14	DI2 Close Delay Time	0.0s~3600.0s	0.0s	⊙
F5-15	DI3 Close Delay Time	0.0s~3600.0s	0.0s	⊙
F5-16	DI1 Off Delay Time	0.0s~3600.0s	0.0s	⊙
F5-17	DI2 Off Delay Time	0.0s~3600.0s	0.0s	⊙
F5-18	DI3 Off Delay Time	0.0s~3600.0s	0.0s	⊙
F5-19	Terminal UP / DOWN Change Rate	0.001Hz/s~65.535Hz/s	1.000Hz/s	○
F5-20	AI Curve Selection	1: Curve 1 (2 point, see F5-22~F5-26) 2: Curve 2 (2 point, see F5-27~F5-31) 3: Curve 3 (2 point, see F5-32~F5-36) 4: Curve 4 (4 point, see b2~00-b2-07) 5: Curve 5 (4 point, see b2-08~b2-15) Unit's digit: AI1 curve selection Ten's digit: AI2 curve selection, same as above Hundred's digit: Reserved	321	○
F5-21	AI is Lower than Min Input Setting Selection	Unit's digit: AI1 is lower than min input setting selection 0: Corresponding to the min input setting 1: 0.0% Ten's digit: AI2 is lower than min input setting selection, same as above Hundred's digit: Reserved	000	○

F5-22	AI Curve 1 Min Input	-10.00V~F5-24	0.00V	○
F5-23	Corresponding Setting of AI Curve 1 Min Input	-100.0%~~+100.0%	0.0%	○
F5-24	AI Curve 1 Max Input	F5-22~~+10.00V	10.00V	○
F5-25	Corresponding Setting of AI Curve 1 Max Input	-100.0%~~+100.0%	100.0%	○
F5-26	AI Curve 1 Filter Time	0.00s~10.00s	0.10s	○
F5-27	AI Curve 2 Min Input	-10.00V~F5-29	0.00V	○
F5-28	Corresponding Setting of AI Curve 2 Min Input	-100.0%~~+100.0%	0.0%	○
F5-29	AI Curve 2 Max Input	F5-27~~+10.00V	10.00V	○
F5-30	Corresponding Setting of AI Curve 2 Max Input	-100.0%~~+100.0%	100.0%	○
F5-31	AI Curve 2 Filter Time	0.00s~10.00s	0.10s	○
F5-32	AI Curve 3 Min Input	-10.00V~F5-34	0.00V	○
F5-33	Corresponding Setting of AI Curve 3 Min Input	-100.0%~~+100.0%	0.0%	○
F5-34	AI Curve 3 Max Input	F5-32~~+10.00V	10.00V	○
F5-35	Corresponding Setting of AI Curve 3 Max Input	-100.0%~~+100.0%	100.0%	○
F5-36	AI Curve3 Filter Time	0.00s~10.00s	0.10s	○
F5-37	Pulse Min Input	0.00kHz~F5-39	0.00kHz	○
F5-38	Corresponding Setting of Pulse Min Input	-100.0%~~+100.0%	0.0%	○

F5-39	Pulse Max Input	F5-37~100.00kHz	50.00kHz	○
F5-40	Corresponding Setting of Pulse Max Input	-100.0%~+100.0%	100.0%	○
F5-41	PULSE Filter Time	0.00s~10.00s	0.10s	○
F5-42	Travel Switch Lock Time	0.00s~10.00s	1.00s	○
F5-43	AI2 Input Type	0: Voltage 1: Current	0	○
F5-44	AI1 Input Type	0: Voltage 1: Current	0	○
F6 Output Terminal				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F6-00	DO1 Terminals Output Mode Selection	0: Pulse output 1: Switch output	1	○
F6-01	DO1 Output Terminals Function Selection	0: No output 1: Inverter in running 2: Ready for run 3: Fault output 1 (no output when continuing to run) 4: Fault output 2 (no output when undervoltage or continuing to run) 5: Warning output 3 (output as along as it fails) 6: Output undervoltage 7: Frequency level detection FDT1 output 8: Frequency level detection FDT2 output 9: Frequency reached 10: Frequency 1 reached output 11: Frequency 2 reached output 12: Zero speed running 1 (no output when stop) 13: Zero speed running 2 (output when stop) 14: Frequency upper limit reached 15: Frequency lower limit reached 1 (no output when stop) 16: Frequency lower limit reached 2 (output when stop) 17: Current 1 reached output	0	○
F6-02	Relay T1 Function Selection		0	○
F6-03	Relay T2 Output Function Selection (expansion card)		0	○
F6-04	DO2 Output Terminal Function Selection (expansion card)		0	○
F6-05	Reserved		0	○

		18: Current 2 reached output 19: Zero current state 20: Output current limit exceeded 21: Motor overload pre-alarm 22: Inverter overload pre-alarm 23: During the load 24: Set Count value reached 25: Designated count value reached 26: Length reached 27: Module temperature reached 28: Reserved 29: Current running time reached 30: Accumulative running time reached 31: Accumulative power-on time reached 32: Timing reached output 33: PLC circulation output 34: Frequency limit 35: Torque limit 36: Reverse running 37: AI1 input limit 38: AI1>AI2 39: Communication setting 40: Brake control (power to release brake) 41: Timing braking (power on braking) 42: Inverter in running (jog no output)		
F6-06	DO Output Terminal Effective State Selection	0: Positive logic 1: Negative logic Unit's digit: DO1 Ten's digit: RELAY1 Hundred's digit: RELAY 2 Thousand's digit: DO2 Ten thousand's digit: reserved	00000	○
F6-07	DO1 Closing Delay	0.0s~3600.0s	0.0s	○
F6-08	T1 Closing Delay	0.0s~3600.0s	0.0s	○
F6-09	T2 Closing Delay	0.0s~3600.0s	0.0s	○
F6-10	DO2 Closing Delay	0.0s~3600.0s	0.0s	○
F6-11	Reserved			

F6-12	DO1 Output Function Selection	0: Running frequency 1: Setting frequency 2: Output current (2 times of motor rated current) 3: Output torque 4: Output power 5: Output voltage (1.2 times inverter rated voltage) 6: PULSE input (100% corresponding 100.0kHz) 7: AI1 8: AI2 9: AI3 (expansion card) 10: Length 11: Count value 12: Communication setting 13: Motor rotate speed 14: Output current (when≤55kW, 100.0% corresponding 100.00A; when>55kW, 100.0% corresponding 1000.00A) 15: Output voltage (100.0% corresponding 1000.00V) 16: Encoder feedback frequency	0	○
F6-13	AO1 Output Function Selection		0	○
F6-14	AO2 Output Function Selection (expansion card)		1	○
F6-15	DO1 Output Max Frequency	0.01kHz~100.00kHz	50.00kHz	○
F6-16	AO1 Output Voltage Lower Limit	0.00V~10.00V	0.00V	○
F6-17	Corresponding Setting Value of AO1 Output Voltage Lower Limit	0.0%~F6-19	0.0%	○
F6-18	AO1 Output Voltage Upper Limit	0.00V~10.00V	10.00V	○
F6-19	Corresponding Setting Value of AO1 Output Voltage Upper Limit	F6-17~100.0%	100.0%	○
F6-20	AO1 Output Filter Time	0.00s~10.00s	0.00s	○
F6-21	AO2 Output Voltage Lower	0.00V~10.00V	0.00V	○

	Limit			
F6-22	Corresponding Setting Value of AO2 Output Voltage Lower Limit	0.0%~F6-24	0.0%	○
F6-23	AO2 Output Voltage Upper Limit	0.00V~10.00V	10.00V	○
F6-24	Corresponding Setting Value of AO2 Output Voltage Upper Limit	F6-22~100.0%	100.0%	○
F6-25	AO2 Output Filter Time	0.00s~10.00s	0.00s	○
F6-26	AO1 Output Mode	0: Voltage 1: Current	0	○
F6-27	AO2 Output Mode (expansion card)	0: Voltage 1: Current	0	○
F6-28	DO1 Disconnect Delay	0.0s~3600.0s	0.0s	○
F6-29	T1 Disconnect Delay	0.0s~3600.0s	0.0s	○
F6-30	T2 Disconnect Delay	0.0s~3600.0s	0.0s	○
F6-31	DO2 Disconnect Delay	0.0s~3600.0s	0.0s	○
F7 Keypad and Display				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F7-00	MFK Key Function Selection	0: Invalid 1: Switch between operation panel command channel and remote command channel (terminal command channel or communication command channel) 2: FWD/REV switching 3: Forward jog 4: Reverse jog 5: Rapid debugging	3	◎
F7-01	STOP / RESET Key Function	0: STOP/RES key stop function is valid only in keypad operation mode 1: STOP/RES key stop function all	1	○

		valid in any operation mode		
F7-02	LED Running Display Parameter 1	0000~0xFFFF Bit00: Running frequency 1 (Hz) Bit01: Setting frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI input state Bit08: DO output state Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: Reserved Bit12: Count value Bit13: Length value Bit14: Load speed display BIT15: PID setting	0x1F	○
F7-03	LED Running Display Parameter 2	0000~0xFFFF Bit00: PID feedback Bit01: PLC stage Bit02: PULSE input frequency (kHz) Bit03: Running frequency 2 (Hz) Bit04: Set torque (0.%) Bit05: Voltage before AI1 correction (V) Bit06: Voltage before AI2 correction (V) Bit07: Running rotate speed (PRM) Bit08: Line speed Bit09: Current power on time (Hour) Bit10: Current running time (Min) Bit11: PULSE input frequency (Hz) Bit12: Communication setting value Bit13: Encoder feedback speed (Hz) Bit14: Main frequency A display (Hz) Bit15: Auxiliary frequency B display (Hz)	0x0080	○
F7-04	LED Stop Display Parameter	0000~0x7FFF Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: DI input state Bit03: DO output state	0x33	○

		Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: Reserved Bit07: Count value Bit08: Length value Bit09: PLC stage Bit10: Load speed Bit11: PID setting Bit12: Pulse input frequency (kHz) Bit13: Set torque (0.1%) Bit14: PID feedback		
F7-05	The Second Line LED Running Display Parameters	0~15 corresponding bit0~bit15 of F7-03 16~31 corresponding bit0~bit14 of F7-04	4	○
F7-06	The Second Line LED Stop Display Parameters	0~14 corresponding bit0~bit14 of F7-04	1	○
F7-07	Load Speed Display Coefficient	0.000s~6.5000	1.0000	○
F7-08	Load Speed Display Decimal Places	0: 0 bit decimal place 1: 1 bit decimal place 2: 2 bit decimal place 3: 3 bit decimal place	1	○
F7-10	Power Optimization Coefficient	0.000~10.000	1.000	○
F7-11	Current Optimization Coefficient	0.000~10.000	1.000	○
F7-12	Running Frequency Display Selection	0: Actual frequency 1: Slope frequency	1	○
F7-13	Filtering Method Selection	0~1	0	○
F7-14	Keypad Version Number	0.00~655.35	0.00	●
F8 Protection Parameters				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property

F8-00	Motor 1 Overload Protection Selection	0: Disabled 1: Enabled	1	○
F8-01	Motor 1 Overload Protection Gain	0.20~10.00	1.00	○
F8-02	Motor 1 Overload Warning Coefficient	50%~100%	80%	○
F8-03	Motor 2 Overload Protection Selection	0: Disabled 1: Enabled	1	○
F8-04	Motor 2 Overload Protection Gain	0.20~10.00	1.00	○
F8-05	Motor 2 Overload Pre-alarm Coefficient	50%~100%	80%	○
F8-07	Overvoltage Stall Proportion Gain	0: Disabled 1~100	30	○
F8-08	Overvoltage Stall Integral Gain	0~100	30	○
F8-09	Overvoltage Stall Protection voltage	100.0~3000.0V	Model dependent	○
F8-10	Over current Stall Proportion Gain	0: Disabled 1~100	20	○
F8-11	Over current Stall Integral Gain	0~100	20	○
F8-12	Over current Stall Protection Current	50%~200%	150%	○
F8-13	Double Speed Over current Suppression Gain	50~200	50	○
F8-14	Short-circuit to Ground Upon Power-on	0: Invalid 1: Valid	1	○
F8-15	Input Phase Loss Protection	0: Disabled 1: Enabled	1	○

	Selection			
F8-16	Output Phase Loss Protection Selection	0: Disabled 1: Enabled	1	○
F8-17	Offload Protection Selection	0: Invalid 1: Valid	0	○
F8-18	Offload Detection Level	0.0~100.0%	10.0%	○
F8-19	Offload Detection Time	0.0s~60.0s	1.0s	○
F8-20	FVC Overspeed Detection Value	0.0%~50.0% (Maximum frequency)	20.0%	○
F8-21	FVC Overspeed Detection Time	0.0: Do not detect 0.1s~60.0s	0.0s	○
F8-22	FVC Speed Deviation Excessive Detection Value	0.0%~50.0% (Maximum frequency)	20.0%	○
F8-23	FVC Speed Deviation too Large Detection Time	0.0: Do not detect 0.1s~60.0s	0.0s	○
F8-24	Action Selection Upon Instantaneous Power Failure	0: Invalid 1: Decelerate 2: Decelerate to stop Note: Deceleration time is set by Fb-08	0	○
F8-25	Voltage Restore Judgment Value Upon Instantaneous Power Failure	F8-27~100.0%	90.0%	○
F8-26	Voltage Restore Judgment Time Upon Instantaneous Power Failure	0.00s~100.00s	0.50s	○
F8-27	Voltage Judgment Value Upon Instantaneous Power Failure	60.0%~100.0% (Standard bus voltage)	80.0%	○
F8-28	Over Voltage Stall Max Rise Frequency Limit	0~50Hz	5Hz	○
F8-29	Brake Unit	100.0~3000.0V	Model	○

	Action Starting Voltage		dependent	
F8-30	Encoder Reverse Detection Time (reserved)	0.0: No detection 0.1s~60.0s	0.0s	○
F8-31	Motor Temperature Sensor Type (expansion card)	0: No temperature sensor 1: PT100 2: PT1000	0	○
F8-32	Motor Overheating Protection Threshold	0℃~200℃	110℃	○
F8-33	Motor Overheating Pre-alarm Threshold	0℃~200℃	90℃	○
F8-34	Inverter Low Frequency Overload Protection Selection	0: Disable 1: Enable	0	○
F8-35	Output Phase Loss Detection Method Selection	0~1	0	○
F8-36	Buffer Relay and Resistance Protection Enable	Unit's digit: Buffer relay protection enable 0: Disable 1: Enable Ten's digit: Buffer resistance enable 0: Disable 1: Enable	01	○
F9 Fault Record and Setting				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
F9-00	Fault Types for the First Time	0: No fault 1: Acceleration over current (hardware) 2: Deceleration over current (hardware) 3: Constant speed over current (hardware) 4: Acceleration over current (software) 5: Deceleration over current (software) 6: Constant speed over current (software)	-	●
F9-01	Fault Types for the Second Time		-	●
F9-02	Fault Types for the Third Time (Last Time)		-	●

		7: Acceleration overvoltage 8: Deceleration overvoltage 9: Constant speed overvoltage 10: Under voltage 11: Motor overload 12: Inverter overload 15: Module overheat 16: Current overrun fault 17: External fault 18: Communication abnormal 19: Current detection abnormal 20: Motor parameter identification abnormal 21: EEPROM read and write abnormal 22: Disconnection detection fault 23: PID feedback lost at runtime 24: Motor short circuit to ground 25: Buffer relay detection fault 26: Reserved 27: Running time reached 28: Power-on time reached 29: Buffer resistance overheat 30: Reserved 31: Encoder/PG card exception 32: Encoder reverse fault 33~34: Reserved 35: User-defined fault 1 36: User-defined fault 2 37: Offload 38: Fast current-limiting timeout 39: Switch motor in running 40: Speed deviation is too large 41: Motor overspeed 42: Motor over temperature 43: Manufacturer defined fault 90: Keypad communication error 91: Parameter unload error 92: Parameter download error		
F9-03	Frequency Upon the Third Time (Last Time) Fault	-	-	●
F9-04	Current Upon the Third Time (Last Time) Fault	-	-	●

F9-05	Bus Voltage Upon the Third Time (Last Time) Fault	-	-	●
F9-06	Input Terminal State Upon the Third Time (Last Time) Fault	-	-	●
F9-07	Output Terminal State Upon the Third Time (Last Time) Fault	-	-	●
F9-08	Inverter State Upon the Third Time (Last Time) Fault	-	-	●
F9-09	Power on Time Upon the Third Time (Last Time) Fault	-	-	●
F9-10	Running Time Upon the Third Time (Last Time) Fault	-	-	●
F9-13	Frequency Upon the Second Time Fault	-	-	●
F9-14	Current Upon the Second Time Fault	-	-	●
F9-15	Bus Voltage Upon the Second Time Fault	-	-	●
F9-16	Input Terminal State Upon the Second Time Fault	-	-	●
F9-17	Output Terminal State Upon the Second Time Fault	-	-	●
F9-18	Inverter State Upon the Second Time Fault	-	-	●
F9-19	Power on Time Upon the Second Time	-	-	●

	Fault			
F9-20	Running Time Upon the Second Time Fault	-	-	●
F9-23	Frequency Upon the First Time Fault	-	-	●
F9-24	Current Upon the First Time Fault	-	-	●
F9-25	Bus Voltage Upon the First Time Fault		-	●
F9-26	Input Terminal State Upon the First Time Fault		-	●
F9-27	Output Terminal State Upon the First Time Fault	-	-	●
F9-28	Inverter State Upon the First Time Fault	-	-	●
F9-29	Power on Time Upon the First Time Fault	-	-	●
F9-30	Running Time Upon the First Time Fault	-	-	●
F9-33	Fault Automatic Reset Times	0~20	0	○
F9-34	Fault Automatic Reset Interval Time	0.1s~100.0s	1.0s	○
F9-35	Fault DO Action Selection During the Fault Automatic Reset	0: No action 1: Action	0	○
F9-36	Fault Protection Action Selection 1	Unit's digit: motor overload (11) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Ten's digit: input phase loss (13) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run	00000	○

		Hundred's digit: output phase loss (14) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Thousand's digit: external fault (17) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Ten thousand's digit: communication abnormal (18) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run		
F9-37	Fault Protection Action Selection 2	Unit's digit: encoder/PG card abnormal (31) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Ten's digit: parameter read-write abnormal (21) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Hundred's digit: running time reached (27) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Thousand's digit: speed deviation is too large (40) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Ten thousand's digit: motor overspeed (41) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run	00000	○
F9-38	Fault Protection Action Selection 3	Unit's digit: user-defined fault 1 (35) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Ten's digit: user-defined fault 2 (36) 0: Coast to stop	00000	○

		1: Stop according to stop mode 2: Continue to run Hundred's digit: power on time reached (28) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Thousand's digit: offload (37) 0: Coast to stop 1: Stop according to stop mode 2: Decelerate to 7% of the rated motor frequency continue running, automatically restored to the set frequency operation when no offload Ten thousand's digit: PID feedback lost when running (23) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run		
F9-39	Fault Protection Action Selection 4	Unit's digit: Disconnection detection fault (22) 0: Coast to stop 1: Stop according to stop mode 2: Continue to run Ten's digit: reserved Hundred's digit: reserved Thousand's digit: reserved Ten thousand's digit: reserved	00000	○
F9-40	Continue Running Frequency Selection at Failure	0: Run to the current running frequency 1: Run at set frequency 2: Run at frequency upper limit 3: Run at frequency lower limit 4: Run at abnormal backup frequency	0	○
F9-41	Abnormal Backup Frequency	0.0%~100.0% (100.0% corresponding max frequency F0-10)	100.0%	○
FA Process PID				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
FA-00	PID Given Source	0: FA-01 setting 1: AI1 2: AI2	0	○

		3: Reserved 4: PULSE setting 5: Communication setting 6: Multi-reference setting 7: Reserved		
FA-01	PID Digital Giving	0.0%~100.0%	50.0%	○
FA-02	PID Feedback Source	0: A1 1: AI2 2: Reserved 3: AI1-AI2 4: PULSE setting 5: Communication setting 6: AI1+AI2 7: MAX (IAI1I, IAI2I) 8: MIN (IAI1I, IAI2I)	0	○
FA-03	PID Action Direction	0: Positive action 1: Anti-action	0	○
FA-04	PID Given Feedback Range	0~65535	1000	○
FA-05	Proportion Gain Kp1	0.0~100.0	20.0	○
FA-06	Integral Time Ti1	0.01s~10.00s	2.00s	○
FA-07	Differential Time Td1	0.000s~10.000s	0.000s	○
FA-08	PID Reverse Cut-off Frequency	0.00~max frequency	0.00Hz	○
FA-09	PID Deviation Limit	0.0%~100.0%	0.0%	○
FA-10	PID Differential Limiting	0.00%~100.00%	0.10%	○
FA-11	PID Given Change Time	0.00s~650.00s	0.00s	○
FA-12	PID Feedback Filter Time	0.00s~60.00s	0.00s	○
FA-13	PID Output Filter Time	0.00s~60.00s	0.00s	○
FA-15	Proportion Gain Kp2	0.0~100.0	20.0	○
FA-16	Integral Time Ti2	0.01s~10.00s	2.00s	○
FA-17	Differential Time	0.000s~10.000s	0.000s	○

	Td2			
FA-18	PID Parameters Switching Condition	0: No switching 1: Switching through DI terminal 2: Automatic switching according to the deviation 3: Switch based on feedforward gain (100% corresponds to 2.000)	0	○
FA-19	PID Parameters Switching Deviation 1	0.0%~FA-20	20.0%	○
FA-20	PID Parameters Switching Deviation 2	FA-19~100.0%	80.0%	○
FA-21	PID Initial Value	0.0%~100.0%	0.0%	○
FA-22	PID Initial Value Hold Time	0.00s~650.00s	0.00s	○
FA-23	Twice Output Deviation Positive Maximum Value	0.00%~100.00%	1.00%	○
FA-24	Twice Output Deviation Reverse Maximum Value	0.00%~100.00%	1.00%	○
FA-25	PID Integral Property	Unit's digit: integral separation 0: Disabled 1: Enabled Ten's digit: whether stop integral after output the limit 0: Continue integral 1: Stop integral	00	○
FA-26	PID Feedback Lost Detection Value	0.0%: Don't judge feedback lost 0.1%~100.0%	0.0%	○
FA-27	PID Feedback Lost Detection Time	0.0s~20.0s	0.0s	○
FA-28	PID Feedback Lost Detection Starting Frequency	0.00Hz~max frequency	10.00Hz	○
FA-29	PID Stop Operation	0: No operation when stop 1: Operation when stop	0	○
FA-30	The Lower Limit Value of	0.0%: No limit	0.0.0%	○

	Feedback when PID Action	0.1%~100.0%		
FA-31	PID Differential Low Limit Frequency	0.00~Maximum frequency	0.00Hz	○
FA-32	PID Upper Limit Output Frequency	0.00: Invalid 0.01~Maximum frequency	0.00Hz	○
FA-33	PID Feedforward Calculation Selection	LED units: feedforward calculation enable selection 0: Prohibited 1: Enable LED ten digits: feedforward coefficient reset selection 0: Stop reset 1: Terminal reset 2: Disconnection reset	20	◎
FA-34	PID Feedforward Calculation Filter Time	0.0~60.0s	5.0s	○
FA-35	PID Feedforward Calculation Start Frequency	0.00~50.00Hz	5.00Hz	◎
FA-36	PID Feedforward Calculation Initial Value	0.000: Invalid initial value 0.001~10.000	0.000	○
FA-37	PID Feedforward Calculation Delay	0.0~60.0s	2.0s	○
FA-38	Upper Limit of PID Feedforward Coefficient	0.000: Invalid upper limit 0.001~10.000	2.000	○
FA-39	Lower limit of PID Feedforward Coefficient	0.000: Invalid lower limit 0.001~10.000	0.25	○
Fb Enhance Function Group				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
Fb-00	Jog Running Frequency	0.00Hz~max frequency	5.00Hz	○
Fb-01	Jog Acceleration Time	0.0s~6500.0s	Model dependent	○
Fb-02	Jog Deceleration Time	0.0s~6500.0s	Model dependent	○

Fb-03	Acceleration Time 2	0.0s~6500.0s	Model dependent	○
Fb-04	Deceleration Time 2	0.0s~6500.0s	Model dependent	○
Fb-05	Acceleration Time 3	0.0s~6500.0s	Model dependent	○
Fb-06	Deceleration Time 3	0.0s~6500.0s	Model dependent	○
Fb-07	Acceleration Time 4	0.0s~6500.0s	Model dependent	○
Fb-08	Deceleration Time 4	0.0s~6500.0s	Model dependent	○
Fb-09	Emergency Stop Time	0.0s~6500.0s	10.0s	○
Fb-10	Acceleration Time 1 and Time 2 Switching Frequency Point	0.00Hz~max frequency	0.00Hz	○
Fb-11	Deceleration Time 1 and time 2 Switching Frequency Point	0.00Hz~max frequency	0.00Hz	○
Fb-12	Hopping Frequency 1	0.00: Invalid hopping point 0.01Hz~max frequency	0.00Hz	○
Fb-13	Hopping Frequency 2	0.00: Invalid hopping point 0.01Hz~max frequency	0.00Hz	○
Fb-14	Hopping Frequency Range	0.01Hz~max frequency	0.01Hz	○
Fb-15	Hopping Frequency Whether Valid in the Process of Acceleration and Deceleration	0: Disabled 1: Enabled	0	○
Fb-16	Frequency Detection Value (FDT1)	0.00Hz~max frequency	50.00Hz	○
Fb-17	Frequency Detection Lagged Value (FDTI)	0.0%~100.0% (FDT1 electrical level)	5.0%	○
Fb-18	Frequency Detection Value (FDT2)	0.00Hz~max frequency	50.00Hz	○

Fb-19	Frequency Detection Lagged Value (FDT2)	0.0%~100.0% (FDT2 electrical level)	5.0%	○
Fb-20	Frequency Reached Detection Width	0.0%~100.0% (max frequency)	0.0%	○
Fb-21	Any Frequency Reaching Detection Value 1	0.00Hz~max frequency	50.00Hz	○
Fb-22	Arbitrary Arrival Frequency Detection Width 1	0.0%~100.0% (max frequency)	0.0%	○
Fb-23	Arbitrary Arrival Frequency Detection Value 2	0.00Hz~max frequency	50.00Hz	○
Fb-24	Arbitrary Arrival Frequency Detection Width 2	0.0%~100.0% (max frequency)	0.0%	○
Fb-25	Zero Current Detection Levels	0.0%~300.0% 100.0% corresponding rated motor current	5.0%	○
Fb-26	Zero Current Detection Delay Time	0.01s~600.00s	0.10s	○
Fb-27	Output Current Limit Exceed	0.0% (no detection) 0.1%~300.0% (rated motor current)	200.0%	○
Fb-28	Output Current Limit Exceed Detection Delay Time	0.00s~600.00s	0.00s	○
Fb-29	Arbitrarily Reach Current 1	0.0%~300.0% (rated motor current)	100.0%	○
Fb-30	Arbitrarily Reach Current 1 Width	0.0%~300.0% (rated motor current)	0.0%	○
Fb-31	Arbitrarily Reach Current 2	0.0%~300.0% (rated motor current)	100.0%	○
Fb-32	Arbitrarily Reach Current 2 Width	0.0%~300.0% (rated motor current)	0.0%	○
Fb-33	Arrival Time Setting for This Run	0.0Min~6500.0Min	0.0Min	○

Fb-34	Accumulative Power-on Reached Time Setting	0h~65000h	0h	○
Fb-35	Accumulative Running Reached Time Setting	0h~65000h	0h	○
Fb-36	Timing Function Selection	0: Disabled 1: Enabled	0	○
Fb-37	Timing Running Time Selection	0: Fb-38 setting 1: AI1 2: AI2 3: Reserved Analog input range corresponding to the Fb-38	0	○
Fb-38	Timing Running Time	0.0Min~6500.0Min	0.0Min	○
Fb-39	Module Temperature Reached	0°C~100°C	75°C	○
Fb-40	Lower Limit of AI1 Input Voltage Protection Value	0.00V~Fb-41	3.10V	○
Fb-41	Upper Limit of AI1 Input Voltage Protection Value	Fb-40~10.00V	6.80V	○
Fb-43	Wakeup Delay Time	0.0s~6500.0s	0.0s	○
Fb-44	Dormancy Frequency	0.00Hz~maximum frequency 0.00: Cancel dormancy	40.00Hz	○
Fb-45	Dormancy Delay Time	0.0s~6500.0s	0.0s	○
Fb-46	Frequency of brake release	0.00Hz~max frequency	1.20Hz	○
Fb-47	Brake Frequency	0.00Hz~max frequency	2.00Hz	○
Fb-48	Timing Braking Frequency	0.00Hz~50.00Hz	1.50Hz	○
Fb-49	Timing Braking Time	0.0s~60.0s	2.0s	○
Fb-50	Terminal Jog Priority	0: Disabled 1: Enabled	1	○
Fb-51	Swing Frequency	0: Relative to center frequency	0	○

	Setting Method	1: Relative to max frequency		
Fb-52	Swing Frequency Amplitude	0.0%~100.0%	0.0%	○
Fb-53	Jumping Frequency Amplitude	0.0%~50.0%	0.0%	○
Fb-54	Swing Frequency Cycle	0.1s~3000.0s	10.0s	○
Fb-55	Triangular Wave of Swing Frequency Rise Time	0.1%~100.0%	50.0%	○
Fb-56	Set Length	0m~65535m	1000m	○
Fb-57	Actual Length	0m~65535m	0m	○
Fb-58	Number of Pulse per Meter	0.1~6553.5	100.0	○
Fb-59	Set Count Value	1~65535	1000	○
Fb-60	Designated Count Value	1~65535	1000	○
Fb-61	Multi-speed Priority Selection	0: Disable 1: Allow	0	○
Fb-62	Zero Frequency Cutoff Frequency	0.00Hz~10.00Hz	0.00Hz	○
Fb-63	Zero Frequency Cutoff Effective Range	0: Valid for the whole process 1: Only the deceleration process is valid 2: Only the acceleration process is effective	0	○
Fb-64	Jog Reverse Selection	0: Reverse prohibition is valid 1: Reverse prohibition is invalid	0	○
Fb-65	Sleep Mode Selection	0: Sleep at frequency 1: Sleep at pressure	0	○
Fb-66	Awakening Pressure	0.0%~Fb-67	0.0%	○
Fb-67	Sleep Pressure	Fb-66~100.0% 100.0%: Cancel sleep	100.0%	○
Fb-68	Current Overrun Action Selection	0: Terminal output 1: Report fault 2: Terminal output during constant speed operation 3: Report fault during constant speed operation	0	○

FC Multi-reference and Simple PLC				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
FC-00	Multi-segment Instruction 0	-100.0%~100.0%	0.0%	○
FC-01	Multi-segment Instruction 1	-100.0%~100.0%	0.0%	○
FC-02	Multi-segment Instruction 2	-100.0%~100.0%	0.0%	○
FC-03	Multi-segment Instruction 3	-100.0%~100.0%	0.0%	○
FC-04	Multi-segment Instruction 4	-100.0%~100.0%	0.0%	○
FC-05	Multi-segment Instruction 5	-100.0%~100.0%	0.0%	○
FC-06	Multi-segment Instruction 6	-100.0%~100.0%	0.0%	○
FC-07	Multi-segment Instruction 7	-100.0%~100.0%	0.0%	○
FC-08	Multi-segment Instruction 8	-100.0%~100.0%	0.0%	○
FC-09	Multi-segment Instruction 9	-100.0%~100.0%	0.0%	○
FC-10	Multi-segment Instruction 10	-100.0%~100.0%	0.0%	○
FC-11	Multi-segment Instruction 11	-100.0%~100.0%	0.0%	○
FC-12	Multi-segment Instruction 12	-100.0%~100.0%	0.0%	○
FC-13	Multi-reference 13	-100.0%~100.0%	0.0%	○
FC-14	Multi-segment Instruction 14	-100.0%~100.0%	0.0%	○
FC-15	Multi-segment Instruction 15	-100.0%~100.0%	0.0%	○
FC-16	Simple PLC Run Mode	0: Stop when single run end 1: Keep the final value when single run end 2: Always circulation	0	○
FC-17	Simple PLC Power Failure Memory	Unit's digit: power failure memory selection 0: Non memory at power failure	00	○

	Selection	1: Memory at power failure Ten's digit: stop memory selection 0: No memory at stop 1: Memory at stop		
FC-18	Run Time of Simple PLC Reference 0	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-19	Acceleration / Deceleration Time Selection of Simple PLC Reference 0	0~3	0	○
FC-20	Run Time of Simple PLC Reference 1	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-21	Acceleration / Deceleration Time Selection of Simple PLC Reference 1	0~3	0	○
FC-22	Run Time of Simple PLC Reference 2	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-23	Acceleration / Deceleration Time Selection of Simple PLC Reference 2	0~3	0	○
FC-24	Run Time of Simple PLC Reference 3	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-25	Acceleration / Deceleration Time Selection of Simple PLC Reference 3	0~3	0	○
FC-26	Run Time of Simple PLC Reference 4	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-27	Acceleration / Deceleration Time Selection of Simple PLC Reference 4	0~3	0	○
FC-28	Run Time of Simple PLC Reference 5	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-29	Acceleration / Deceleration	0~3	0	○

	Time Selection of Simple PLC Reference 5			
FC-30	Run Time of Simple PLC Reference 6	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-31	Acceleration / Deceleration Time Selection of Simple PLC Reference 6	0~3	0	○
FC-32	Run Time of Simple PLC Reference 7	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-33	Acceleration / Deceleration Time Selection of Simple PLC Reference 7	0~3	0	○
FC-34	Run Time of Simple PLC Reference 8	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-35	Acceleration / Deceleration Time Selection of Simple PLC Reference 8	0~3	0	○
FC-36	Run Time of Simple PLC Reference 9	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-37	Acceleration / Deceleration Time Selection of Simple PLC Reference 9	0~3	0	○
FC-38	Run Time of Simple PLC Reference 10	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-39	Acceleration / Deceleration Time Selection of Simple PLC Reference 10	0~3	0	○
FC-40	Run Time of Simple PLC Reference 11	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-41	Acceleration / Deceleration Time Selection of Simple PLC	0~3	0	○

	Reference 11			
FC-42	Run Time of Simple PLC Reference 12	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-43	Acceleration / Deceleration Time Selection of Simple PLC Reference 12	0~3	0	○
FC-44	Run Time of Simple PLC Reference 13	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-45	Acceleration / Deceleration Time Selection of Simple PLC Reference 13	0~3	0	○
FC-46	Run Time of Simple PLC Reference 14	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-47	Acceleration / Deceleration Time Selection of Simple PLC Reference 14	0~3	0	○
FC-48	Run Time of Simple PLC Reference 15	0.0s (h)~6553.5s (h)	0.0s (h)	○
FC-49	Acceleration / Deceleration Time Selection of Simple PLC Reference 15	0~3	0	○
FC-50	Simple PLC Run Time Unit	0: s (Second) 1: h (hour)	0	○
FC-51	Multi-reference 0 Setting Mode	0: Code FC-00 given 1: AI1 2: AI2 3: Reserved 4: PULSE 5: PID 6: Preset frequency (F0-09) given, UP/DOWN can modify 7: Reserved	0	○

FC-52	MS Speed Acceleration / Deceleration Time Selection Mode	0: Function code confirm 1: Terminal confirm	0	○
Fd MODBUS Communication				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
Fd-00	Baud Rate	0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS	5	○
Fd-01	Data Format	0: No verify (8-N-2) 1: Even verify (8-E-1) 2: Odd verify (8-O-1) 3: 8-N-1	0	○
Fd-02	Local Address	0~247, 0: is broadcast address	1	○
Fd-03	Response Delay	0ms~20ms	2ms	○
Fd-04	Communication Timeout Time	0.0 (disabled), 0.1s~60.0s	0.0s	○
Fd-05	Data Transfer Format Selection	0: Non standard MODBUS protocol 1: Standard MODBUS protocol	1	○
Fd-06	Communication Read Current Resolution	0: 0.01A 1: 0.1A	1	○
Fd-08	Write Response Selection	0: Response 1: No response	0	○
FE PROFIBUS/CANopen communication				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
FE-00	CANopen Node Address	1~127 Slave address, up to 127 Note: After modification, it needs to be powered on again	3	○

FE-01	Baud Rate	0: 125kbps 1: 250kbps 2: 500kbps 3: 800kbps 4: 1Mbps	2	○
FE-02	PROFIBUS Node Address	1~127	1	○
FE-03 ~ FE-14	DP Process Number PZD1 ~ PZD12 Send	0~35 0: Invalid operation 1: Running frequency (unit: 0.01Hz) 2: Set frequency (unit: 0.01Hz) 3: Bus voltage (unit: 0.1V) 4: Output voltage (unit: 0.1V) 5: Output current (unit: 0.01A) 6: Output power (unit: 0.1kW) 7: Output torque (unit: 0.1%) 8: DI input status bit0~bit8 correspond to DI1~DI9 bit9~bit13 correspond to VDI1~VDI5 bit14~bit15 correspond to AI1 and AI2 9: DO output status Bit0: HDO1 Bit1: T1 Bit2: T2 Bit3: DO1 Bit4: DO5 Bit5~Bit9 correspond to VDO1~VDO5 10: AI1 voltage (unit 0.01V) 11: AI2 voltage (unit 0.01V) 12: AI3 voltage (unit 0.01V) 13: Count value 14: Length value 15: Load speed display (unit 0.01Hz)	0	○

		16: PID setting 17: PID feedback 18: PLC stage 19: PULSE input pulse frequency 0.01kHz 20: Feedback speed 0.1Hz 21: Set torque 0.1% 22: AI1 voltage before correction 0.001V 23: AI2 voltage before correction 0.001V 24: Running speed 1RPM 25: Linear speed 1m/min 26: Current power on time 1min 27: Current running time 0.1min 28: PULSE input pulse frequency 1Hz 29: Communication setting value 0.01% 30: Encode feedback speed (0.01Hz, signed) 31: Main frequency A display 0.01Hz 32: Auxiliary B display 0.01Hz 33: Power consumption degree 34: Fault code see F9-00 35: Status word Bit0: ready Bit1: reserved Bit2: RUN Bit3: Fault Bit4~Bit12 reserved Bit13: Module over temperature Bit14: Overload		
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FE-15 ~ FE-26	DP process number PZD1 ~ PZD12 receive	0~17 0: no operation 1: Main frequency source A 2: Auxiliary frequency source B 3: upper limit frequency 4: Speed control torque upper limit 5: reserved 6: Voltage of VF separation 7: PID given 8: PID feedback 9: Torque control setting torque 10: Torque control forward maximum frequency 11: Torque control reverse maximum frequency 12: DO output control 13: HDO1 output 14: AO1 output 15: AO2 output 16: Virtual VDI terminal status setting 17: Control word Bit0~Bit3: Reserved Bit4: 1 Jog run 0 Stop Bit5: 0 forward rotation 1 reverse rotation Bit6: 1 run 0 stop Bit7: 1 reset 0 invalid	0	○
FF User Parameters Group				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
FF-00	User Password	0:~65535	0	○
FF-01	Parameter Initialization	0: No operation 1: Restore factory parameters, excluding motor parameter	0	◎

		2: Clear record information 301: Backup user current parameters 401: Restore user backup parameters 501: Parameter upload 601: Parameter download (including motor parameter) 701: Parameter download (excluding motor parameter)		
FF-03	Function Code Display Selection	Unit's digit: 0: Not display A group 1: Display A group Ten's digit: 0: Not display b group 1: Display b group	11	○
FF-04	Function Code Modify Property	0: Can modify 1: Can't modify	0	○
FF-05	Fast Debugging Setting	Unit's digit: user custom parameter group display selection 0: Not display 1: Display Ten's digit: user change parameter group display selection 0: Not display 1: Display	10	○
FF-06	Product Code	0~65535	Factory Setting	●
FF-07	Software Versioning	1.00~10.00	Factory Setting	●
FF-08	Inverter Model		Factory Setting	●
FF-09	Date of Production (Year/Month)	0~9999	Factory Setting	●
FF-10	Date of Production (Date)	0~31	Factory Setting	●
FF-11	Inverter Module Radiator Temperature	0°C~120°C	0	●
FF-13	Accumulative Power Consumption	0°C~65535°C	0°C	●
FF-14	Accumulative Running Time	0h~65535h	0h	●
FF-15	Accumulative Power-on Time	0h~65535h	0h	●

A0 Motor 1 Torque Control .				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
A0-00	Speed / Torque Control Mode Selection	0: Speed control 1: Torque control	0	⊙
A0-01	Torque Setting Source Selection under the Torque Control Mode	0: Digital setting (A0-02) 1: AI1 2: AI2 3: Reserved 4: PULSE 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) 8: Reserved (the full scale of option 1~7 corresponding digital setting of A0-02)	0	⊙
A0-02	Torque Digital Setting under the Torque Control Mode	-200.0%~200%	100.0%	○
A0-03	Max Frequency Source Selection under the Torque Control Forward	0: Digital setting (A0-04) 1: AI1 2: AI2 3: Reserved 4: PULSE 5: Communication setting 6: Reserved	0	⊙
A0-04	Max Frequency Digital Setting under the Torque Control Forward	0.00Hz~max frequency	50.00Hz	○
A0-05	Max Frequency Source Selection under the Torque Control Reverse	0: Digital setting (A0-06) 1: AI1 2: AI2 3: Reserved 4: PULSE 5: Communication setting 6: Reserved	0	⊙
A0-06	Max Frequency Digital Setting under the Torque Control Reverse	0.00Hz~max frequency	50.00Hz	○
A0-07	Torque Control Acceleration	0.00s~650.00s	0.00s	○

	Time			
A0-08	Torque Control Deceleration Time	0.00s~650.00s	0.00s	○
A0-09	Starting Torque Setting	0.0%~100.0%	0.00%	○
A0-10	Torque Rigidity Adjustment	10~64	64	○
A0-11	Low Frequency Torque Compensation Amount	0.0%~50.0%	0.0%	○
A0-12	Low Frequency Torque Compensation Frequency Upper Limit	0.00Hz~Max frequency	10.00Hz	○
A0-13	High Frequency Torque Compensation Amount	0.0%~50.0%	0.0%	○
A0-14	High Frequency Torque Compensation Frequency Lower Limit	0.00Hz~Max frequency	40.00Hz	○
A0-15	Disconnection Detection Time	0.0: Disconnection detection is invalid 0.1~60.0s	0.0	○
A0-16	Emergency Stop Automatic Torque	0.0%~100.0%	50.0%	○
A0-17	Acceleration and Deceleration Compensation Torque	0.0%~100.0%	1.0%	○
A1 Optimize Control Parameter				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property

A1-00	Carrier Frequency	0.5kHz~12.0kHz	Model dependent	○
A1-01	Carrier Frequency Adjustment with the Temperature	0: No 1: Yes	1	○
A1-02	DPWM Switching Frequency Upper Limit	0.00Hz~15.00Hz	8.00Hz	○
A1-03	PWM Modulation Mode	LED unit's digit: 0: Asynchronous modulation 1: Synchronous modulation LED ten's digit: 0: Two phase modulation 1: Three phase modulation	00	◎
A1-04	Dead Zone Compensation Mode Selection	0: Disabled 1: Enabled	1	○
A1-05	Random PWM Depth	0: Random PWM invalid 1~10: PWM carrier frequency random depth	0	○
A1-06	Rapid Current Limiting Enable	0: Disabled 1: Enabled	1	○
A1-07	Maximum Output Voltage Adjustment Coefficient	90~120	100	○
A1-08	SVC Mode Selection	0: SVC mode 0 1: SVC mode 1	0	○
A1-09	Dead Zone Time Adjustment	100%~200%	150%	○
A1-10	Droop Control	0.00Hz~20.00Hz	0.00Hz	○
A1-11	Cooling Fan Control	0: Fan operation in runtime 1: Fan is always running	0	○
A1-12	Torque Current Calibration Reference Selection	0: Rated current of the frequency inverter 1: Motor rated torque current	0	○
A1-13	Low Frequency Carrier Limit Mode	0: Limit mode 1 1: Limit mode 2 2: Not Limit	0	○

A1-14	Desaturation Coefficient	0.700~5.000	1.100	○
A1-15	Power Generation Compensation Coefficient	0~3	0	○
A1-16	Single Phase and Three Phase Motor Selection	0: Three phase motor 1: Single phase motor	0	◎
A1-17	U Phase Voltage Coefficient	0.000~5.000	1.000	○
A1-18	W Phase Voltage Coefficient	0.000~5.000	1.000	○
A1-19	V Phase Voltage Coefficient (Public end)	0.000~5.000	0.813	○
A1-20	Excitation Current Compensation Gain	0~5000	200	○
A1-21	Torque Current Compensation Gain	0~5000	500	○
A1-22	Starting Response Gain	0~1000	500	○
A1-23	Effective of Droop Control	0: The whole process is effective 1: The deceleration process is effective	0	○
A1-24	Weak Magnetic Mode	0~1	1	◎
A2 Motor 2 Parameters				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
A2-00	Motor Type Selection	0: Common Asynchronous motor 1: Frequency conversion asynchronous motor	1	◎
A2-01	Rated Motor Power	0.1kW~1000.0kW	Model dependent	◎
A2-02	Rated Motor Voltage	1V~2000V	Model dependent	◎
A2-03	Rated Motor	0.01A~655.35A	Model	◎

	Current	(Inverter power≤55kW) 0.1A~6553.5A (Inverter power>55kW)	dependent	
A2-04	Rated Motor Frequency	0.01Hz~max frequency	Model dependent	⊙
A2-05	Rated Motor Rotate Speed	1rpm~65535rpm	Model dependent	⊙
A2-06	Asynchronous Motor Stator Resistance	0.001Ω~65.535Ω (Inverter power≤55kW) 0.0001Ω~6.5535Ω (Inverter power>55kW)	Tune parameter	⊙
A2-07	Asynchronous Motor Rotor Resistance	0.001Ω~65.535Ω (Inverter power≤55kW) 0.0001Ω~6.5535Ω (Inverter power>55kW)	Tune parameter	⊙
A2-08	Asynchronous Motor Leakage Inductive Reactance	0.01mH~655.35mH (Inverter power≤55kW) 0.001mH~65.535mH (Inverter power>55kW)	Tune parameter	⊙
A2-09	Asynchronous Motor Interaction Inductive Reactance	0.1mH~6553.5mH (Inverter power≤55kW) 0.01mH~655.35mH (Inverter power>55kW)	Tune parameter	⊙
A2-10	Asynchronous Motor No-load Current	0.01A~ A2-03 (Inverter power≤55kW) 0.1A~A2-03 (Inverter power>55kW)	Tune parameter	⊙
A2-11~15	Reserved			
A2-16	Rated Power Factor of Asynchronous Motor	0.001~1.000	0.850	⊙
A2-17	Encode Line Number	1~65535	1024	⊙
A2-18	Encoder Type	0: ABZ incremental encoder 2: Resolver	0	⊙
A2-19	Reserved			
A2-20	Encoder Phase Sequence	0: Forward 1: Reverse	0	⊙
A2-21	Encoder Installation Angle	0.0~359.90	0.00	⊙
A2-24	Number of Pole Pairs of Resolver	1~1000	1	⊙

A2-25	Speed Feedback PG Disconnection Detection Time (reserved)	0.0: No action 0.1s~10.0s	0.0	⊙
A2-26	Motor Parameter Identification	0: No action 1: Static part identification 2: Dynamic complete identification 3: Static complete identification	0	⊙
A3 Motor 2 Vector Control Parameters				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
A3-00	Speed Loop Proportion Gain 1	1~100	30	○
A3-01	Speed Loop Integral Time 1	0.01s~10.00s	0.50s	○
A3-02	Switching Frequency 1	0.00Hz~A3-05	5.00Hz	○
A3-03	Speed Loop Proportion Gain 2	1~100	20	○
A3-04	Speed Loop Integral Time 2	0.01s~10.00s	1.00s	○
A3-05	Switching Frequency 2	A3-02~max frequency	10.00Hz	○
A3-06	Vector Slip Gain	0%~200%	100%	○
A3-07	SVC Speed Filter Time	0.000s~0.100s	0.015s	○
A3-09	Motor Torque Upper Limit Source	0: Encode A3-10 setting 1: AI1 2: AI2 3: Reserved 4: PULSE setting 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) The full scale of options 1~7 corresponding to the A3-10	0	○
A3-10	Digital Setting for Motor Torque Upper Limit	0%~300.0%	150.0%	○
A3-11	Generator	0: Encode A3-12 setting	0	○

	Torque Upper Limit Source	1: AI1 2: AI2 3: Reserved 4: PULSE setting 5: Communication setting 6: MIN (AI1, AI2) 7: MAX (AI1, AI2) The full scale of options 1~7 corresponding to the A3-12		
A3-12	Digital Setting for Generator Torque Upper Limit	0%~200.0%	150.0%	○
A3-13	Excitation Regulation Proportion Gain	0~60000	2000	○
A3-14	Excitation Regulation Integral Gain	0~60000	1300	○
A3-15	Torque Regulation Proportion Gain	0~60000	2000	○
A3-16	Torque Regulation Integral Gain	0~60000	1300	○
A3-17	Speed Loop Integral Separation Enable	0: Disabled 1: Enabled	0	○
A3-18	Low Frequency Slip Coefficient	0.01~2.00	1.00	○
A3-19	Low Frequency Torque Boost	LED ten's digit and unit's digit: boost method 1 (0~39) LED thousand's digit and hundred's digit: boost method 2 (0~49)	0000	○
A3-20	Low Frequency Cutoff Frequency	0.00~max frequency	5.00Hz	○
A3-21	Flux Adjustment Gain	0.1~8.0	2.0	○
A4 Motor 2 V/F Control Parameters				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
A4-00	V/F Curve Setting	0: Straight line V/F	0	◎

		1: Multipoint V/F 2: Square V/F 3: 1.2#power V/F 4: 1.4#power V/F 5: 1.6#power V/F 6: 1.8#power V/F 7: VF complete separation mode 8: VF half separation mode		
A4-01	Torque Boost Mode	0: Automatic boost mode 1 1: Manual boost 2: Automatic boost mode 2	2	◎
A4-02	Manual Torque Boost	0.0%~30.0%	Model dependent	○
A4-03	Manual Torque Boost Cutoff Frequency	0.00Hz~max frequency	50.00Hz	◎
A4-04	MS VF Frequency Point 1	0.00Hz~A4-06	0.00Hz	◎
A4-05	MS VF Voltage Point 1	0.0%~100.0%	0.0%	◎
A4-06	MS VF Frequency Point 2	A4-04~A4-08	0.00Hz	◎
A4-07	MS VF Voltage Point 2	0.0%~100.0%	0.0%	◎
A4-08	MS VF Frequency Point 3	A4-06~Rated motor frequency (A2-04)	0.00Hz	◎
A4-09	MS VF Voltage Point 3	0.0%~100.0%	0.0%	◎
A4-10	VF Slip Compensation Gain	0.0%~200.0%	0.0%	○
A4-12	VF Oscillation Suppression Gain	0~100	30	○
A4-14	Voltage Source for VF Separation	0: Digital setting (A4-15) 1: AI1 2: AI2 3: Reserve 4: PULSE setting 5: MS instruction 6: Simple PLC	0	○

		7: PID 8: Communication setting Remark: 100% corresponding rated motor voltage		
A4-15	Voltage Digital Setting for VF Separation	0V~rated motor voltage	0V	○
A4-16	Voltage Rise Time of VF Separation	0.0s~1000.0s Remark: Indication the time from 0V to the rated voltage of the motor	5.0s	○
A4-17	Voltage Fall Time of VF Separation	0.0s~1000.0s Remark: Indication the time when the rated voltage of the motor changes to 0V	5.0s	○
A4-18	VF Completely Separated Stop Mode	0: Frequency and voltage are independently reduced to 0 1: The frequency is reduced after the voltage is reduced to 0	0	◎
A4-19	VF Slip Filter Time	0.1~5.0s	0.1s	○
A4-20	VF Slip Compensation Delay	0.00~5.00s	0.20s	○
A4-21	VF Automatic Torque Boost Delay	0.1~5.0s	1.0s	○
A4-22	VF Automatic Torque Boost Coefficient	0.0%~50.0%	0.0%	○
b0 User Customize Function Code				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
b0-00	User Code 0		F0.00	○
b0-01	User Code 1		F0.01	○
b0-02	User Code 2		F0.02	○
b0-03	User Code 3		F0.09	○
b0-04	User Code 4		F0.18	○
b0-05	User Code 5		F0.19	○
b0-06	User Code 6		F4.00	○
b0-07	User Code 7		F4.01	○

b0-08	User Code 8		F5.01	○
b0-09	User Code 9		F5.02	○
b0-10	User Code 10		F5.03	○
b0-11	User Code 11		F6.02	○
b0-12	User Code 12		F6.03	○
b0-13	User Code 13		FF.06	○
b0-14	User Code 14		FF.06	○
b0-15	User Code 15		FF.06	○
b0-16	User Code 16		FF.06	○
b0-17	User Code 17		FF.06	○
b0-18	User Code 18		FF.06	○
b0-19	User Code 19		FF.06	○
b0-20	User Code 20		FF.06	○
b0-21	User Code 21		FF.06	○
b0-22	User Code 22		FF.06	○
b0-23	User Code 23		FF.06	○
b0-24	User Code 24		FF.06	○
b0-25	User Code 25		FF.06	○
b0-26	User Code 26		FF.06	○
b0-27	User Code 27		FF.06	○
b0-28	User Code 28		FF.06	○
b0-29	User Code 29		FF.06	○
b0-30	User Code 30		FF.06	○
b0-31	User Code 31		FF.06	○
b1 Virtual IO				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
b1-00	Virtual VDI1 Terminal Function Selection	0~59	0	◎
b1-01	Virtual VDI2 Terminal Function	0~59	0	◎

	Selection			
b1-02	Virtual VDI3 Terminal Function Selection	0~59	0	⊙
b1-03	Virtual VDI4 Terminal Function Selection	0~59	0	⊙
b1-04	Virtual VDI5 Terminal Function Selection	0~59	0	⊙
b1-05	Virtual VDI Terminal State Setting Mode	Unit's digit: virtual VDI1 0: The status of VDO1 determines whether it is valid 1: Set by the unit's digit of b1-06 Ten's digit: virtual VDI2 0: The status of VDO2 determines whether it is valid 1: Set by the unit's digit of b1-06 Hundred's digit: virtual VDI3 0: The status of VDO3 determines whether it is valid 1: Set by the unit's digit of b1-06 Thousand's digit: virtual VDI4 0: The status of VDO4 determines whether it is valid 1: Set by the unit's digit of b1-06 Ten thousand's digit: virtual VDI5 0: The status of VDO5 determines whether it is valid 1: Set by the unit's digit of b1-06	00000	⊙
b1-06	Virtual VDI Terminal state setting	0: Disabled 1: Enabled Unit's digit: virtual VDI1 Ten's digit: virtual VDI2 Hundred's digit: virtual VDI3 Thousand's digit: virtual VDI4 Ten thousand's digit: virtual VDI5	00000	○
b1-07	Function Selection when AI1 Terminal as DI	0~59	0	⊙
b1-08	Function Selection when AI2 Terminal as	0~59	0	⊙

	DI			
b1-09	Reserved			
b1-10	Effective Mode Selection when AI1 Terminal as DI	0: High electrical level enable 1: Low electrical level enable Unit's digit: AI1 Ten's digit: AI2 Hundred's digit: Reserved	000	⊙
b1-11	Virtual VDO1 Output Function Selection	0: Determined by physical DI1 status 1~41: See F6 group physical DO output selection	0	○
b1-12	Virtual VDO2 Output Function Selection	0: Determined by physical DI2 status 1~41: See F6 group physical DO output selection	0	○
b1-13	Virtual VDO3 Output Function Selection	0: Determined by physical DI3 status 1~41: See F6 group physical DO output selection	0	○
b1-14	Virtual VDO4 Output Function Selection	0: Determined by physical DI4 status 1~41: See F6 group physical DO output selection	0	○
b1-15	Virtual VDO5 Output Function Selection	0: Determined by physical DI5 status 1~41: See F6 group physical DO output selection	0	○
b1-16	VDO1 Closing Delay	0.0s~3600.0s	0.0s	○
b1-17	VDO2 Closing Delay	0.0s~3600.0s	0.0s	○
b1-18	VDO3 Closing Delay	0.0s~3600.0s	0.0s	○
b1-19	VDO4 Closing Delay	0.0s~3600.0s	0.0s	○
b1-20	VDO5 Closing Delay	0.0s~3600.0s	0.0s	○
b1-21	VDO Output Terminal Effective State Selection	0: Positive logic 1: Anti-logic Unit's digit: VDO1 Ten's digit: VDO2 Hundred's digit: VDO3 Thousand's digit: VDO4 Ten thousand's digit: VDO5	00000	○
b1-22	VDO1 Disconnection	0.0s~3600.0s	0.0s	○

	Delay			
b1-23	VDO2 Disconnection Delay	0.0s~3600.0s	0.0s	○
b1-24	VDO3 Disconnection Delay	0.0s~3600.0s	0.0s	○
b1-25	VDO4 Disconnection Delay	0.0s~3600.0s	0.0s	○
b1-26	VDO5 Disconnection Delay	0.0s~3600.0s	0.0s	○
b2 AI Curve Setting				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
b2-00	AI Curve 4 Min Input	-10.00V~b2-02	0.00V	○
b2-01	Corresponding Setting of AI Curve 4 Min Input	-100.0%~+100.0%	0.0%	○
b2-02	AI Curve 4 Inflection Point 1 Input	b2-00~b2-04	3.00V	○
b2-03	Corresponding Setting of AI Curve 4 Inflection Point 1 Input	-100.0%~+100.0%	30.0%	○
b2-04	AI Curve 4 Inflection Point 2 Input	b2-00~b2-06	6.00V	○
b2-05	Corresponding Setting of AI Curve 4 Inflection Point 2 Input	-100.0%~+100.0%	60.0%	○
b2-06	AI Curve 4 Max Input	b2-06~+10.00V	10.00V	○
b2-07	Corresponding Setting of AI Curve 4 Max Input	-100.0%~+100.0%	100.0%	○

b2-08	AI Curve 5 Min Input	-10.00V~b2-10	-10.00V	○
b2-09	Corresponding Setting of AI Curve 5 Min Input	-100.0%~+100.0%	-100.0%	○
b2-10	AI Curve 5 Inflection Point 1 Input	b2-08~b2-12	-3.00V	○
b2-11	Corresponding Setting of AI Curve 5 Inflection Point 1 Input	-100.0%~+100.0%	-30.0%	○
b2-12	AI Curve 5 Inflection Point 2 Input	b2-10~b2-14	3.00V	○
b2-13	Corresponding Setting of AI Curve 5 Inflection Point 2 Input	-100.0%~+100.0%	30.0%	○
b2-14	AI Curve 5 Max Input	b2-12~+10.00V	10.00V	○
b2-15	Corresponding Setting of AI Curve 5 Max Input	-100.0%~+100.0%	100.0%	○
b2-16	AI Curve 1 Set Jump Point	-100.0%~100.0%	0.0%	○
b2-17	AI Curve 1 Set Jump Amplitude	0.0%~100.0%	0.5%	○
b2-18	AI Curve 2 Set Jump Point	-100.0%~100.0%	0.0%	○
b2-19	AI Curve 2 Set Jump Amplitude	0.0%~100.0%	0.5%	○
b2-20	AI Curve 3 Set Jump Point	-100.0%~100.0%	0.0%	○
b2-21	AI Curve 3 Set Jump Amplitude	0.0%~100.0%	0.5%	○
b3 AIAO Correction				
Function Code	Parameter Name	Setting Range	Factory Default Value	Property
b3-00	AI1 Measured	0.500V~4.000V	Factory	○

	Voltage 1		Correction	
b3-01	AI1 Displayed Voltage 1	0.500V~4.000V	Factory Correction	○
b3-02	AI1 Measured Voltage 2	6.000V~9.999V	Factory Correction	○
b3-03	AI1 Displayed Voltage 2	6.000V~9.999V	Factory Correction	○
b3-04	AI2 Measured Voltage 1	0.500V~4.000V	Factory Correction	○
b3-05	AI2 Displayed Voltage 1	0.500V~4.000V	Factory Correction	○
b3-06	AI2 Measured Voltage 2	6.000V~9.999V	Factory Correction	○
b3-07	AI2 Displayed Voltage 2	6.000V~9.999V	Factory Correction	○
b3-08	Reserved			
b3-09	Reserved			
b3-10	Reserved			
b3-11	Reserved			
b3-12	AO1 Target Voltage 1	0.500V~4.000V	Factory Correction	○
b3-13	AO1 Measured Voltage 1	0.500V~4.000V	Factory Correction	○
b3-14	AO1 Target Voltage 2	6.000V~9.999V	Factory Correction	○
b3-15	AO1 Measured Voltage 2	6.000V~9.999V	Factory Correction	○
b3-16	AO2 Target Voltage 1	0.500V~4.000V	Factory Correction	○
b3-17	AO2 Measured Voltage 1	0.500V~4.000V	Factory Correction	○
b3-18	AO2 Target Voltage 2	6.000V~9.999V	Factory Correction	○
b3-19	AO2 Measured Voltage 2	6.000V~9.999V	Factory Correction	○
b3-20	AI2 Current Correction Factor	0.0~200.0%	Factory Correction	○
b3-21	Reserved			

b3-22	AO1 Current Correction Factor	0.0~200.0%	Factory Correction	○
b3-23	AO2 Current Correction Factor	0.0~200.0%	Factory Correction	○
b3-24	PT Measured Voltage 1	0.200V~1.800V	Factory Correction	○
b3-25	PT Display Voltage 1	0.200V~1.800V	Factory Correction	○
b3-26	PT Measured Voltage 2	2.000V~4.000V	Factory Correction	○
b3-27	PT Display Voltage 2	2.000V~4.000V	Factory Correction	○
b3-28	Correction Selection	0: No operation 1: Auto correction 2: Reset	0	○
b3-29	Motor Temperature Compensation	-120~120° c	0	○
U0 Basic Monitoring Parameters				
U0-00	Running Frequency (Hz)	0.01Hz		
U0-01	Setting Frequency (Hz)	0.01Hz		
U0-02	Bus Voltage (V)	0.1V		
U0-03	Output Voltage (V)	1V		
U0-04	Output Current (A)	0.01A		
U0-05	Output Power (kW)	0.1kW		
U0-06	Output Torque (%)	0.1%		
U0-07	DI Input State	1		
U0-08	DO Output State	1		
U0-09	AI1 Voltage (V)	0.01V		
U0-10	AI2 Voltage (V)	0.01V		
U0-11	Reserved			
U0-12	Count Value	1		
U0-13	Length Value	1		
U0-14	Load Speed Display	1		
U0-15	PID Setting	1		
U0-16	PID Feedback	1		

U0-17	PLC Stage	1
U0-18	Input PULSE Frequency (Hz)	0.01 kHz
U0-19	Feedback Speed (Hz, signed)	0.1Hz
U0-20	Setting Torque	0.1%
U0-21	AI1 Voltage before Correction	0.001V
U0-22	AI2 Voltage before Correction	0.001V
U0-23	Running speed	1RPM
U0-24	Line Speed	1m/Min
U0-25	Current Power on Time	1Min
U0-26	Current Running Time	0.1Min
U0-27	PULSE Input Frequency	1Hz
U0-28	Communication Setting Value	0.01%
U0-29	Encoder Feedback Speed (Hz, signed)	0.01Hz
U0-30	Main Frequency A display	0.01Hz
U0-31	Auxiliary Frequency B Display	0.01Hz
U0-32	View the Value of Any Memory Address	1
U0-34	Motor Temperature	1
U0-35	Surplus Running Time	0.1Min
U0-36	Resolve Position	1
U0-37	Power Factor Angle	0.1°
U0-38	ABZ Position	1
U0-39	VF Separation Target Voltage	1V
U0-40	VF Separation Output Voltage	1V
U0-41	DI Input Status Visual Display	1
U0-42	DO Input Status Visual Display	1
U0-43	DI Function Status Visual Display 1 (Function 01~40)	1
U0-44	DI Function Status Visual Display 2 (Function 41~80)	1
U0-45	Current Fault Status	1
U0-46	Torque Compensation Amount	0.1%
U0-47	PT Voltage (V)	0.01V

U0-48	Voltage before PT Correction (V)	0.001V
U0-62	PT voltage (V)	0.01V
U0-63	Voltage before PT correction (V)	0.001V
Oscilloscope monitoring parameters		
U0-80	Running frequency (Hz, signed)	0.1Hz
U0-81	Set frequency (Hz, signed)	0.1Hz
U0-82	Bus voltage (V)	0.1V
U0-83	Output voltage (V)	1V
U0-84	Output current (A)	0.01A
U0-85	Output power (kW, signed)	0.1kW
U0-86	Output torque (% , signed)	0.1%
U0-87	DI input status (hex)	1
U0-88	DO output status (hex)	1
U0-89	AI1 voltage (V, signed)	0.01V
U0-90	AI2 voltage (V, signed)	0.01V
U0-91	Custom variable (signed)	1

Chapter 6 Fault Shooting and Solutions

6.1 Fault Alarm and Countermeasures

VD60 inverter has warning information and fault protection function. In case of abnormal fault, the inverter error relay contactor will be in action, before user seeking for help, please do self-inspection according to this chapter to analyze causes and find out solution. If user cannot solve problem by himself, seeking for help or directly contact your local dealer or our company.

VD60 inverter during running process or powered on, if fault occurred, on the display of panel of inverter will show error code. At the moment inverter already have protection effectively to the fault, output terminal stopped output, the display panel has indicating current error with 2~5 code.

Inverter keypad displayer has showing error code when in error, the code content and corrective action as below table.

Code	Error type	Possible cause of failure	Solution
Err.01	Acceleration overcurrent (hardware)	1. Acceleration time is too short 2. Motor parameter is not correct 3. Grid voltage is too low 4. Inverter power is too small 5. V/F curve inappropriate 6. Inverse module short circuit protection	1. Extend acceleration time 2. Self-tuning to motor parameter 3. Check grid input power 4. Choose a frequency inverter with a large power rating 5. Adjust V/F curve setting, adjust manual torque boost 6. Inverter module or drive circuit damage
Err.02	Deceleration overcurrent (hardware)	1. Deceleration time is too short 2. Large load inertia torque 3. Inverter power is too small 4. Inverse module short circuit protection	1. Extend deceleration time 2. Add external energy consumption braking unit 3. Choose a frequency inverter with a large power rating 4. Inverse module or drive circuit damage
Err.03	Constant speed overcurrent (hardware)	1. Load with sudden change or abnormal 2. Grid voltage is too low 3. Inverter power is too small 4. Inverse module short circuit protection	1. Check the load or reduce the sudden change of the load 2. Check grid input power 3. Choose a frequency inverter with a large power rating 4. Inverse module or drive circuit damage
Err.04	Acceleration overcurrent (software)	1. Acceleration time is too short 2. Motor parameter is not correct 3. Grid voltage is too low 4. Inverter power is too small 5. V/F curve inappropriate	1. Extend acceleration time 2. Self-tuning to motor parameter 3. Check grid input power 4. Choose a frequency inverter with a large power rating 5. Adjust V/F curve setting, adjust manual torque boost

Err.05	Deceleration overcurrent (software)	1. Deceleration time is too short 2. Load inertia torque is too big 3. Inverter power is too small	1. Extend deceleration time 2. Add suitable energy consumption braking components 3. Choose a frequency inverter with a large power rating
Err.06	Constant speed overcurrent (software)	1. Load with sudden change or abnormal 2. Grid voltage is too low 3. Inverter power is too small	1. Check the load or reduce the sudden change of the load 2. Check grid input power 3. Choose a frequency inverter with a large power rating
Err.07	Acceleration overvoltage	1. The inverter output circuits exist grounding short circuit 2. The control model is vector and has no parameter identification 3. Low voltage 4. Whether there is a sudden load in running 5. The inverter selection is too small	1. Eliminate outside faults 2. Doing motor parameter identification 3. Set the voltage to normal range 4. Cancel the sudden load 5. Choose a frequency inverter with a large power rating
Err.08	Deceleration overvoltage	1. High input voltage 2. In the process of acceleration, there is an extant force to drive the motor running 3. Acceleration time is too short 4. No installation brake unit and brake resistor	1. Set the voltage to the normal range 2. Cancel the external power or installation brake resistance 3. Increase the acceleration time 4. Installation brake unit and resistor
Err.09	Constant speed overvoltage	1. High input voltage 2. In the process of deceleration, there is an extant force to drive the motor running 3. Deceleration time is too short 4. No installation brake unit and brake resistor	1. Set the voltage to the normal range 2. Cancel the external power or installation brake resistance 3. Increase the deceleration time 4. Installation brake unit and resistor
Err.10	Undervoltage	1. Instantaneous power failure 2. The voltage of the inverter input is not in the scope of the specification requirements 3. Bus voltage is not normal 4. Rectifier bridge and buffer resistance is not normal 5. Driven board abnormal 6. Control panel abnormal	1. Reset fault 2. Adjust the voltage to normal range 3. Seeking technical support 4. Seeking technical support 5. Seeking technical support 6. Seeking technical support

Err.11	Motor overload	1. Is the motor protection parameter F8-01 set properly 2. Whether the load is too large or motor blocked 3. The inverter selection is too small	1. Three-phase input power is not normal 2. Drive board abnormal 3. Lightning protection plate abnormal 4. Main control board abnormal
Err.12	Inverter overload	1. Whether the load is too large or motor blocked 2. The inverter selection is too small	1. Reduce the load and check the motor and mechanical conditions 2. Choose a frequency inverter with a large power rating
Err.13	Input side phase loss	1. Three-phase input power is not normal 2. Drive board abnormal 3. Lightning protection plate abnormal 4. Main control board abnormal	1. Check and eliminate the problems existing in the peripheral circuit 2. Seeking technical support 3. Seeking technical support 4. Seeking technical support
Err.14	Output side phase loss	1. The lead of inverter to motor is not normal 2. Inverter three-phase output imbalance when motor running 3. Driven board abnormal 4. Module abnormal	1. Eliminate peripheral failure 2. Check whether the three-phase winding of the motor is normal and eliminate the fault 3. Seeking technical support 4. Seeking technical support
Err.15	Module overheat	1. Environment temperature is too high 2. Air duct blockage 3. Fan damage 4. Module thermal resistance damage 5. Inverter module damage	1. Reduce the environmental temperature 2. Clean air duct 3. Replace the fan 4. Replace the thermal resistance 5. Replace the inverter module
Err.16	Current fault overrun fault during operation	1. The current exceeding limit is set too small	1. Please check the settings of FB-27~ FB-28 and F2-03
Err.17	External fault	1. Through the multi-function terminal DI input external fault signal 2. Input external fault signal through virtual IO function	1. Reset running 2. Reset running
Err.18	Communication fault	1. The PC work is not work 2. Communication line is not normal 3. Communication expansion card F0-23 set is incorrectly set 4. Communication parameter Fd group is incorrectly set	1. Check the PC connection line 2. Check the communication connection line 3. Correctly set up communication expansion card type 4. Correctly set communication parameters

Err.19	Current detection abnormal	1. Check the hall device abnormal 2. Driver board abnormal	1. Replace the hall device 2. Replace the driver board
Err.20	Motor self-learning abnormal	1. The motor parameters not set according to the nameplate 2. The parameter identification process timeout	1. Correctly set motor parameters according to the nameplate 2. Check the inverter to motor lead
Err.21	EEPROM write-read abnormal	1. EEPROM chip damage	1. Replace main control board
Err.22	Disconnection detection fault	1. Output disconnection 2. The upper limit frequency setting is too small of A0-21 setting time is too short 3. When do not need to disconnection detection, A0-21 set nonzero value, and the actual output frequency reaches the upper limit frequency	1. Rewing 2. Amplify the upper limit frequency or set a reasonable value in A0-21 3. Set A0-21 to zero
Err.23	PID feedback loss when running	1. PID feedback less than FA-26 set value	1. Check the PID feedback signal or set the FA-26 to an appropriate value
Err.24	Motor short circuit to ground	1. Motor short circuit to ground	1. Replace the cable or motor
Err.27	Running time reached	1. Accumulative running time reach to set value	1. Using parameter initialization function to clear the record information
Err.28	Power on time reached	1. Accumulative power on time reach to set value	1. Using parameter initialization function to clear the record information
Err.29	Buffer contactor overheating	1. Power grid voltage fluctuation range is too large, cause the inverter repeatedly up and down, buffer contactor overheating	1. Adding input reactor and other measures to ensure the stability of input voltage
Err.32	Encoder reverse fault	1. Encoder sequence is opposite to the motor running direction	1. Change the encoder phase sequence or swap any two phases of the three-phase motor line
Err.35	User self-define fault 1	1. Through the multi-function terminal DI input the signal of user-defined fault 1 2. Through the virtual IO function input the signal of	1. Reset running 2. Reset running

		user-defined fault 1	
Err.36	User self-define fault 2	1. Through the multi-function terminal DI input the signal of user-defined fault 2 2. Through the virtual IO function input the signal of user-defined fault 2	1. Reset running 2. Reset running
Err.37	Offload	1. The inverter running current is less than F8-16	1. Confirm whether the load is out of or F8-16, F8-17 parameter settings are consistent with the actual running condition
Err.38	Rapid current-limiting timeout	1. Whether the load is too large or motor blocked 2. The inverter selection is too small	1. Reduce the load and check the motor and mechanical conditions 2. Choose a frequency inverter with a large power rating
Err.39	Switch motor when running	1. In the process of inverter running through the terminal to change the current motor selection	1. Switch motor operation after inverter stop
Err.40	Speed deviation is too lager	1. The encoder parameter setting is incorrect 2. No parameter identification 3. The speed deviation is too large, and the detection parameters F8-22 and F8-23 are not setting reasonably	1. Set the encoder parameters correctly 2. Doing motor parameter identification 3. Set the detection parameters reasonably according to the actual situation
Err.41	Motor Overspeed	1. The encoder parameter setting is incorrect 2. No parameter identification 3. The speed deviation is too large, and the detection parameters F8-20 and F8-21 are not setting reasonably	1. Set the encoder parameters correctly 2. Doing motor parameter identification 3. Set the detection parameters reasonably according to the actual situation
Err.43	Manufacturer self-define fault		1. Seeking service
Err.90	Keypad communication failure	1. Poor contact of keypad interface 2. Keypad damage	1. Re-plug the interface 2. Seeking service

6.2 Common Faults and Solutions

No	Failure phenomenon	Possible cause of failure	Solution
1	No display after power	Have no grid voltage or too low	Check input power

No	Failure phenomenon	Possible cause of failure	Solution
	on	The switching power supply circuit on the drive board of the inverter is faulty	Check bus voltage
		The connection between the control board and the drive board and keypad is broken	Re-plug the 26/34PIN soft flat cable and 8PIN network cable
		The inverter buffer resistance is damaged	Seek factory service
		Control board, keypad failure	
		The rectifier bridge is damaged	
2	Power-on circuit breaker tripped	Inverter input power line short circuited or leakage to the ground	Check the input power line
		The rectifier bridge is damaged	Seek factory service
3	Power on display "ERR.24"	Motor and motor cable shorted to ground	Measure the insulation of the motor and the motor cable with a shaker
		Inverter damaged	Seek factory service
4	Power on display "ERR.13"	Inverter input power line is loose	Check whether the wiring of the inverter power supply terminal and circuit breaker is loose; Check whether the wiring terminals of the electric control cabinet are loose;
		Inverter damaged	Seek factory service
5	The motor does not rotate after the inverter is running	Mechanical equipment	Check whether the mechanical equipment is blocked
		Motor and motor wire	Reconfirm that the connection between the inverter and the motor is correct
		Poor connection between the drive board and the control board	Re-plug the cable, make sure the cable is firm
		Drive board failure	Seek factory service
		Inverter parameter setting error	Restore factory parameter, reset application parameter; If the motor is connected to an encoder, check that motor's rated frequency, rated speed and encoder parameter setting are correct; Check that the parameters of F0-00(control mode) and F0-01(running mode) are set correctly

No	Failure phenomenon	Possible cause of failure	Solution
6	Frequency inverter frequently reports "ERR.15" fault	The carrier frequency is set to high	Reduce carrier frequency (A1-00)
		The fan is damaged or air duct is blocked	Replace the fan, clear the air duct
		Inverter internal components of the inverter are damaged (temperature sensor or others)	Seek factory service
7	Frequency inverter frequently reports overcurrent or overvoltage faults	The motor parameter setting is incorrect	Reset motor parameter or doing motor parameter identification
		Inappropriate acceleration and deceleration time	Setting appropriate acceleration and deceleration time
		Load fluctuation	Seek factory service
8	DI terminal is invalid	Parameter setting error	Check and reset F5 group parameters
		External signal error	Reconnect the external signal line
		Expansion board DI dial code	Check DI dialing code to make sure the gear is correct
		Control board / expansion board failure	Seek factory service

Chapter 7 Daily Maintenance

Affected by ambient temperature, humidity, dust, vibration, and the aging of the internal components of the inverter, some potential problems may occur during the operation of the invertErr. In order to enable the inverter to run stably for a long time, the inverter must be inspected daily and regularly during use. Depending on the external environment of the inverter, regular maintenance must be carried out every 3-6 months in order to discover and deal with problems that are difficult to find in the daily inspection process.

7.1 Daily Inspection

In order to avoid damage to the inverter and shorten its service life, please check the following items daily.

Check Item	Check Content	Preventive Solution when Fault
Motor	Whether the motor has abnormal vibration and abnormal sound	- Confirm whether the mechanical connection is abnormal; - Confirm whether the motor lacks phase; - Confirm whether the motor fixing screws are firm.
Fan	Abnormal use of inverter and motor cooling fan	- Confirm whether the cooling fan of the inverter is running; - Confirm whether the cooling fan on the motor side is abnormal; - Confirm whether the ventilation channel is blocked; - Confirm whether the ambient temperature is within the allowable range.
Installation Temperature	Whether the electrical cabinet and cable trough are abnormal	- Confirm whether the cables in and out of the inverter have insulation damage; - Determine whether there is vibration in the mounting bracket; - Check whether the copper bars and connecting cable terminals are loose or corroded.
Load	Whether the running current of the inverter exceeds the inverter rating and the motor rating for a certain period of time	- Confirm whether the motor parameter settings are correct; - Confirm whether the motor is overloaded; - Confirm whether the mechanical vibration is too large (normally <1G).
Power Supply	Whether the input voltage meets the requirements and whether there is a lack of phase power supply phenomenon	- Confirm whether the voltage between any two phases of the input voltage is within the allowable range indicated on the nameplate; - Check whether there is a heavy load around it.

7.2 Periodic Inspection

Under normal circumstances, it is advisable to conduct regular inspections every 3 to 6 months. However, in actual situations, please determine the actual inspection cycle based on the usage and working environment of each machine.

Check Item	Check Content	Preventive Solution when Fault
Whole Machine	Whether there is garbage, dirt, dust accumulation on the surface	- Confirm whether the inverter cabinet is powered off; - Use a vacuum cleaner to remove garbage or dust to avoid touching the parts; - When the dirt on the surface cannot be removed, you can wipe it with alcohol and let it dry and volatilize completely.
Air Duct Vent	- Whether the air duct and heat sink are blocked; - Whether the fan is damaged.	- Sweep the air duct; - Replace the fan
Electrical Connections	- Whether there are any discoloration of wires and connection parts, and whether there are traces of damage, cracks, discoloration and aging in the insulation layer; - Whether the connecting terminals are worn, damaged or loose; - Grounding check.	- Replace the damaged cable; - Tighten loose terminals and replace damaged terminals; - Measure the ground resistance and tighten the corresponding ground terminal.
Peripheral of Electromagnetic Contactor	- Whether it sucks tightly or makes abnormal noise during the action; - Are there any peripheral devices that are short-circuited, contaminated by water, swelled, or broken	Replace abnormal components.
Motor	Whether the motor has abnormal vibration and abnormal noise	Tighten mechanical and electrical connections and lubricate the motor shaft.
Electrolytic Capacitor	Whether there is leakage, discoloration, cracking, and whether the safety valve leaks, swells, or ruptures.	Replace damaged parts
Printed Circuit Board	Whether there is peculiar smell, discoloration, severe rust, whether the connector is connected correctly and reliably	- Fastener connection; - Clean the printed circuit board; - Replace damaged printed circuit boards

Keypad	Whether the keypad is broken and display is incomplete	Replace damaged parts
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**CAUTION**

Do not perform related operations with the power on, otherwise there is a danger of electric shock and death. Please cut off the power when performing related operations and confirm that the main circuit DC voltage has dropped to a safe level. Wait 5 minutes before performing related operations.

7.3 Replacement of vulnerable parts of the inverter

Some components in the inverter will be worn or degraded during use. In order to ensure the stable and reliable operation of the inverter, preventive maintenance should be carried out on the inverter, and the components of the inverter should be replaced when necessary. The vulnerable parts of the frequency converter mainly include the cooling fan and the large-capacity electrolytic capacitor for filtering. The service life is closely related to the use environment and maintenance status.

**CAUTION**

- Generally, the cooling fan of the inverter should be replaced in 2~3 years;
- Under normal circumstances, the large-capacity electrolytic capacitor of the inverter should be replaced in 4~5 years;

7.4 Storage of the inverter

When the inverter is temporarily not used or stored for a long time after purchase, the following items should be noted:

**CAUTION**

- Avoid storing the inverter in a place with high temperature, humidity, vibration or metal dust, and ensure that the storage place is well ventilated;
- If the inverter has not been put into use for a long time, the characteristics of the internal filter capacitor will decrease;
- If the inverter is not used for a long time, it should be powered on once every two years to restore the characteristics of the large-capacity filter capacitor and check the function of the invertErr. When energizing, the voltage should be gradually increased through an autotransformer, and the power on time should not be less than 5 hours.

Appendix: Modbus Communication Protocol

Standard structure of RTU frame:

Frame header START	T1-T2-T3-T4 (3.5 Bits transmission time)
Slave address field ADDR	Communication address: 0~247(decimal) (0 as broadcast address)
Function field CMD	03H: read slave parameter 06H: write slave parameter
Data field DATA (N-1)...DATA (0)	2*N Bit data: this part is the main content of communication, also as the core of data exchange in communication
CRC CHK low Bit	Detect value: CRC verify value (16Bit)
CRC CHK high Bit	
Tail Frame END	T1-T2-T3-T4 (3.5 Bits transmission time)

Function code parameter address expression rules (the following addresses are all expressed in hexadecimal): The communication address is expressed by the function code group number and label: the high byte represents the function code group number, and the low byte represents the function code label. Corresponding value of function code group number:

Function Code Group	EEPROM Address (Readable and writable)	RAM Address (Just write)
F0--FF	F0--FF	00--0F
A0--AF	A0--AF	40--4F
B0--BF	B0--BF	50--5F
U0--UF	70--7F (Read only)	

For example: function code F3-12 is not stored in EEPROM, the address is expressed as 030C; when stored in EEPROM, the address is expressed as F30C. Function code A0-05 is not stored in EEPROM, the address is represented as 4005; when stored in EEPROM, the address is represented as A005.

Non-function code communication address:

Communication Address	Communication Content	Read and write attributes (R/W)	Communication Address	Communication Content	Read and write attributes (R/W)
1000	Communication setting value (-10000~10000) (Decimal)	R/W	2000	0001: Forward running	W
1001	Running frequency	R		0002: Reverse running	

1002	Bus voltage	R		0003: Forward jog	
1003	Output voltage	R		0004: Reverse jog	
1004	Output current	R		0005: Coast to stop	
1005	Output power	R		0006: Decelerate to stop	
1006	Output torque	R		0007: Fault reset	
1007	Running speed	R		0008: Emergency stop	
1008	DI input sign (please refer to Chapter 5 function parameter summary table U0-07)	R	2001	BIT0: DO2	W
1009	DO output sign (please refer to Chapter 5 function parameter summary table U0-08)	R		BIT1: DO5	
100A	AI1 voltage	R		BIT2: Relay T1	
100B	AI2 voltage	R		BIT3: Relay T2	
100C	AI3 voltage	R		BIT4: DO1	
100D	Count value input	R		BIT5: VDO1	
100E	Length value input	R		BIT6: VDO2	
100F	Load speed	R		BIT7: VDO3	
1010	PID setting	R		BIT8: VDO4	
1011	PID feedback	R		BIT9: VDO5	
1012	PLC step	R	2002	Analog AO1 (0-1000 means 0.0%-100.0%)	W
1013	PULSE input pulse frequency, unit 0.01kHz	R	2003	Analog AO2 (0-1000 means 0.0%-100.0%)	W
1014	Feedback speed, unit 0.1Hz	R	2004	High pulse speed DO1 (0-1000 means 0.0%-100.0%)	W
1015	Surplus running time	R	3000	0001: Forward running	R
1016	AI1 voltage before correction	R		0002: Reverse running	
1017	AI2 voltage before correction	R		0003: Stop	
1018	Running speed, unit	R	8000	Fault code (please refer to Chapter 5 function parameter summary	R

	1RPM			table F9-00)	
1019	Linear speed	R	8001	Communication fault function description 0000: No fault	R
101A	Current power on time	R		0001: Password error	
101B	Current running time	R		0002: Command code error	
101C	DI5 input pulse frequency, unit 1Hz	R		0003: CRC Check error	
101D	Communication setting value	R		0004: Invalid address	
101E	Actual feedback speed, unit 0.01Hz	R		0005: Invalid parameter	
101F	Main frequency A display	R		0006: Invalid parameter changer	
1020	Auxiliary frequency B display	R		0007: System is locked	
				0008: EEPROM operation	

Remark:

- For the data unit of the communication content, please refer to the "Display Unit" in the Basic Monitoring Parameters of Group U0 in Chapter 5 Function Parameter Summary Table.



Warranty Agreement

1. The warranty period of the product is 24 months from date of manufacturing. During the warranty period, if the product fails or is damaged under the condition of normal use by following the instructions, VicRuns will be responsible for free maintenance.
2. Within the warranty period, maintenance will be charged for the damages caused by the following reasons:
 - A. Improper use or repair/modification without prior permission;
 - B. Fire, flood, abnormal voltage, other disasters and secondary disaster;
 - C. Hardware damage caused by dropping or transportation after procurement;
 - D. Improper operation;
 - E. Trouble out of the equipment (for example, external device).
3. If there is any failure or damage to the product, please correctly fill out the Product Warranty Card in detail.
4. The maintenance fee is charged according to the latest Maintenance Price List of VicRuns.
5. The product Warranty Card is not re-issued. Please keep the card and present it to the maintenance personnel when asking for maintenance.
6. If there is any problem during the service, contact VicRuns's agent of VicRuns directly.
7. This agreement shall be interpreted by Hunan VicRuns Electric Technology Co., Ltd.

VicRuns Electric (Shenzhen) Co., Ltd.

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Tel: +86-731-55571777 Fax: +86-731-55573999

Email: oversea@VicRuns.com



Product Warranty Card

Customer Information	Address:	
	Company Name:	Contact Person:
	Postcode:	Tel of Email:
Product Information	Product Model:	
	Serial No:	
	Name of supplier who supplied you the unit:	
Failure Description (eg. Fault code)		
	Maintenance Personnel:	