

User Manual

1 Safety Precautions





Please read this manual carefully before transportation, installation, operation and maintenance of this product, and follow all safety precautions in this manual in any of the practices; if fail to do so, it may introduce the risk of personal injury (including the potential for death) or equipment damage. We will not be liable for any injuries and equipment damage caused by your or your customer's negligence and failure to follow our instructions.

1.1 Security information definition

- **Danger:** Failure to comply with relevant requirements may cause serious personal injury and even death.
- **Warning:** Failure to comply with relevant requirements may result in personal injury or equipment damage.
- **Notice:** Steps need to be taken to ensure correct operation.
- **Trained and qualified professionals:** The staff who have passed required professional electrical training and safety education to become familiar with the installation, commission, operation and maintenance of this equipment and the knowledge to avoid all kinds of emergency situations.

1.2 Warning signs

The warnings are used to warn the situations that may cause serious personal injury or equipment damage with suggestions to avoid said risk.The following warning signs are the ones used in this manual:

Sign	Name	Description
	Danger	Failure to comply with the relevant requirements will cause serious personal injury and even death.
	warning	Failure to comply with relevant requirements may lead to personal injury or equipment damage.
	Static sensitive	Failure to comply with relevant requirements may damage the PCBA board.
	High temperature	The base of the VFD generates high temperature. Do not touch that area.
NOTICE	NOTICE	Steps need to be taken to ensure correct operation.

1.3 Safety guidance

Only trained and qualified personnel are allowed to perform related operations.
Do not perform wiring, inspection, and replacement of components while the power is on.Before wiring and checking, first must ensure that all input power has been disconnected, and then wait at least 10 minutes or check if the DC bus voltage is lower than 36V.



Unauthorized modification of the VFD is strictly prohibited; otherwise it may cause fire, electric shock or injuries.



When the machine is running, the base of the radiator may generate high temperature. Do not touch that area to avoid burns.



The electronic components in the VFD are electrostatic sensitive. Anti-static measures must be taken during operation.

2 Keyboard operation

2.1 LED Indicator

LED Indicator			Messages
Hz	Red	Solid On	Output frequency value is displayed on the LED screen.
A	Red	Solid On	Output current value is displayed on the LED screen.
V	Red	Solid On	Output voltage value is displayed on the LED screen.
A and V	Red	Solid on	Output power value is displayed on the LED screen.
RUN	Red	Solid on	The VFD is running.
LOCAL/REMOT	Red	Solid on	Terminal start stop control mode
		Solid off	Panel start stop control mode
		Flashing	Communication start stop control mode
FWD/REV	Red	Solid on	The motor is in reverse running state
		Solid off	The motor is in forward running state
TUNE/TC	Red	Solid on	Torque control mode
		Fast flashing	Fault state
		Slow flashing	Parameter self-learning state


2.2 Function Buttons

Function Button	Description
PRG/ESC	To enter or exit setting mode.
DATE/ENT	To confirm the selection/value in setting mode.
RUN	In the keyboard operation mode, used for running operation
STOP/RST	<ul style="list-style-type: none">● In the running state, press this button to stop the running operation;● In the fault alarm state, it can be used for reset operation. The feature of this key is restricted by the function code FA -01 (STOP/RST key function).
▲	To increase the setting value.
▼	To decrease the setting value.
▶▶ /SHIFT	In the shutdown display interface and operation display interface, the parameters to be displayed can be selected circularly; when modifying the parameters, the modification bit of the parameters can be selected.

QUICK/JOG	<ul style="list-style-type: none">● When FF-03 is not equal to 0, different menu modes can be switched according to the values in FF-03.● When FF-03 is equal to 0, specific functions can be selected according to the value in FA-00, such as command source switching, forward / reverse switching, etc
	<ul style="list-style-type: none">● Adjust the output frequency;● Adjust the output frequency with the main frequency;● Limit the maximum torque;● Adjust the upper limit of output frequency;● Adjust the output voltage amplitude when V/F is separated.
Potentiometer	

2.3 Standard wiring





The function for each terminal is as below:

Terminal symbol	Terminal name	Function description
R、S、T	Three-phase AC input terminals	Three-phase AC power connection point
L1、L2	Single-phase power input terminal	Single-phase AC power supply voltage connection point
P+、PB	Braking resistor connection terminal	Brake resistor connection point
U、V、W	Three-phase AC output terminals	Connect to three-phase motor
	Ground terminal	connect to the ground

The function of each control terminals is as stated below:

Category	Terminal Label	Name	Description
Analog input	AI1	Analog input terminal 1	Analog voltage/current input
Analog output	AO1	Analog output terminal 1	Analog voltage/current output
Digital input	DI1	Digital input terminal 1	Normal digital input
	DI2	Digital input terminal 2	Normal digital input
	DI3	Digital input terminal 3	Normal digital input
	DI4	Digital input terminal 4	Normal digital input/high frequency pulse input
	DI5	Digital input terminal 5	Normal digital input/high frequency pulse input
Digital output	COM	Digital input common terminal	Digital input common terminal
	DO1	Digital output terminal 1	Normal digital output/high frequency pulse output

Power supply	10V	+10V power supply	Provide +10V power supply
	GND	+10V power ground	Reference ground for analog signal and +10V power supply
	24V	+24V power supply	Provide +24V power supply, which can be used as power supply for digital input and output terminals and external sensor power supply Maximum output current: 200mA
	COM	+24V power supply	Ground reference for analog signals and +24V power supply

NO.	Name	Pin number	Function	Factory setting
J13	AI1		1--2: Voltage input (0~10V) 2--3: Current input (0~20mA)	0~10V
J10	AO1		1--2: Voltage output (0~10V) 2--3: Current output (0~20mA)	0~10V
J12	PW		1--2: Source type wiring method 2--3: It is a sink type wiring method	Source type
J11	CME		Optocoupler isolation, bipolar open collector output; Output voltage range: 0V~24V; Output current range: 0mA~50mA; Note: The digital input ground CME is internally isolated from the digital input ground COM. By default, it is connected internally through J11. When the DO is driven by an external power supply, J11 must be disconnected.	Short circuit COM

3 Function parameter list

“☆”： It is modifiable no matter the VFD is in stop or running mode;

“★”： It is not modifiable if the VFD is running;

“●”： It is non-modifiable because it is a test record.

Note: This function code table only reflects part of the function codes of this product. For details, please refer to the actual function codes of the machine.

Code	Name	Range	Default	Modification
F0 set (Basic function)				
F0-00	First motor control method	0: Speed sensor less vector control (SVC) 1: V/F control	1	★

F0-01	Preset frequency	0.00Hz ~ Max. frequency (F0-09)	50.00Hz	☆
F0-02	Main frequency source X selection	0: Digital setting (preset frequency F0-01, UP/DOWN modifiable, data loss when power off) 1: Digital setting (preset frequency F0-01, UP/DOWN modifiable, power off memory) 2: AI1 3: AI2 (rotary potentiometer) 4: PULSE pulse setting (DI5) 5: Multiple instructions 6: Simple PLC 7: PID 8: Communication setting	0	★
F0-03	Auxiliary frequency source Y selection	Same as F0-02 (Main frequency source X selection)	0	★
F0-04	Y range selection of auxiliary frequency source during superposition	0: Relative to the maximum frequency 1: Relative to frequency source X	0	☆
F0-05	Y range of auxiliary frequency source when superposition	0% ~ 150%	0%	☆
F0-06	Frequency source superposition selection	Units digit: Frequency source selection 0: Main frequency source X 1: Result of Main and auxiliary calculation (the algorithm used here is determined by the tenth digit) 2: Switch between main frequency source X and auxiliary frequency source Y 3: Switch between main frequency source X and result of main and auxiliary calculation results 4: Switch between auxiliary frequency source Y and result of main and auxiliary calculation Tens digit: Algorithm of main and auxiliary frequency source calculation 0: Main + Auxiliary 1: Main—Auxiliary 2: The bigger one of the two 3: The smaller one of the two	00	☆
F0-07	Frequency digital setting memory after shutdown	0:dumped ; 1:saved	0	☆

F0-08	Operation direction selection	0: Default direction (FWD/REV indicator off) 1: Opposite of the default direction (FWD/REV indicator always on)	0	☆
F0-09	Maximum frequency	50.00Hz ~ 500.00Hz	50.00Hz	★
F0-10	Upper limit frequency source	0: F0-11 setting 1: AI1 2: AI2 (Rotary potentiometer) 3: PULSE pulse setting 4: Communication setting	0	★
F0-11	Upper frequency	Lower limit frequency F0-12 ~ Maximum frequency F0-09	50.00Hz	☆
F0-12	Lower limit frequency	0.00Hz ~ Upper limit frequency F0-11	0.00Hz	☆
F0-13	Acceleration time 1	0.00s ~ 650.00s(F0-15=2) 0.0s ~ 6500.0s(F0-15=1) 0s ~ 65000s(F0-15=0)	Model determination	☆
F0-14	Deceleration time 1	0.00s ~ 650.00s(F0-15=2) 0.0s ~ 6500.0s(F0-15=1) 0s ~ 65000s(F0-15=0)	Model determination	☆
F0-15	Acceleration and deceleration time unit	0: 1s 1: 0.1s 2: 0.01s	1	★
F0-16	Base frequency of acceleration and deceleration time	0: Maximum frequency (F0-09) 1: Set frequency (F0-01) 2: 100Hz	0	★
F0-18	Carrier frequency	0.8kHz ~ 8.0kHz	Model determination	☆
F0-19	Temperature based adjustment for carrier frequency	0: Disable 1: Enable (carrier frequency lower limit 1 KHz) 2: Enable (carrier frequency lower limit 2 KHz) 3: Enable (carrier frequency lower limit 3 KHz) 4: Enable (carrier frequency lower limit 4 KHz)	1	☆
F0-20	Command source bundling frequency source	Units digit: Operation panel command binding frequency source selection 0: No binding 1: Digital setting frequency 2: AI1 3: AI2 (rotary potentiometer) 4: PULSE pulse setting (DI4) 5: Multi-speed 6: Simple PLC 7: PID	000	☆

		8: Communication setting Tens digit: Terminal command binding frequency source selection (As same as the unit digit) Hundreds digit: Communication command binding frequency source selection (As same as the unit digit)		
F0-21	Command source selection	0: Operation panel command channel (LED off) 1: Terminal command channel (LED on) 2: Communication command channel (LED flashing)	0	☆
F0-22	GP type display	1: G type (constant torque load) 2: P type (air blower, pump load)	Model determination	●
F1 set (Start/Stop control parameters)				
F1-00	Start method	0: Direct start-up 1: Speed tracking start-up	0	☆
F1-01	Speed tracking method	0: Start from the stop frequency 1: Start from zero speed 2: Start from the maximum frequency	0	★
F1-02	Start frequency	0.00Hz~10.00Hz	0.00Hz	☆
F1-03	Start frequency hold time	0.0s~100.0s	0.0s	★
F1-04	Start DC braking current	0~100%	0%	★
F1-05	Start DC braking time	0.0s~100.0s	0.0s	★
F1-06	Stop method	0: By deceleration control 1: Free stop	0	☆
F1-07	Start frequency of DC braking stop	0.00Hz ~ Maximum frequency	0.00Hz	☆
F1-08	Waiting time of DC braking stop	0.0s~100.0s	0.0s	☆
F1-09	DC braking stop current	0%~100%	0%	☆
F1-10	DC braking stop time	0.0s~100.0s	0.0s	☆
F1-11	Acceleration and deceleration method	0: Linear acceleration and deceleration 1: S curve acceleration and deceleration A 2: S curve acceleration and deceleration B	0	★
F1-12	S curve start time ratio	0.0%~(100.0%-F1-13)	30.0%	★
F1-13	S curve end time ratio	0.0%~(100.0%-F1-12)	30.0%	★

F1-14	Dynamic braking point	Single phase: 200.0 ~ 410.0V Three-phase: 310.0 ~ 800.0V	350.0 700.0	☆
F1-15	Brake usage rate	0~100%	100%	☆
F1-16	Motor speed tracks tempo	1~ 100	20	☆
F1-17	Motor speed tracks close-loop current KP	0~ 1000	500	☆
F1-18	Motor speed tracks close-loop current KI	0~ 1000	800	☆
F1-19	Motor speed tracks close-loop current value	30~ 200	100	★
F1-20	Motor speed tracks close-loop current limit value	10~ 100	30	★
F1-21	Motor speed tracks voltage rise time	0.5~ 3.0	1.1	★
F1-22	De-magnetizing time	0.00~ 5.00	1.00	★
F3 set (First motor vector control parameters)				
F3-00	Motor rated power	0.1kW ~ 1000.0kW	Model determination	★
F3-01	Motor rated voltage	1V ~ 600V	Model determination	★
F3-02	Motor rated current	0.01A ~ 655.35A (VFD power ≤55kW) 0.1A ~ 6553.5A (VFD power >55kW)	Model determination	★
F3-03	Motor rated frequency	0.01Hz ~ Maximum frequency	Model determination	★
F3-04	Motor rated speed	1rpm ~ 65535rpm	Model determination	★
F3-05	Asynchronous motor stator resistance	0.001Ω ~ 65.535Ω (VFD power≤55kW) 0.0001Ω ~ 6.5535Ω (VFD power>55kW)	Tuning parameters	★
F3-06	Asynchronous motor rotor resistance	0.001Ω ~ 65.535Ω (VFD power≤55kW) 0.0001Ω ~ 6.5535Ω (VFD power>55kW)	Tuning parameters	★
F3-07	Asynchronous motor leakage inductance	0.01mH ~ 655.35mH (VFD power ≤ 55kW) 0.001mH ~ 65.535mH (VFD	Tuning parameters	★

		power>55kW)		
F3-08	Asynchronous motor mutual inductance	0.1mH ~ 6553.5mH (VFD power≤55kW)	Tuning parameters	★
		0.01mH ~ 655.35mH (VFD power>55kW)		
F3-09	Asynchronous motor no-load current	0.01A ~ F3-02 (VFD power≤55kW)	Tuning parameters	★
		0.1A ~ F3-02 (VFD power>55kW)		
F3-10	Tuning options	0: No operation	0	★
		1: Asynchronous machine static parameter tuning		
		2: Asynchronous machine dynamic complete tuning		
		3: Asynchronous machine static complete tuning		
F6 set (Input terminal parameters)				
F6-00	DI1 terminal function options DI1 terminal function options	0: No function 1: Forward running FWD or running command 2: Reverse running REV or forward and reverse direction command (NOTICE: (Note: When set to 1, 2, it needs to be used in conjunction with F6-13 terminal command mode) 3: Three-line operation control 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN	1	★
F6-01	DI2 terminal function options	8: Free stop 9: Fault reset (RESET) 10: Operation pause 11: External fault normally open input 12: Multi-section command terminal 1 0: No function 13: Multi-segment command terminal 2 14: Multi-stage command terminal 3 15: Multi-section command terminal 4 16: Acceleration/deceleration time selection terminal 1	4	★

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F6-02	DI3 terminal function options	17: Acceleration and deceleration time selection terminal 2 18: Frequency source switching 19: UP/DOWN setting clear (terminal, keyboard) 20: Control command switching terminal 1 21: Prohibition of acceleration and deceleration 22: PID pause 23: PLC status reset 24: Swing frequency pause 25: Counter input 26: Counter reset 27: Length count input 28: Length reset 29: Disable torque control 30: PULSE frequency input (only valid for DI4) 31: Immediate DC braking 32: External fault normally closed input	9	★
			12	★
F6-03	DI4 terminal function options	33: Enable frequency modification 34: Reverse PID action direction 35: External stop terminal 1 36: Control command switching terminal 2 37: Suspend PID integration 38: Frequency source X and preset frequency switch 39: Frequency source Y and preset frequency switch 40: PID parameter switching 41: User-defined fault 1 42: User-defined fault 2 43: Speed control/torque control switch 44: Emergency stop 45: External stop terminal 2 46: Deceleration DC braking 47: Clear the current running time	13	★
F6-05	DI filter time	0.000s~1.000s	0.010s	☆
F6-06	DI1 delay time	0.0s~3600.0s	0.0s	☆
F6-07	DI2 delay time	0.0s~3600.0s	0.0s	☆
F6-08	DI3 delay time	0.0s~3600.0s	0.0s	☆
F6-09	DI4 delay time	0.0s~3600.0s	0.0s	☆
F6-10	DI terminal active mode options	0: Active high 1: Active low Units digit: DI1	0	★

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		Tens digit: DI2 Hundreds digit: DI3 Thousands digit: DI4 Ten thousand digit: DI5 0: Two-line mode 1 1: Two-line mode 2 2: Three-line mode 1 3: Three-line mode 2		
F6-11	Terminal command mode		0	★
F6-12	Terminal UP/DOWN change rate	0.001Hz/s~65.535Hz/s	1.000Hz /s	☆
F6-13	AI curve 1 minimum input	0.00V ~ F6-15	0.00V	☆
F6-14	AI1 curve minimum input corresponding setting	-100.0%~-+100.0%	0.0%	☆
F6-15	AI curve 1 maximum input	F6-13~-+10.00V	10.00V	☆
F6-16	AI1 curve maximum input corresponding setting	-100.0%~-+100.0%	100.0%	☆
F6-17	AI1 filter time	0.00s~10.00s	0.10s	☆
F6-18	AI2 curve 2 minimum input	0.00V ~ F6-20	0.00V	☆
F6-19	AI2 curve 2 minimum input corresponding setting	-100.0%~-+100.0%	100.0%	☆
F6-20	AI2 curve 2 maximum input	F6-18~-+10.00V	2.80V	☆
F6-21	AI2 curve 2 maximum input corresponding setting	-100.0%~-+100.0%	0.0%	☆
F6-22	AI2 filter time	0.00s~10.00s	0.10s	☆
F6-23	AI curve selection	Units digit	21	☆
		1		
		2		
		3		
		Tens digit		
F6-24	Options for AI lower than	Option for AI1 lower than the minimum input setting	00	☆
		0		

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	minimum input	1 Tens digit	0.0% AI2 is lower than the minimum input setting selection (same digit)		
F6-25	PULSE minimum input	0.00kHz~F6-27		0.00kHz	☆
F6-26	PULSE minimum input corresponding setting	-100.0%~100.0%		0.0%	☆
F6-27	PULSE maximum input	F6-24~100.00kHz		50.00kH z	☆
F6-28	PULSE maximum input corresponding setting	-100.0%~100.0%		100.0%	☆
F6-29	PULSE filter time	F6-24~100.00kHz		50.00kH z	☆
F7 set (Output terminal parameters)					
F7-00	Digital output selection	0: High-speed pulse output 1: Normal digital output		0	☆
F7-01	RELAY1 output function selection	0: No output 1: Inverter-in-operation 2: Fault output (for free stop fault) 3: Frequency level detection FDT1 output 4: Frequency reached 5: Running at zero speed (no output when inverter stops) 6: Motor overload pre-alarm 7: Inverter overload pre-alarm 8: Set count value reached 9: Designated count value reached 10: Length reached 11: PLC cycle completed 12: Accumulated operation time reached 13: Frequency being limited 14: Torque being limited 15: Operation ready 16: Upper limit frequency reached 17: Lower limit frequency reached (operation related)		0	☆
		18: Undervoltage status output 19: Communication settings 20: Operation at zero speed signal 2 (also output when operation stops) 21: Accumulated power-on time reached 22: Frequency level detection FDT2 23: Frequency 1 reached 24: Frequency 2 reached 25: Current 1 reached 26: Current 2 reached 27: Time out 28: AI1 input overloaded 29: Load dropping 30: Reverse running		1	☆

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		31: Zero current state 32: Module temperature reached 33: Output current limit exceeded 34: Lower limit frequency reached (also output when the inverter stops) 35: Alarm (all faults) 36: Operation Times Up 37 : Fault (only for free stop faults and not for undervoltage faults)		
F7-03	AO output function selection	0: Operating frequency 1: Set frequency 2: Output current 3: Output torque (absolute value of torque) 4: Output power 5: Output voltage 6: PULSE input (100.0% corresponds to 100.0kHz) 7: AI1 8: AI2 (keyboard rotary potentiometer) 9: Length 10: count value 11: Communication settings 12: Motor speed 13: Output current (100.0% corresponds to 1000.0A) 14: Output voltage (100.0% corresponds to 1000.0V) 15: Output torque (actual torque value)	0	☆
F7-04	High-speed pulse output function selection		0	☆
F7-05	Maximum frequency of high- speed pulse output	0.01kHz~100.00kHz	50.00kH z	☆
F7-06	AO bias coefficient	-100.0%~-+100.0%	0.0%	☆
F7-07	AO gain	-10.00~-+10.00	1.00	☆
F7-08	AO output filter time	0.000s~1.000s	0.000s	☆
F7-10	RELAY1 output delay time	0.0s~3600.0s	0.0s	☆
F7-11	DO output delay time	0.0s~3600.0s	0.0s	☆
F7-12	DO output valid state selection	0: Positive logic 1: Inverse logic Units digit: RELAY1 Tens digit: DO1	00	☆
FA set (Keyboard and display parameters)				
FA-00	QUICK/JOG key function	0: QUICK/JOG disabled 1: Switch between operation panel command channel and remote command channel (terminal command channel or communication command channel) 2: Forward and reverse switching 3: Forward jog 4: Reverse jog	0	★

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FA-01	STOP/RST key function	0: Only in keyboard operation mode, the stop function of STOP/RST key is enabled 1: In any operation mode, the stop function of the STOP/RST key is enabled 0000 ~ FFFF	1	☆
FA-02	LED display parameters 1 for operation mode	Bit00: Operation frequency 1 (Hz) Bit01: Set frequency (Hz) Bit02: Bus voltage (V) Bit03: Output voltage (V) Bit04: Output current (A) Bit05: Output power (kW) Bit06: Output torque (%) Bit07: DI input status Bit08: DO output status Bit09: AI1 voltage (V) Bit10: AI2 voltage (V) Bit11: Count value Bit12: Length value Bit13: Load speed display Bit14: PID setting Bit15: PID feedback 0000 ~ FFFF Bit00: PLC stage Bit01: PULSE input pulse frequency (kHz) Bit02: Operation frequency 2 (Hz) Bit03: Remaining operation time Bit04: Linear speed Bit05: Current power-on time (Hour) Bit06: Current running time (Min) Bit07: PULSE input pulse frequency (Hz) Bit08: Communication setting value Bit09: Main frequency X display (Hz) Bit10: Auxiliary frequency Y display (Hz) Bit11: Target torque value Bit12: Power factor angle Bit13: VF separation target voltage (V) Bit14: Visual display of DI input status Bit15: Visual display of DO input status	003F	☆
FA-03	LEDLED display parameters 2 for operation mode	0000 ~ FFFF Bit00: PLC stage Bit01: PULSE input pulse frequency (kHz) Bit02: Operation frequency 2 (Hz) Bit03: Remaining operation time Bit04: Linear speed Bit05: Current power-on time (Hour) Bit06: Current running time (Min) Bit07: PULSE input pulse frequency (Hz) Bit08: Communication setting value Bit09: Main frequency X display (Hz) Bit10: Auxiliary frequency Y display (Hz) Bit11: Target torque value Bit12: Power factor angle Bit13: VF separation target voltage (V) Bit14: Visual display of DI input status Bit15: Visual display of DO input status	0000	☆
FA-04	LED display parameters for stop mode	0001 ~ FFFF Bit00: Set frequency (Hz) Bit01: Bus voltage (V) Bit02: DI input status Bit03: DO output status Bit04: AI1 voltage (V) Bit05: AI2 voltage (V) Bit06: Count value	0033	☆

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		Bit07: Length value Bit08: PLC stage Bit09: Load speed Bit10: PULSE input pulse frequency (kHz)		
FA-05	Load speed display coefficient	0.0001~6.5000	1.0000	☆
FA-06	Inverter module radiator temperature	0.0℃~100.0℃	-	●
FA-07	Cumulative operation time	0h~65535h	-	●
FA-08	Load speed display decimal places	Unit digit	21	☆
		Load speed display U0- 14 decimal places		
		0		
		1		
		2		
		3		
		Tens digit		
		Feedback speed U0-19, actual feedback speed U0-34 display decimal places		
		1		
		2		
FA-09	Accumulated power-on time	0~65535h	-	●
FA-10	Accumulated power consumption	0~65535kw/h	-	●
FA-11	Product code	-	-	●
FA-12	Software version number	-	-	●
FA-13	Modbus protocol version	-	-	●
FB set (Control optimization parameters)				
FB-00	DPWM switching upper limit frequency	0.00Hz ~ 15.00Hz	12.00Hz	☆
FB-01	PWM modulation method	0: Asynchronous modulation 1: Synchronous modulation 0: Random PWM is invalid	0	☆
FB-02	Random PWM	1 ~ 10: PWM carrier frequency random depth	0	☆
FB-03	Dead zone compensation mode selection	0: Disable 1: Enable	1	☆
FB-05	Wave-by-wave current limit enable	0: Disable 1: Enable	1	☆
FB-07	Undervoltage point	Single phase: 140.0 ~ 400.0V	200.0	★

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Fault Code	Type	Fault Code	Type	Fault Code	Type
E01	Wave-by-wave current limiting fault	E10	Inverter overload	E22	Motor is short to ground
E02	Overcurrent when accelerating	E11	Motor overload	E23	Operation time is reached
E03	Overcurrent when decelerating	E13	Output phase loss	E24	User-defined fault 1
E04	Overcurrent during constant speed operation	E14	Module overheating	E25	User-defined fault 2
E05	Overvoltage during acceleration	E15	External fault	E26	Power-on time is reached
E06	Overvoltage during deceleration	E16	Abnormal communication	E27	Load loss
E07	Overvoltage during constant speed operation	E18	Abnormal current detected	E28	PID feedback lost during operation
E08	Snubber resistor overload	E19	Abnormal motor tuning	E29	Speed deviation is too large
E09	Undervoltage	E20	EEPORM parameter read and write error	E42	Temperature sensor failure

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