

Er. 00 Power failure, supply voltage is above 140VAC	Low-voltage	1. Check input supply voltage, ensure input voltage is between 150v and 250v. Too high input voltage will damage converter. 2. High inertia loads, the setting value of the deceleration time is too small. 3. The converter is not accurate in detecting the supply voltage, the displayed converter voltage does not match with the actual supply voltage, which need repairing. 4. This kind of error occurs when the motor is decelerated due to the high inertia loads, please consider installing a suitable external braking resistance.
Er. 01 supply voltage is above 290VAC, internal bus voltage is too high	Over-voltage	
Er. 02	Great current	When the motor is running, great current occurs (the actual output current is too great), please check whether the motor is short circuited, the connection is correct and the mechanical loads is too large, otherwise it needs repairing.
Er. 03	Fault in external pwm circuit	When the motor is running, fault in external pwm circuit occurs, turn off the power for about 1 minute, send the power to retry. If this phenomenon occurs again, maintenance is required.
Er. 04		When the motor is running, fault in the internal power component module of the converter occurs: 1. The acceleration and deceleration time is set too short; 2. the over current and overheating of the converter, please check whether the motor is short circuited, and the machine load is too large; 3. The input voltage is too high/low, or the input voltage fluctuates substantially; 4. The converter does not match the motor power, or fault in Wye-Delta; 5. Improper setting of DC injection brake parameters (P01.09-P01.17 ; 6. Improper setting of VF parameters (P00.04-P00.12); 7. The cooling fan is damaged or in locked rotor, the converter cooling is not good; 1. 8. Gate driving voltage of power components is too high or too low, which needs repairing.
Er. 05	External input fault signal	When the external input fault signal input is valid, the motor stops and this code is displayed, which can be eliminated after reset, having no need to repair
Er. 06	Fault in internal data storage	Fault in internal data storage occurs, turn off the power for about 1 minute, send the power to retry. If this phenomenon occurs again, maintenance is

Er. 07		required. The internal temperature of converter is too high( above 65°C) , please check: 1. When the motor is running, whether the cooling fan stops (Note: if motor has been switched off for 1 minute, some versions of the converter cooling fan will automatically stop to prolong the service life) ; 2. please check whether the motor is short circuited, and the machine load is too large 3. Whether the thermal between the internal module of converter and heat sink is good?
Er. 08	Over temperature	Fault in temperature measurement NTC
Er. 09		Power-off prompt
Er. 10		RS485Communication dropped line error, stop.
Er. 11		Parameter error
Er. 12		
Er. 13		
Er. 14		
Er. 15		Motor overheating

## XI. Modbus Register address-inverter parameter

### correspondence table

	Modbus Register address-inverter parameter correspondence table	
	Keep the register address (16)	Corresponding frequency converter parameters
	0x0000	P00. 00
	0x0001	P00. 01
	...	...
	0x0100	P01. 00
	0x0101	P01. 01
	...	...
Power-down storage area (EEPROM)	0x0200	P02. 00
	0x0201	P02. 01
	...	...
	0x0D00	P13. 00
	0x0D01	P13. 01
	...	...

**Note:**

1. Modbus protocol. Only supports RTU mode, not ASCII mode.

2. Modbus keeps register address, corresponding rule with frequency converter parameter: hold high 8 bit address of register and hexadecimal, correspond to group index of frequency converter parameter: The low 8-bit address corresponds to the number within the parameter group. For example, the address of the holding register in hexadecimal 0 x 0c14 corresponds to the converter parameter P12.20 (the 12th group, the 20th parameter / PWM mode).

Modbus keep register address - inverter application function corresponding table			
usRegHoldIn gBuf[]	Modbus Hold register address command	Modbus485 operating function	
0	bit 1:0	b00: No function	struct sAPP_CMD living example: ModbusAppCmd
		b01: Stop order	
		b10: Start order	
		b11: Inching (crawling) order	
		Reserved	
	bit 3:2	b00: No function	
		b01: Forward order	
	bit 5:4	b10: Backward order	
		b11: Change direction	
	bit 7:6	b00: No function	
1	0x2000 (8192)	b01: Reset one error	
		b10: Reset all errors	
		b11: Reserved	
	Modbus485Frequency command	x0. 1HZ	
		x0. 1Second	
		x0. 1Second	
	0x2001 (8193)		
2	0x2002 (8194)		Only read
	0x2003 (8195)		
3	0x2004 (8196)		Only read
	0x2005 (8197)		
4	8198		Only read
	8199		
5	8200	ErrorFlag	Only read
		Ms	
		AlmFreq	
		RunFreq	
		OutCurrent	
	8201	RunVolt	
		MainLineVolt	
6	8202		Only read
	8203		
7	8204		Only read
	8205		
8	8206		Only read

15	3207	SpSeg	Number of fields in multi-rate
16	3208	AccDecFlag	
17	3209	AccTime	Current acceleration time
18	3210	DecTime	Current deceleration time
19	3211	AdvAin1	AD of external analog quantity 1 (10bit)
20	3212	AdvAin2	AD of external analog quantity 2 (10bit)
21	3213		X1-X8 status
22	3214		LED_OBJ_MAP_ADDR
23	3215		
24	3216		
25	3217		
26	3218		
27	3219		
28	3220		
29	3221		
30	3222		
31	3223		
32	3224		
33	3225	Unique_IDSum	CPU Unique ID attribute code
34	3226	MakeKey/BreakKey	KEY_OBJ_MAP_ADDR
35	3227	KeyMap	
36	3228	Adv1	AD of panel potentiometer 1 (10bit)
37	3229	Adv2	AD of panel potentiometer 2 (10bit)
38	3230	Reversed	
39	3231	IsLegal	Version mark
40	3232		
41	3233		
42	3234		SprttterRunCmd
43	3235		eSpatterStatus
44	3236		SpatterPosition
45	3237		
46	3238		
47	3239		
48	3240		struct sAPP_CMD
49	3241		

50	8242			living example: SpIcAppCmd
51	8243			
52	8244			
53	8245			
54	8246			
55	8247			
56	8248			
57	8249			
58	8250			struct sAPP_CMD
59	8251			living example: SysAppCmd
60	8252			
61	8253			
62	8254			
63	8255			
64	8256			
65	8257			
66	8258			struct sAPP_CMD
67	8259			living example: ExAppCmd
68	8260			
69	8261			
70	8262			
71	8263			
72	8264			
73	8265			
74	8266			
75	8267			

**XII、 Table of correspondence between Multi-Segment Speed instruction, Frequency Segment and Parameter item**

Table of correspondence between Multi-Segment Speed instruction, Frequency Segment and Parameter item					
Multi-stage input	speed	Multi-stage input	speed	Multi-stage input	Running frequency segment / corresponding parameter
X3		X2		X1	
open a way	open a way	open a way	open a way	open a way	Paragraph 1 frequency/P07.00
open a way	open a way	open a way	close	close	Paragraph 2 frequency/P07.01
open a way	close	close	open a way	open a way	Paragraph 3 frequency/P07.02
open a way	close	close	close	close	Paragraph 4 frequency/P07.03
close	open a way	open a way	open a way	open a way	Paragraph 5 frequency/P07.04
close	open a way	open a way	close	close	Paragraph 6 frequency/P07.05
close	close	close	open a way	open a way	Paragraph 7 frequency/P07.06

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close	close	close	Paragraph 8 frequency/P07.07
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Wiring: COM is common end, FWD is start and stop, X1 is low speed, X2 is medium speed, X3 is high speed.  
Settings: P00.01 is 1, P07.01 is low speed, P07.02 is medium speed, P07.04 is high speed,  
Give an alarm: CM1 is the common end of the relay, NO1 is normally open and NC1 is normally closed. P04.04 can set function.

### XIII、 JP1 short circuit block configuration

External analog input type	JP1 Short-circuit block configuration
0-5V	No need for short Circuit JP1
0-10V	2-3 feet of JP1 requiring short Circuit
0-20mA	2-3 feet of JP1 requiring short Circuit

### XIV、 Selection of Peripheral Devices and Disposition

#### 1、 Options

Description	Functions
NFB or Ground fault interrupter for wire connection	Protect the wiring of the inverter. Be sure to install a breaker at the power. Please select a ground fault circuit interrupter against high-order harmonics.
Electromagnetic contactor	In order to prevent the braking resistor from burning out, please add an electromagnetic contactor and connect a surge absorber to the coil when using it.
Surge absorber	Absorb the switching surge current from the electromagnetic contactor and control relays.
Isolating transformer	Its function of isolating the input and output of the inverter is effective to reduce the interference to other electric devices.
DC reactor	Improve the input power factor of the inverter.
AC reactor	Improve the input power factor of the inverter and prevent the shock of surge voltage.
Braking resistor, braking unit	Consume the regenerating energy of the motor and shorten the ramp-down time.

#### (1) Leakage switch

There is earth static capacity inside of the inverter and the motor as well as the input and output leads. Due to higher carrier frequency of the inverter, the inverter has higher earth leakage current, especially for the inverters of large capacity series. When using a leakage switch, it may sometimes result in the error action of the protective circuit. So when using a leakage switch, attention should be paid to its selection and the proper reduction of carrier frequency and shortening the leads, etc.

#### (2) AC reactors

An AC reactor can constrict the high-order harmonic of input current of the inverter to improve its input power factor and prevent the shock of surge. It is recommended to use an input AC reactor under the following circumstances: