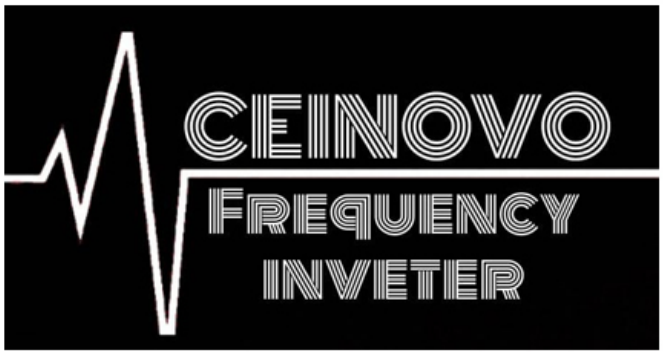
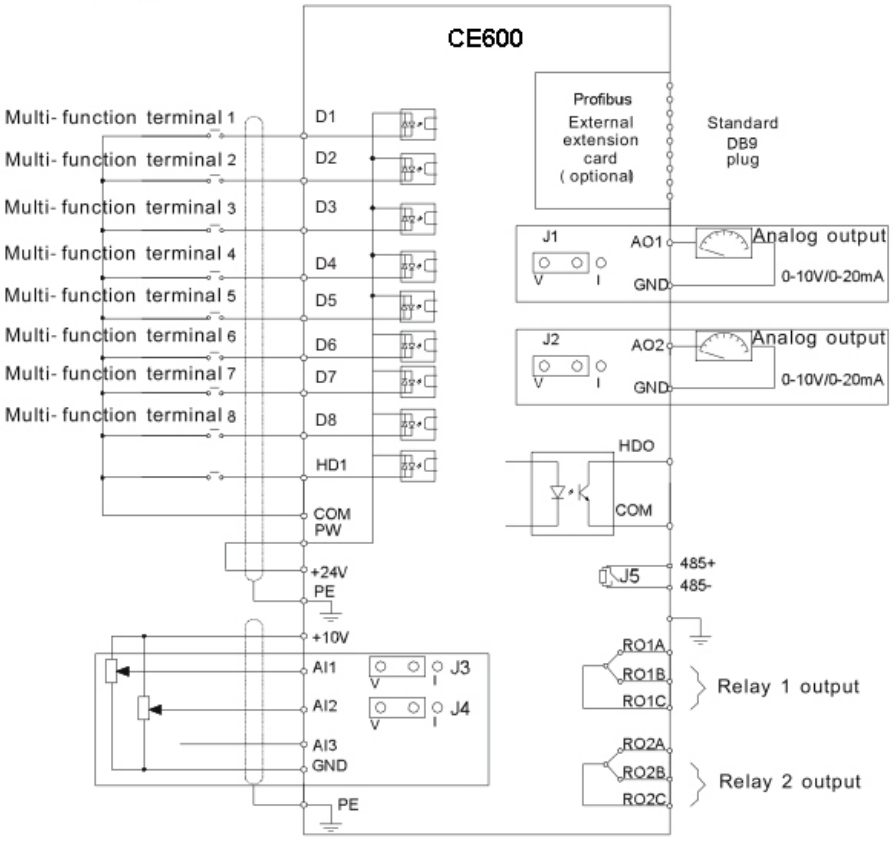


Parameter Guide

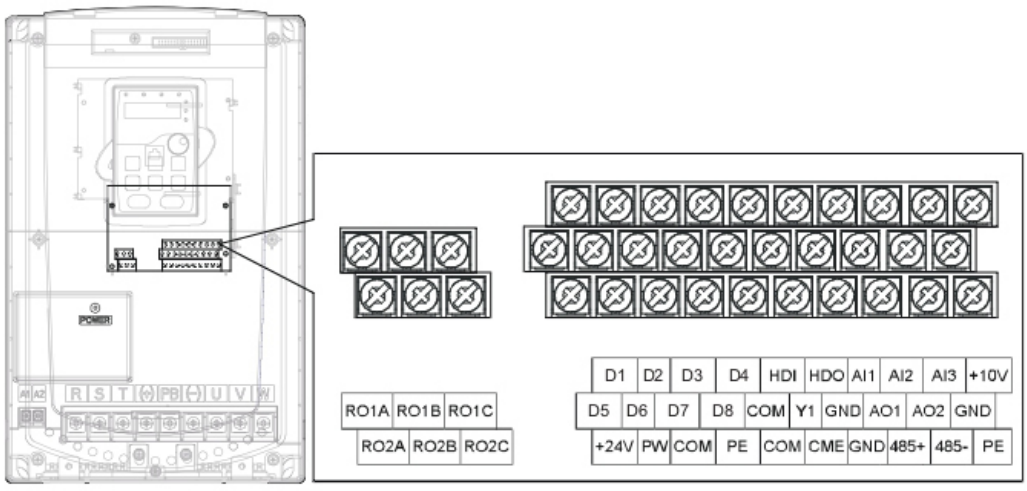
CE600 Inverter

4.3.4 Wiring diagram of control circuit

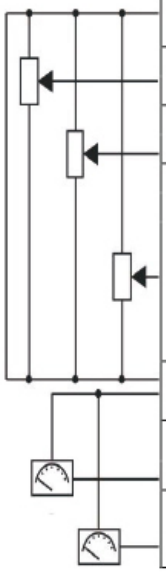


Wiring of control circuit

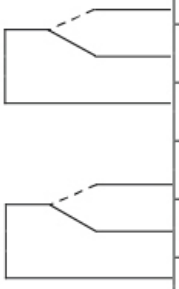
Terminals of control circuit



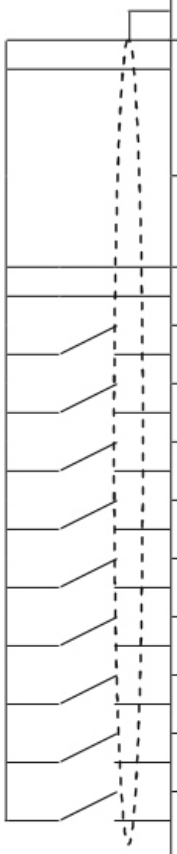
Terminals of control circuit



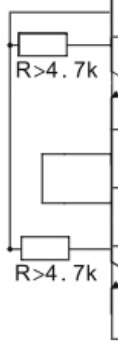
Terminal name	Description
+10V	Local power supply +10V
AI1 AI2 AI3	1. Input range: AI1/AI2 voltage and current can be chose: 0~10V/0~20mA; AI1 can be shifted by J1; AI2 can be shifted by J2 AI3:-10V~+10V 2. Input impedance:voltage input: 20kΩ; current input: 500Ω 3. Resolution: the minimum one is 5mV when 10V corresponds to 50Hz 4. Deviation ±1%, 25℃
GND	+10V reference null potential
AO1 AO2	1. Output range:0~10V or -20~20mA 2. The voltage or the current output is depended on the jumper 3. Deviation±1%,25℃



Terminal name	Description
RO1A RO1B RO1C	RO1 relay output, RO1A NO, RO1B NC, RO1C common terminal Contactor capability: 3A/AC250V,1A/DC30V
RO2A RO2B RO2C	RO2 relay output, RO2A NO, RO2B NC, RO2C common terminal Contactor capability: 3A/AC250V,1A/DC30V



Terminal name	Description	
PE	Grounding terminal	
PW	Provide the input switch working power supply from external to internal. Voltage range: 12~24V	
24V	The inverter provides the power supply for users with a maximum output current of 200mA	
COM	+24V common terminal	
D1	Digital input 1	1. Internal impedance:3.3kΩ 2. 12~30V voltage input is available 3. The terminal is the dual-direction input terminal supporting both NPN and PNP 4. Max input frequency:1kHz 5. All are programmable digital input terminal. User can set the terminal function through function codes.
D2	Digital input 2	
D3	Digital input 3	
D4	Digital input 4	
D5	Digital input 5	
D6	Digital input 6	
D7	Digital input 7	
D8	Digital input 8	
HDI	Except for D1~D8, this terminal can be used as high frequency input channel. Max. input frequency:50kHz	

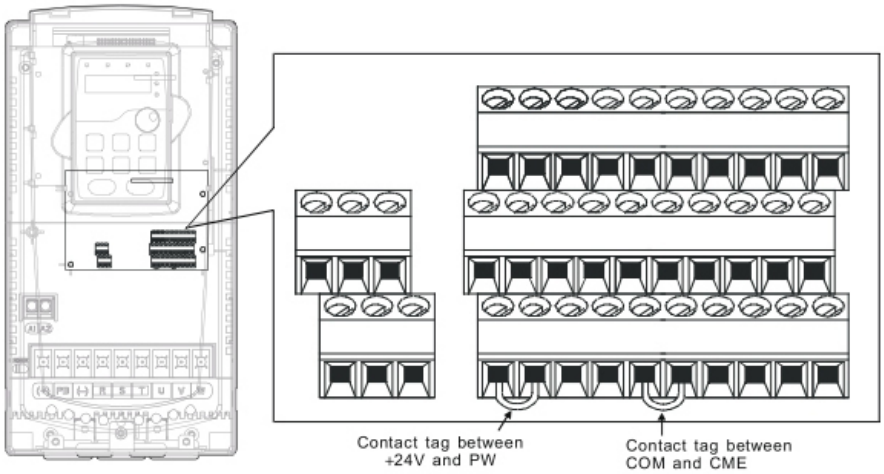


Terminal name	Description
24V	The inverter provides the power supply for users with a maximum output current of 200mA
HDO	1. Switch input:200mA/30V 2. Output frequency range:0~50kHz
COM	+24V common terminal
CME	Common terminal of the open collector pole output
Y	1.Swtich capability:200mA/30V 2.Output frequency range:0~1kHz

485+	485 communication interface and 485 differential signal interface
485-	If it is the standard 485 communication interface, please use twisted pairs or shield cable.

- **Input /Output signal connection figure**

Please use U-shaped contact tag to set NPN mode or PNP mode and the internal or external power supply. The default setting is NPN internal mode.



U-shaped contact tag

If the signal is from NPN transistor, please set the U-shaped contact tag between +24V and PW as below according to the used power supply.

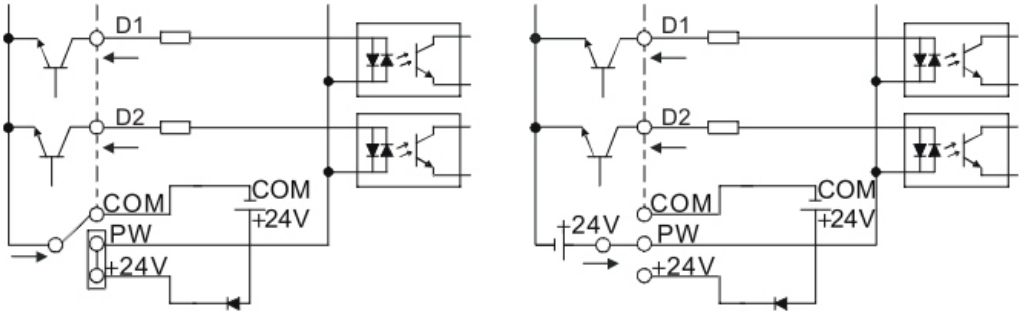


Diagram NPN modes

If the signal is from PNP transistor, please set the U-shaped contact tag as below according to the used power supply.

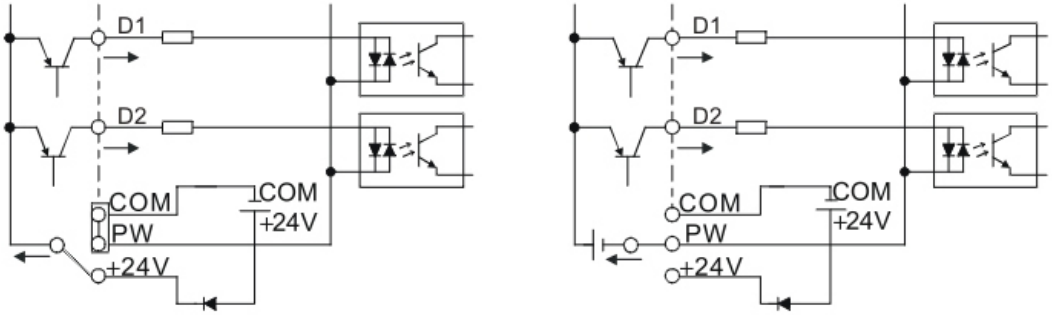


Diagram PNP modes

Function Parameters

1 What this chapter contains

This chapter lists and describes the function parameters.

2 CE600 general series function parameters

The function parameters of CE600 series inverters have been divided into 30 groups (P00~P29) according to the function, of which P18~P28 are reserved. Each function group contains certain function codes applying 3-level menus. For example, "P08.08" means the eighth function code in the P8 group function, P29 group is factory reserved, and users are forbidden to access these parameters.

For the convenience of function codes setting, the function group number corresponds to the first level menu, the function code corresponds to the second level menu and the function code corresponds to the third level menu.

1. Below is the instruction of the function lists:

The first line "Function code":codes of function parameter group and parameters;

The second line "Name":full name of function parameters;

The third line "Detailed illustration of parameters":Detailed illustration of the function parameters

The fourth line "Default value":the original factory set value of the function parameter;

The fifth line "Modify":the modifying character of function codes (the parameters can be modified or not and the modifying conditions),below is the instruction:

"○": means the set value of the parameter can be modified on stop and running state;

"◎": means the set value of the parameter can not be modified on the running state;

"●": means the value of the parameter is the real detection value which can not be modified.

(The inverter has limited the automatic inspection of the modifying character of the parameters to help users avoid mismodifying)

2. "Parameter radix" is decimal (DEC), if the parameter is expressed by hex, then the parameter is separated from each other when editing. The setting range of certain bits are 0~F (hex).

3."The default value" means the function parameter will restore to the default value during default parameters restoring. But the detected parameter or recorded value won't be

restored.

4. For a better parameter protection, the inverter provides password protection to the parameters. After setting the password (set P07.00 to any non-zero number), the system will come into the state of password verification firstly after the user press PRG/ESC to come into the function code editing state. And then "0.0.0.0.0." will be displayed. Unless the user input right password, they cannot enter into the system. For the factory setting parameter zone, it needs correct factory password (remind that the users can not modify the factory parameters by themselves, otherwise, if the parameter setting is incorrect, damage to the inverter may occur). If the password protection is unlocked, the user can modify the password freely and the inverter will work as the last setting one. When P07.00 is set to 0, the password can be canceled. If P07.00 is not 0 during powering on, then the parameter is protected by the password. When modify the parameters by serial communication, the function of the password follows the above rules, too.

Function code	Name	Detailed instruction of parameters	Default value	Modify
P00 Group Basic function group				
P00.00	Speed control mode	0: Sensorless vector control mode 0 (applying to AM,SM) 0 is suitable in most cases, and in principle, one inverter can only drive one motor in the vector control mode. 1: Sensorless vector control mode 1 (applying to AM) 1 is suitable in high performance cases with the advantage of high accuracy of rotating speed and torque. It does not need to install pulse encoder. 2:V/F control (applying to AM,SM) 2 is suitable in cases where it does not need high control accuracy, such as the load of fan and pump. One inverter can drive multiple motors. **Note:** AM-Asynchronous motor SM- synchronous motor	0	◎
P00.01	Run	Select the run command channel of the inverter.	0	○

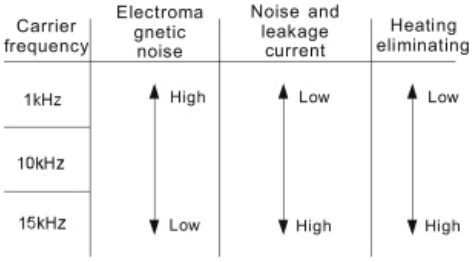
Function code	Name	Detailed instruction of parameters	Default value	Modify
	command channel	The control command of the inverter includes: start-up, stop, forward, reverse, jogging and fault reset. 0:Keypad running command channel("LOCAL/REMOT" light off) Carry out the command control by RUN, STOP/RST on the keypad. Set the multi-function key QUICK/JOG to FWD/REVC shifting function (P07.02=3) to change the running direction; press **RUN** and **STOP/RST** simultaneously in running state to make the inverter coast to stop. 1:Terminal running command channel ("LOCAL/REMOT" flickering) Carry out the running command control by the forward rotation, reverse rotation and forward jogging and reverse jogging of the multi-function terminals 2:Communication running command channel ("LOCAL/REMOT" on); The running command is controlled by the upper monitor via communication		
P00.02	Communication running commands channel selection	Select the controlling communication command channel of the inverter. 0:MODBUS communication channel 1:PROFIBUS communication channel 2:Ethernet communication channel 3:CAN communication channel **Note:** 1, 2 and 3 are extension functions which can be used only when corresponding extension cards are configured.	0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
P00.03	Max. output frequency	This parameter is used to set the maximum output frequency of the inverter. Users should pay attention to this parameter because it is the foundation of the frequency setting and the speed of acceleration and deceleration. Setting range: P00.04~400.00Hz	50.00Hz	◎
P00.04	Upper limit of the running frequency	The upper limit of the running frequency is the upper limit of the output frequency of the inverter which is lower than or equal to the maximum frequency. Setting range:P00.05~P00.03 (Max. output frequency)	50.00Hz	◎
P00.05	Lower limit of the running frequency	The lower limit of the running frequency is that of the output frequency of the inverter. The inverter runs at the lower limit frequency if the set frequency is lower than the lower limit one. **Note:** Max. output frequency ≥ Upper limit frequency ≥ Lower limit frequency Setting range:0.00Hz~P00.04 (Upper limit of the running frequency)	0.00Hz	◎
P00.06	A frequency command selection	0:Keypad data setting Modify the value of function code P00.10 (set the frequency by keypad) to modify the frequency by the keypad. 1:Analog AI1 setting 2:Analog AI2 setting 3:Analog AI3 setting Set the frequency by analog input terminals. CE600 series inverters provide 3 channels analog input terminals as the standard configuration, of which AI1/AI2 are the voltage/current option (0~10V/0~20mA) which can be shifted by jumpers;	0	○
P00.07	B frequency command selection		1	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		while AI3 is voltage input (-10V~+10V). **Note:** when analog AI1/AI2 select 0~20mA input, the corresponding voltage of 20mA is 10V. 100.0% of the analog input setting corresponds to the maximum frequency (function code P00.03) in forward direction and -100.0% corresponds to the maximum frequency in reverse direction (function code P00.03) 4:High-speed pulse HDI setting The frequency is set by high-speed pulse terminals. CE600 series inverters provide 1 channel high speed pulse input as the standard configuration. The pulse frequency range is 0.0~50.00kHz. 100.0% of the high speed pulse input setting corresponds to the maximum frequency in forward direction (function code P00.03) and -100.0% corresponds to the maximum frequency in reverse direction (function code P00.03). **Note:** The pulse setting can only be input by multi-function terminals HDI. Set P05.00 (HDI input selection) to high speed pulse input, and set P05.49 (HDI high speed pulse input function selection) to frequency setting input. 5:Simple PLC program setting The inverter runs at simple PLC program mode when P00.06=5 or P00.07=5. Set P10 (simple PLC and multi-stage speed control) to select the running frequency, running direction, ACC/DEC time and the keeping time of corresponding stage. See the function description of P10 for detailed information. 6: Multi-stage speed running setting		

Function code	Name	Detailed instruction of parameters	Default value	Modify
		The inverter runs at multi-stage speed mode when P00.06=6 or P00.07=6. Set P05 to select the current running stage, and set P10 to select the current running frequency. The multi-stage speed has the priority when P00.06 or P00.07 does not equal to 6, but the setting stage can only be the 1~15 stage. The setting stage is 1~15 if P00.06 or P00.07 equals to 6. 7: PID control setting The running mode of the inverter is process PID control when P00.06=7 or P00.07=7. It is necessary to set P09. The running frequency of the inverter is the value after PID effect. See P09 for the detailed information of the preset source, preset value, feedback source of PID. 8:MODBUS communication setting The frequency is set by MODBUS communication. See P14 for detailed information. 9:PROFIBUS communication setting The frequency is set by PROFIBUS communication. See P15 for the detailed information. 10:Ethernet communication setting(reserved) 11:CAN communication setting(reserved) **Note:**A frequency and B frequency can not set as the same frequency given method.		
P00.08	B frequency command reference selection	0:Maximum output frequency, 100% of B frequency setting corresponds to the maximum output frequency 1:A frequency command, 100% of B frequency setting corresponds to the maximum output frequency. Select this setting if it needs to adjust on	0	○

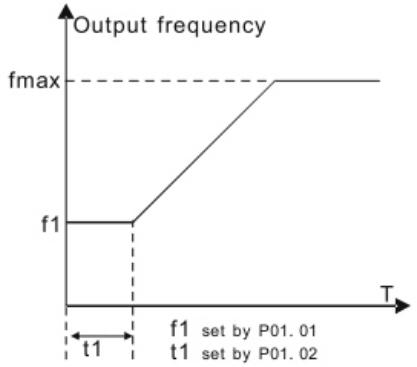
Function code	Name	Detailed instruction of parameters	Default value	Modify
		the base of A frequency command.		
P00.09	Combination type of the setting source	0: A, the current frequency setting is A freauency command 1: B, the current frequency setting is B frequency command 2: A+B, the current frequency setting is A frequency command + B frequency command 3: A-B, the current frequency setting is A frequency command - B frequency command 4: Max(A, B):The bigger one between A frequency command and B frequency is the set frequency. 5: Min(A, B):The lower one between A frequency command and B frequency is the set frequency. **Note:**The combination manner can be shifted by P05(terminal function)	0	○
P00.10	Keypad set frequency	When A and B frequency commands are selected as "keypad setting", this parameter will be the initial value of inverter reference frequency Setting range:0.00 Hz~P00.03(the Max. frequency)	50.00Hz	○
P00.11	ACC time 1	ACC time means the time needed if the inverter speeds up from 0Hz to the Max. One (P00.03). DEC time means the time needed if the inverter speeds down from the Max. Output frequency to 0Hz (P00.03). CE600 series inverters define four groups of ACC/DEC time which can be selected by P05. The factory default ACC/DEC time of the inverter is the first group. Setting range of P00.11 and P00.12:0.0~3600.0s	Depend on the motor type	○
P00.12	DEC time 1		Depend on the motor type	○
P00.13	Running direction	0: Runs at the default direction, the inverter runs in the forward direction. FWD/REV indicator is off.	0	○

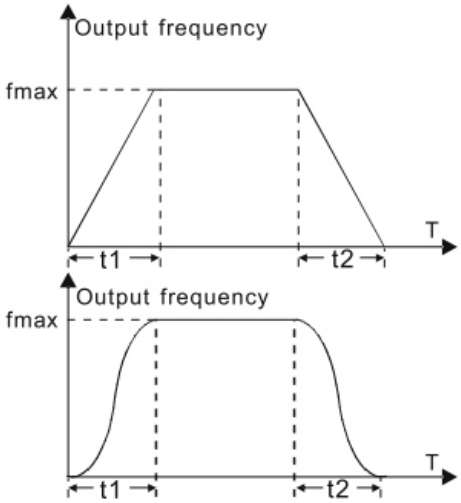
<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td></td><td>selection</td><td>1: Runs at the opposite direction, the inverter runs in the reverse direction. FWD/REV indicator is on.
Modify the function code to shift the rotation direction of the motor. This effect equals to the shifting the rotation direction by adjusting either two of the motor lines (U, V and W). The motor rotation direction can be changed by QUICK/JOG on the keypad. Refer to parameter P07.02.
Note: When the function parameter comes back to the default value, the motor's running direction will come back to the factory default state, too. In some cases it should be used with caution after commissioning if the change of rotation direction is disabled.
2: Forbid to run in reverse direction: It can be used in some special cases if the reverse running is disabled.</td><td></td><td></td></tr>
<tr><td>P00.14</td><td>Carrier frequency setting</td><td> 

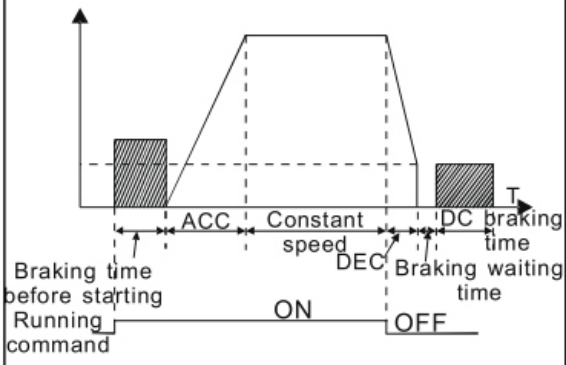
The relationship table of the motor type and carrier frequency:
<table>
<tr><th>Motor type</th><th>The factory value of carrier frequency</th></tr>
<tr><td>1.5~11kW</td><td>8kHz</td></tr>
<tr><td>15~55kW</td><td>4kHz</td></tr>
<tr><td>Above 75kW</td><td>2kHz</td></tr>
</table>
The advantage of high carrier frequency: ideal current waveform, little current harmonic wave and</td><td>Depend on the motor type</td><td>○</td></tr>
</table>

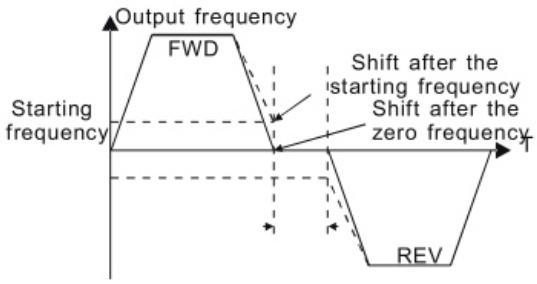
Function code	Name	Detailed instruction of parameters	Default value	Modify
		motor noise. The disadvantage of high carrier frequency: increasing the switch loss, increasing inverter temperature and the impact to the output capacity. The inverter needs to derate on high carrier frequency. At the same time, the leakage and electrical magnetic interference will increase. Applying low carrier frequency is contrary to the above, too low carrier frequency will cause unstable running, torque decreasing and surge. The manufacturer has set a reasonable carrier frequency when the inverter is in factory. In general, users do not need to change the parameter. When the frequency used exceeds the default carrier frequency, the inverter needs to derate 20% for each additional 1k carrier frequency. Setting range:1.0~15.0kHz		
P00.15	Motor parameter autotuning	0:No operation 1:Rotation autotuning Comprehensive motor parameter autotune It is recommended to use rotation autotuning when high control accuracy is needed. 2:Static autotuning It is suitable in the cases when the motor can not de-couple form the load. The antotuning for the motor parameter will impact the control accuracy.	0	◎
P00.16	AVR function selection	0:Invalid 1:Valid during the whole prodecure The auto-adjusting function of the inverter can cancel the impact on the output voltage of the inverter because of the bus voltage fluctuation.	1	○

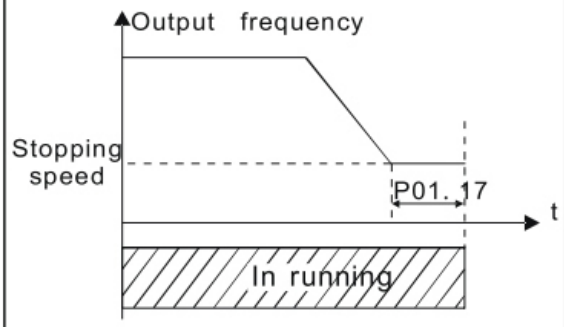
Function code	Name	Detailed instruction of parameters	Default value	Modify
P00.17	Reserved	Reserved	0	◎
P00.18	Function restore parameter	0:No operation 1:Restore the default value 2:Clear fault records **Note:** The function code will restore to 0 after finishing the operation of the selected function code. Restoring to the default value will cancel the user password, please use this function with caution.	0	◎
P01 Group Start-up and stop control				
P01.00	Start method	0:Start-up directly:start from the starting frequency P01.01 1:Start-up after DC braking: start the motor from the starting frequency after DC braking (set the parameter P01.03 and P01.04). It is suitable in the cases where reverse rotation may occur to the low inertia load during starting. 2: Start-up after reverse tracing: start the rotating motor smoothly after tracking the rotation speed and direction automatically. It is suitable in the cases where reverse rotation may occur to the big inertia load during starting. **Note:** it is recommended to start the synchronous motor directly.	0	◎
P01.01	Starting frequency of direct start-up	Starting frequency of direct start-up means the original frequency during the inverter starting. See P01.02 for detailed information. Setting range: 0.00~50.00Hz	0.50Hz	◎
P01.02	Retention time of the starting frequency	Set a proper starting frequency to increase the torque of the inverter during starting. During the retention time of the starting frequency, the output frequency of the inverter is the starting frequency.	0.0s	◎

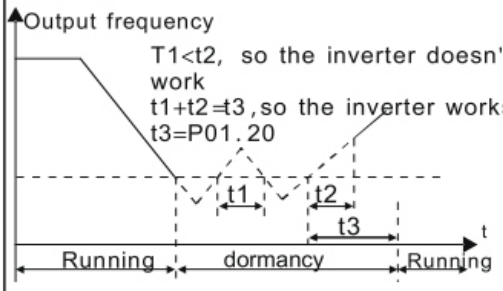
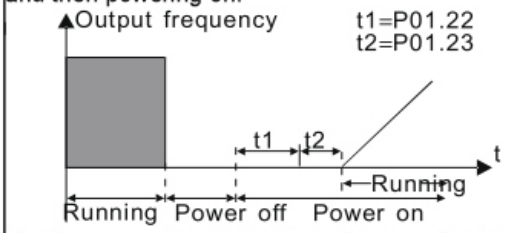
Function code	Name	Detailed instruction of parameters	Default value	Modify
		And then, the inverter will run from the starting frequency to the set frequency. If the set frequency is lower than the starting frequency, the inverter will stop running and keep in the stand-by state. The starting frequency is not limited in the lower limit frequency.  Setting range: 0.0~50.0s		
P01.03	The braking current before starting	The inverter will carry out DC braking at the braking current set before starting and it will speed up after the DC braking time. If the DC braking time is set to 0, the DC braking is invalid.	0.0%	◎
P01.04	The braking time before starting	The stronger the braking current, the bigger the braking power. The DC braking current before starting means the percentage of the rated current of the inverter. The setting range of P01.03: 0.0~150.0% The setting range of P01.04: 0.0~50.0s	0.0s	◎
P01.05	ACC/DEC selection	The changing mode of the frequency during start-up and running. 0:Linear type	0	◎

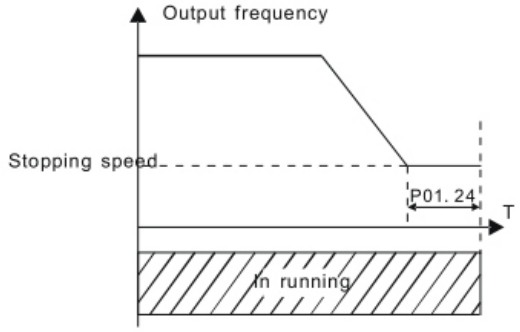
Function code	Name	Detailed instruction of parameters	Default value	Modify
		The output frequency increases or decreases linearly.  1:S curve type: The output frequency increases or decreases at the S curve. S curve is suitable in the cases where a gentle start-up or stopping is needed, such as, elevators and conveyer belt.		
P01.06	The starting segment proportion of S curve	Setting range: 0.0~50.0% (ACC/DEC time)	30.0%	◎
P01.07	The ending segment proportion of S curve		30.0%	◎
P01.08	Stop selection	0:Decelerate to stop: after the stop command becomes valid, the inverter decelerates to decrease	0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		the output frequency during the set time. When the frequency decreases to 0, the inverter stops. 1:Coast to stop: after the stop command becomes valid, the inverter ceases the output immediately. And the load coasts to stop at the mechanical inertia.		
P01.09	Starting frequency of DC braking	Starting frequency of DC braking: start the DC braking when running frequency reaches starting frequency determined by P1.09.	0.00Hz	○
P01.10	Waiting time before DC braking	Waiting time before DC braking: Inverters blocks the output before starting the DC braking. After this waiting time, the DC braking will be started so as to prevent over-current fault caused by DC braking at high speed.	0.0s	○
P01.11	DC braking current		0.0%	○
P01.12	DC braking time	DC braking current：The value of P01.11 is the percentage of rated current of inverter. The bigger the DC braking current is, the greater the braking torque is. DC braking time: The retention time of DC brake. If the time is 0, the DC brake is invalid. The inverter will stop at the set deceleration time.  Setting range of P01.09: 0.00~P00.03 (the Max. frequency)	0.0s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		Setting range of P01.10: 0.0~50.0s Setting range of P01.11: 0.0~150.0% Setting range of P01.12: 0.0~50.0s		
P01.13	Dead time of FWD/REV rotation	During the procedure of switching FWD/REV rotation, set the threshold by P01.14, which is as the table below:  Setting range: 0.0~3600.0s	0.0s	○
P01.14	Switching between FWD/REV rotation	Set the threshold point of the inverter: 0:Switch after 0 frequency 1:Switch after the starting frequency	0	◎
P01.15	Stopping speed	0.00~100.00Hz	0.10 Hz	◎
P01.16	Detection of stopping speed	0: Detect at the setting speed 1: Detect at the feedback speed(only valid for vector control)	0	◎
P01.17	Detection time of the feedback speed	When P01.16=1, the actual output frequency of the inverter is less than or equal to P01.15 and is detected during the time set by P01.17, the inverter will stop; otherwise, the inverter stops in the time set by P01.24. Setting range: 0.0~100.0 s (only valid when P01.16=1)	0.05s	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
	speed			
P01.18	Terminal running protection selection when powering on	When the running command channel is the terminal control, the system will detect the state of the running terminal during powering on. 0:The terminal running command is invalid when powering on. Even the running command is detected to be valid during powering on, the inverter won't run and the system keeps in the protection state until the running command is canceled and enabled again. 1: The terminal running command is valid when powering on. If the running command is detected to be valid during powering on, the system will start the inverter automatically after the initialization. **Note:** this function should be selected with cautions, or serious result may follow.	0	○
P01.19	The running frequency is lower than the lower limit one (valid if the lower limit frequency is above 0)	This function code determines the running state of the inverter when the set frequency is lower than the lower-limit one. 0: Run at the lower-limit frequency 1: Stop 2: Hibernation The inverter will coast to stop when the set frequency is lower than the lower-limit one.if the set frequency is above the lower limit one again and it lasts for the time set by P01.20, the inverter will come back to the running state automatically.	0	◎

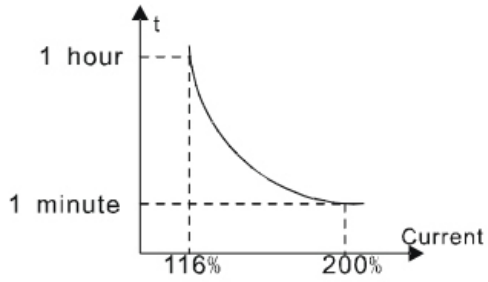
Function code	Name	Detailed instruction of parameters	Default value	Modify
P01.20	Hibernation restore delay time	This function code determines the Hibernation delay time. When the running frequency of the inverter is lower than the lower limit one, the inverter will pause to stand by. When the set frequency is above the lower limit one again and it lasts for the time set by P01.20, the inverter will run automatically. **Note:** The time is the total value when the set frequency is above the lower limit one.  Setting range: 0.0~3600.0s (valid when P01.19=2)	0.0s	○
P01.21	Restart after power off	This function can enable the inverter start or not after the power off and then power on. 0: Ddisable 1: Enable, if the starting need is met, the inverter will run automatically after waiting for the time defined by P01.22.	0	○
P01.22	The waiting time of restart after power off	The function determines the waiting time before the automatic running of the inverter when powering off and then powering on.  Setting range: 0.0~3600.0s (valid when P01.21=1)	1.0s	○

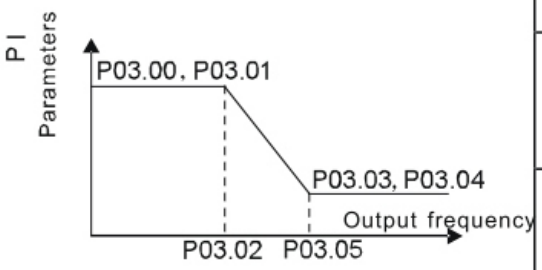
Function code	Name	Detailed instruction of parameters	Default value	Modify
P01.23	Start delay time	The function determines the brake release after the running command is given, and the inverter is in a stand-by state and wait for the delay time set by P01.23 Setting range: 0.0~60.0s	0.0s	○
P01.24	Delay time of stopping speed	 0.00~10.00 s	0.05s	●
P01.25	Reserved			●
P02 Group Motor 1				
P02.00	Motor type 1	0:Asynchronous motor 1:Synchronous motor **Note:** Switch the current motor by the switching channel of P08.31.	0	◎
P02.01	Asynchronous motor 1 rated power	0.1~3000.0kW	Depend on module	◎
P02.02	Asynchronous motor 1 rated power	0.01Hz~P00.03(the Max. frequency)	50.00Hz	◎
P02.03	Asynchronous motor 1 rated speed	1~36000rpm	Depend on module	◎
P02.04	Asynchronous motor 1	0~1200V	Depend on	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
	rated voltage		module	
P02.05	Asynchronous motor 1 rated current	0.8~6000.0A	Depend on module	◎
P02.06	Asynchronous motor 1 stator resistor	0.001~65.535Ω	Depend on module	○
P02.07	Asynchronous motor 1 rotor resistor	0.001~65.535Ω	Depend on module	○
P02.08	Asynchronous motor 1 leakage inductance	0.1~6553.5mH	Depend on module	○
P02.09	Asynchronous motor 1mutual inductance	0.1~6553.5mH	Depend on module	○
P02.10	Asynchronous motor 1 non-load current	0.1~6553.5A	Depend on module	○
P02.11	Reserved			◎
P02.12	Reserved			◎
P02.13	Reserved			◎
P02.14	Reserved			◎
P02.15	Synchronous motor 1 rated power	0.1~3000.0kW	Depend on module	◎
P02.16	Synchronous	0.01Hz~P00.03(the Max. frequency)	50.00Hz	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
	motor 1 rated frequency			
P02.17	Synchronous motor 1 number of poles pairs	1~50	2	◎
P02.18	Synchronous motor 1 rated voltage	0~1200V	Depend on module	◎
P02.19	Synchronous motor 1 rated current	0.8~6000.0A	Depend on module	◎
P02.20	Synchronous motor 1 stator resistor	0.001~65.535Ω	Depend on module	○
P02.21	Synchronous motor 1 Direct axis inductance	0.1~6553.5mH	Depend on module	○
P02.22	Synchronous motor 1 Quadrature axis inductance	0.1~6553.5mH	Depend on module	○
P02.23	Synchronous motor 1 Back EMF constant	When P00.15=2, the set value of P02.23 cannot be updated by autotuning, please count according to the following method. The counter-electromotive force constant can be counted according to the parameters on the name plate of the motor. There are three ways to count:	300	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		1. If the name plate designate the counter-electromotive force constant Ke, then: E=（Ke*n_N*2π）/ 60 2. If the name plate designate the counter-electromotive force constant E'(V/1000r/min), then: E=E'*n_N/1000 3. If the name plate does not designate the above parameters, then: E=P/√3*I In the above formulas: n_N is the rated rotation speed, P is the rated power and I is the rated current. Setting range: 0~10000		
P02.24	Reserved			●
P02.25	Reserved			●
P02.26	Motor 1 overload protection selection	0:No protection 1:Common motor (with low speed compensation). Because the heat-releasing effect of the common motors will be weakened, the corresponding electric heat protection will be adjusted properly. The low speed compensation characteristic mentioned here means reducing the threshold of the overload protection of the motor whose running frequency is below 30Hz. 2: Frequency conversion motor (without low speed compensation) Because the heat-releasing effect of the specific motors won't be impacted by the rotation speed, it is not necessary to adjust the protection value during low-speed running.	2	◎
P02.27	Motor 1 over load	When P02.27=overload protection current of the motor/rated current of the motor	100.0%	○

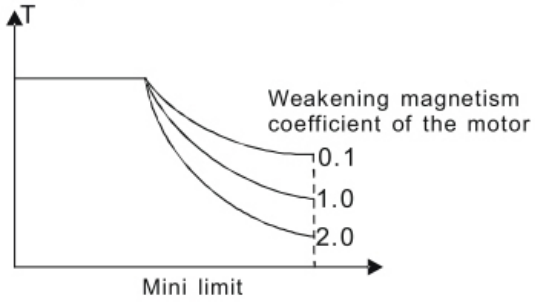
Function code	Name	Detailed instruction of parameters	Default value	Modify
	protection coefficient	So, the bigger the overload coefficient is, the shorter the reporting time of the overload fault is. When the overload coefficient <110%, there is no overload protection. When the overload coefficient =116%, the fault will be reported after 1 hour, when the overload coefficient=200%, the fault will be reported after 1 minute.  Setting range: 20.0%~120.0%		
P02.28	Reserved			●
P02.29	Reserved			●
P03 Group Vector control				
P03.00	Speed loop proportional gain1	The parameters P03.00~P03.05 only apply to vector control mode. Below the switching frequency 1(P03.02), the speed loop PI parameters are: P03.00 and P03.01. Above the switching frequency 2(P03.05), the speed loop PI parameters are: P03.03 and P03.04. PI parameters are gained according to the linear change of two groups of parameters. It is shown as below:	20.0	○
P03.01	Speed loop integral time1		0.200s	○
P03.02	Low switching frequency		5.00Hz	○
P03.03	Speed loop proportional		20.0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	gain 2			
P03.04	Speed loop integral time 2		0.200s	○
P03.05	High switching frequency	Setting the proportional coefficient and integral time of the adjustor and change the dynamic response performance of vector control speed loop. Increasing the proportional gain and decreasing the integral time can speed up the dynamic response of the speed loop. But too high proportional gain and too low integral time may cause system vibration and overshoot. Too low proportional gain may cause system vibration and speed static deviation. PI has a close relationship with the inertia of the system. Adjust on the base of PI according to different loads to meet various demands. The setting range of P03.00:0~200.0 The setting range of P03.01:0.001~10.000s The setting range of P03.02:0.00Hz~P03.05 The setting range of P03.03:0~200.0 The setting range of P03.04:0.001~10.000s The setting range of P03.05:P03.02~P00.03(the Max. frequency)	10.00Hz	○
P03.06	Speed loop output filter	0~8(corresponds to 0~2^8/10ms)	0	○
P03.07	Vector control electromotio	Slip compensation coefficient is used to adjust the slip frequency of the vector control and improve the speed control accuracy of the system. Adjusting the	100%	○

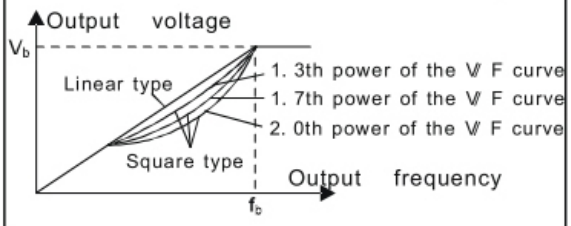
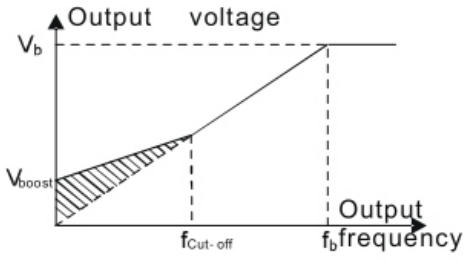
Function code	Name	Detailed instruction of parameters	Default value	Modify
	n slip compensation coefficient	parameter properly can control the speed steady-state error. Setting range:50%~200%		
P03.08	Vector control brake slip compensation coefficient		100%	○
P03.09	Current loop percentage coefficient P	**Note:** 1 These two parameters adjust the PI adjustment parameter of the current loop which affects the dynamic response speed and control accuracy directly. Generally, users do not need to change the default value. 2 Only apply to the vector control mode without PG 0(P00.00=0). Setting range:0~65535	1000	○
P03.10	Current loop integral coefficient 1		1000	○
P03.11	Torque setting method	This parameter is used to enable the torque control mode, and set the torque setting means. 0:Torque control is invalid 1:Keypad setting torque(P03.12) 2:Analog AI1 setting torque 3:Analog AI2 setting torque 4:Analog AI3 setting torque 5:Pulse frequency HDI setting torque 6: Multi-stage torque setting 7:MODBUS communication setting torque 8:PROFIBUS communication setting torque 9:Ethernet communication setting torque 10:CAN communication setting torque **Note:** 100% of Setting methods 2~10, corresponds	0	○

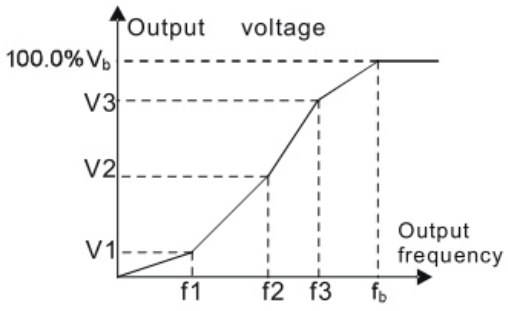
Function code	Name	Detailed instruction of parameters	Default value	Modify
		to three times of the rated current of the motor.		
P03.12	Keypad setting torque	Setting range: -300.0%~300.0%(motor rated current)	50.0%	○
P03.13	Torque given filter time	0.000~10.000s	0.100s	○
P03.14	Torque control forward rotation upper-limit frequency setting source selection	0:keypad setting upper-limit frequency(P03.16 sets P03.14,P03.17 sets P03.15) 1:Analog AI1 setting upper-limit frequency 2:Analog AI2 setting upper-limit frequency 3:Analog AI3 setting upper-limit frequency 4:Pulse frequency HDI setting upper-limit frequency 5:Multi-stage setting upper-limit frequency 6:MODBUS communication setting upper-limit frequency 7:PROFIBUS communication setting upper-limit frequency 8:Ethernet communication setting upper-limit frequency 9:CAN communication setting upper-limit frequency **Note:**setting method 1~9, 100% corresponds to the maximum frequency	0	○
P03.15	Torque control reverse rotation upper-limit frequency keypad defined value		0	○
P03.16	Torque control forward rotation upper-limit frequency keypad	This function is used to set the upper limit of the frequency. P03.16 sets the value of P03.14; P03.17 sets the value of P03.15. Setting range:0.00 Hz~P00.03 (the Max. output frequency)	50.00 Hz	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	defined value			
P03.17	Torque control reverse rotation upper-limit frequency keypad defined value		50.00 Hz	○
P03.18	Electromotion torque upper-limit setting source selection	This function code is used to select the electromotion and braking torque upper-limit setting source selection. 0:Keypad setting upper-limit frequency(P03.20 sets P03.18,P03.21 sets P03.19) 1:Analog AI1 setting upper-limit torque 2:Analog AI2 setting upper-limit torque 3:Analog AI3 setting upper-limit torque 4:Pulse frequency HDI setting upper-limit torque 5:MODBUS communication setting upper-limit torque 6:PROFIBUS communication setting upper-limit torque 7:Ethernet communication setting upper-limit torque 8:CAN communication setting upper-limit torque **Note**:setting method 1~9,100% corresponds to three times of the motor current.	0	○
P03.19	Braking torque upper-limit setting source selection		0	○
P03.20	Electromotion torque upper-limit	The function code is used to set the limit of the torque. Setting range:0.0~300.0%(motor rated current)	180.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	keypad setting			
P03.21	Braking torque upper-limit keypad setting		180.0%	○
P03.22	Weakening coefficient in constant power zone	The usage of motor in weakening control.  	1.0	○
P03.23	The lowest weakening point in Constant power zone	Function code P03.22 and P03.23 are effective at constant power. The motor will enter into the weakening state when the motor runs at rated speed. Change the weakening curve by modifying the weakening control coefficienct. The bigger the weakening control coefficienct is, the steeper the weak curve is. The setting range of P03.22:0.1~2.0 The setting range of P03.23:10%~100%	50%	○
P03.24	Max. voltage limit	P03.24 set the Max. Voltage of the inverter, which is dependent on the site situation. The setting range:0.0~120.0%	100.0%	◎
P03.25	Pre-exciting time	Pre-activate the motor when the inverter starts up. Build up a magnetic field inside the inverter to improve the torque performance during the starting process.	0.300s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		The setting time:0.000~10.000s		
P03.26	Reserved			●
P03.27	Reserved			●
P03.28	Reserved			●
P03.29	Reserved			●
P04 Group V/F control				
P04.00	Motor 1V/F curve setting	These function codes define the V/F curve of CE600 motor 1 to meet the need of different loads. 0:Straight line V/F curve; applying to the constant torque load 1:Multi-dots V/F curve 2:1.3th power low torque V/F curve 3:1.7th power low torque V/F curve 4:2.0th power low torque V/F curve Curves 2~4 apply to the torque loads such as fans and water pumps. Users can adjust according to the features of the loads to achieve a best energy-saving effect. 5:Customized V/F(V/F separation): On this mode, V can be separated from f and f can be adjusted through the frequency given channel set by P00.06 or the voltage given channel set by P04.27 to change the feature of the curve. **Note:** V_b in the below picture is the motor rated voltage and f_b is the motor rated frequency.	0	◎

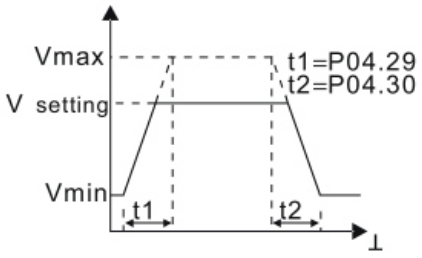
Function code	Name	Detailed instruction of parameters	Default value	Modify
				
P04.01	Motor 1 torque boost	Torque boost to the output voltage for the features of low frequency torque. P04.01 is for the Max. Output voltage V_b.	0.0%	○
P04.02	Motor 1 torque boost close	P04.02 defines the percentage of closing frequency of manual torque to f_b. Torque boost should be selected according to the load. The bigger the load is, the bigger the torque is. Too big torque boost is inappropriate because the motor will run with over magnetic, and the current of the inverter will increase to add the temperature of the inverter and decrease the efficiency. When the torque boost is set to 0.0%, the inverter is automatic torque boost. Torque boost threshold: below this frequency point, the torque boost is effective, but over this frequency point, the torque boost is ineffective.  The setting range of P04.01:0.0%:(automatic)0.1%~10.0%	20.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		The setting range of P04.02:0.0%~50.0%		
P04.03	Motor 1V/F Frequency point 1		0.00Hz	○
P04.04	Motor 1V/F Voltage point 1		00.0%	○
P04.05	Motor 1V/F Frequency point 2		00.00Hz	○
P04.06	Motor 1V/F voltage point 2	When P04.00 =1, the user can set V//F curve through P04.03~P04.08. V/F is generally set according to the load of the motor. **Note:**V1 < V2 < V3,f1 < f2 < f3. Too high low frequency voltage will heat the motor excessively or damage. The inverter may occur the overcurrent speed or overcurrent protection. The setting range of P04.03: 0.00Hz~P04.05 The setting range of P04.04:0.0%~110.0% The setting range of P04.05:P04.03~ P04.07 The setting range of P04.06:0.0%~110.0%(the rated voltage of motor 1) The setting range of P04.07:P04.05~ P02.02(the rated frequency of motor 1) or P04.05~ P02.16(the rated frequency of motor 1) The setting range of P04.08:0.0%~110.0%(the rated voltage of motor 1)	00.0%	○
P04.07	Motor 1V/F Frequency point 3		00.00Hz	○
P04.08	Motor 1V/F voltage point 3		00.0%	○
P04.09	Motor 1 V/F slip compensatio	This function code is used to compensate the change of the rotation speed caused by load during compensation V/F control to improve the rigidity of	0.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	n gain	the motor. It can be set to the rated slip frequency of the motor which is counted as below: $\triangle f=f_b-n*p/60$ Of which, f_b is the rated frequency of the motor, its function code is P02.01; n is the rated rotating speed of the motor and its function code is P02.02； p is the pole pair of the motor. 100.0% corresponds to the rated slip frequency△f. Setting range:0.0~200.0%		
P04.10	Motor 1 low frequency vibration control factor	In the V/F control mode, current fluctuation may occur to the motor on some frequency, especially the motor with big power. The motor can not run stably or overcurrent may occur. These phenomena can be canceled by adjusting this parameter. The setting range of P04.10:0~100 The setting range of P04.11:0~100 The setting range of P04.12:0.00Hz~P00.03(the Max. frequency)	10	○
P04.11	Motor 1 high frequency vibration control factor		10	○
P04.12	Motor 1 vibration control threshold		30.00 Hz	○
P04.13	Motor 2 V/F curve setting	This group of parameters defines the V/F setting means of CE 600 motor 2 to meet the features of different loads. See P04.00~P04.12 for the detailed function code instruction. **Note:**P04 group contains two sets of V/F parameters of the motor which cannot display simultaneously. Only the selected V/F parameter can be shown. The motor selection can be defined by terminals function "the shift between motor 1 and motor 2"	0	◎
P04.14	Motor 2 torque boost		0.0%	○
P04.15	Motor 2 torque threshold		20.0%	○
P04.16	Motor 2V/F frequency point 1		0.00Hz	○

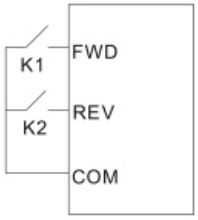
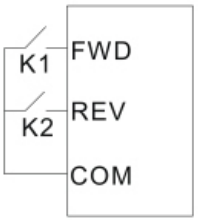
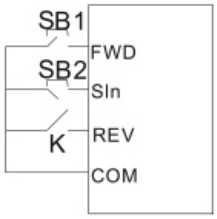
Function code	Name	Detailed instruction of parameters	Default value	Modify
P04.17	Motor 2V/F voltage point 1		00.0%	○
P04.18	Motor 2V/F frequency point 2		00.00Hz	○
P04.19	Motor 2V/F voltage point 2		00.0%	○
P04.20	Motor 2V/F frequency point 3		00.00Hz	○
P04.21	Motor 2V/F voltage point 3		00.0%	○
P04.22	Motor 2 V/F slip compensation gain		0.0%	○
P04.23	Motor 2 low frequency vibration control factor	In the V/F control mode, current fluctuation may occur to the motor on some frequency, especially the motor with big power. The motor can not run stably or overcurrent may occur. These phenomena can be canceled by adjusting this parameter. The setting range of P04.23:0~100 The setting range of P04.24:0~100 The setting range of P04.25:0.00Hz~P00.03(the Max. frequency)	10	○
P04.24	Motor 2 high frequency vibration control factor		10	○
P04.25	Motor 2 vibration control threshold		30.00 Hz	○

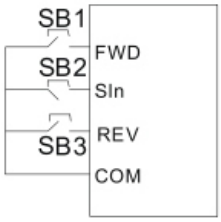
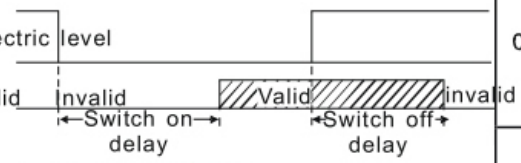
Function code	Name	Detailed instruction of parameters	Default value	Modify
P04.26	energy-saving operation selection	0:No operation 1:Automatic energy-saving operation Motor on the light load conditions, automatically adjusts the output voltage to save energy	0	◎
P04.27	Voltage Setting Channel selection	Select the output setting channel at V/F curve separation. 0:Keypad setting voltage: the output voltage is determined by P04.28. 1:AI1 setting voltage ; 2:AI2 setting voltage; 3:AI3 setting voltage; 4:HDI1 setting voltage; 5:Multi-stage speed setting voltage; 6:PID setting voltage; 7:MODBUS communication setting voltage; 8:PROFIBUS communication setting voltage; 9:Ethernet communication setting voltage ; (Reversed) 10:CAN communication setting voltage; (Reversed) **Note:**100% corresponds to the rated voltage of the motor.	0	○
P04.28	Keypad setting voltage	The function code is the voltage digital set value when the voltage setting channel is selected as "keypad selection" The setting range:0.0%~100.0%	100.0%	○
P04.29	Voltage increasing time	Voltage increasing time is the time when the inverter accelerates from the output minimum voltage to the output maximum voltage.	5.0s	○
P04.30	Voltage decreasing time	Voltage decreasing time is the time when the inverter decelerates from the output maximum voltage to the output minimum voltage.	5.0s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		The setting range:0.0~3600.0s		
P04.31	Output maximum voltage	Set the upper and low limit of the output voltage. The setting range of P04.31:P04.32~100.0%(the rated voltage of the motor)	100.0%	◎
P04.32	Output minimum voltage	The setting range of P04.32:0.0%~ P04.31(the rated voltage of the motor) 	0.0%	◎
P04.33	Reserved			●
P04.34	Reserved			●
P04.35	Reserved			●
P05 Group Input terminals				
P05.00	HDI input type selection	0:HDI is high pulse input. See P05.49~P05.54 1:HDI is switch input	0	◎
P05.01	D1 terminals function selection	0: No function 1: Forward rotation operation 2: Reverse rotation operation	1	◎
P05.02	D2 terminals function selection	3: 3-wire control operation 4: Forward rotation jogging 5: Reverse rotation jogging	4	◎
P05.03	D3 terminals function selection	6: Coast to stop 7: Fault reset 8: Operation pause	7	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
P05.04	D4 terminals function selection	9: External fault input 10:Increasing frequency setting(UP) 11:Decreasing frequency setting(DOWN) 12:Cancel the frequency change setting 13:Shift between A setting and B setting 14:Shift between combination setting and A setting 15:Shift between combination setting and B setting 16:Multi-stage speed terminal 1 17:Multi-stage speed terminal 2 18:Multi-stage speed terminal 3 19:Multi- stage speed terminal 4 20:Multi- stage speed pause 21:ACC/DEC time option 1 22:ACC/DEC time option 2 23:Simple PLC stop reset 24:Simple PLC pause 25:PID control pause 26:Traverse Pause(stop at the current frequency) 27:Traverse reset(return to the center frequency) 28:Counter reset 29:Torque control prohibition 30:ACC/DEC prohibition 31:Counter trigger 32:Length reset 33:Cancel the frequency change setting temporarily 34:DC brake 35:Shift the motor 1 into motor 2 36:Shift the command to the keypad 37:Shift the command to the terminals 38:Shift the command to the communication 39:Pre-magnetized command	0	◎
P05.05	D5 terminals function selection		0	◎
P05.06	D6 terminals function selection		0	◎
P05.07	D7 terminals function selection		0	◎
P05.08	D8 terminals function selection		0	◎
P05.09	HDI terminals function selection		0	◎

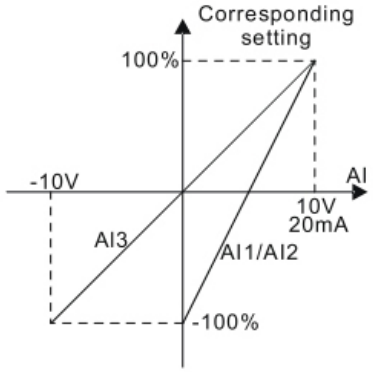
<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td></td><td></td><td>40:Clear the power
41:Keep the power
42~63:Reserved</td><td></td><td></td></tr>
<tr><td>P05.10</td><td>Polarity selection of the input terminals</td><td>The function code is used to set the polarity of the input terminals.
Set the bit to 0, the input terminal is anode.
Set the bit to 1, the input terminal is cathode.
<table>
<tr><td>BIT0</td><td>BIT2</td><td>BIT3</td><td>BIT4</td><td>BIT5</td></tr>
<tr><td>D1</td><td>D2</td><td>D3</td><td>D4</td><td>D5</td></tr>
<tr><td>BIT6</td><td>BIT7</td><td>BIT8</td><td>BIT9</td><td></td></tr>
<tr><td>D6</td><td>D7</td><td>D8</td><td>HDI</td><td></td></tr>
</table>
The setting range:0x000~0x1FF</td><td>0x000</td><td>○</td></tr>
<tr><td>P05.11</td><td>Switch filter time</td><td>Set the sample filter time of D1~D8 and HDI terminals. If the interference is strong, increase the parameter to avoid the disoperation.
0.000~1.000s</td><td>0.010s</td><td>○</td></tr>
<tr><td>P05.12</td><td>Virtual terminals setting</td><td>Enable the input function of virtual terminals at the communication mode.
0:Virtual terminals is invalid
1:MODBUS communication virtual terminals are valid
2:PROFIBUS communication virtual terminals are valid</td><td>0</td><td>◎</td></tr>
<tr><td>P05.13</td><td>Terminals control running mode</td><td>Set the operation mode of the terminals control
0:2-wire control 1, comply the enable with the direction. This mode is widely used. It determines the rotation direction by the defined FWD and REV terminals command.</td><td>0</td><td>◎</td></tr>
</table>

Function code	Name	Detailed instruction of parameters	Default value	Modify
		 K1 K2 Running command OFF OFF Stopping ON OFF Forward running OFF ON Reverse running ON ON Hold on 1:2-wire control 2：Separate the enable from the direction. FWD defined by this mode is the enabling ones. The direction depends on the state of the defined REV.  K1 K2 Running command OFF OFF Stopping ON OFF Forward running OFF ON Hold on ON ON Reverse running 2:3-wire control 1; Sin is the enabling terminal on this mode, and the running command is caused by FWD and the direction is controlled by REV. Sin is natural closed.  K Running command ON Forward running OFF Reverse running 3:3-wire control 2; Sin is the enabling terminal on this mode, and the running command is caused by SB1 or SB3 and both of them control the running		

Function code	Name	Detailed instruction of parameters	Default value	Modify
		direction.NC SB2 generates the stop command.  **Note:** for the 2-wire running mode, when FWD/REV terminal is effective, the inverter stop because of the stopping command from other sources, even the control terminal FWD/REV keeps effective; the inverter won't work when the stopping command is canceled. Only when FWD/REV is relaunched, the inverter can start again. For example, the effective STOP/RST stop when PLC signal cycles stop, fixed-length stop and terminal control (see P07.04).		
P05.14	D1 terminal switching on delay time	The function code defines the corresponding delay time of electrical level of the programmable terminals	0.000s	○
P05.15	D1 terminal switching off delay time	 Setting range:0.000~50.000s	0.000s	○
P05.16	D2 terminal switching on delay time		0.000s	○
P05.17	D2 terminal switching off delay time		0.000s	○

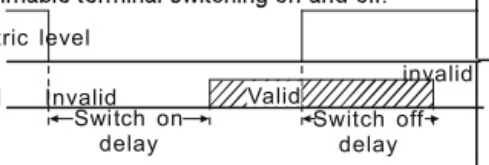
Function code	Name	Detailed instruction of parameters	Default value	Modify
P05.18	D3 terminal switching on delay time		0.000s	○
P05.19	D3 terminal switching off delay time		0.000s	○
P05.20	D4 terminal switching on delay time		0.000s	○
P05.21	D4 terminal switching off delay time		0.000s	○
P05.22	D5 terminal switching on delay time		0.000s	○
P05.23	D5 terminal switching off delay time		0.000s	○
P05.24	D6 terminal switching on delay time		0.000s	○
P05.25	D6 terminal switching off delay time		0.000s	○
P05.26	D7		0.000s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	terminal switching on delay time			
P05.27	D7 terminal switching off delay time		0.000s	○
P05.28	D8 terminal switching on delay time		0.000s	○
P05.29	D8 terminal switching off delay time		0.000s	○
P05.30	HDI terminal switching on delay time		0.000s	○
P05.31	HDI terminal switching off delay time		0.000s	○
P05.32	Lower limit of AI1	The function code defines the relationship between the analog input voltage and its corresponding set value. If the analog input voltage beyond the set minimum or maximum input value, the inverter will count at the minimum or maximum one. When the analog input is the current input, the corresponding voltage of 0~20mA is 0~10V. In different cases, the corresponding rated value of	0.00V	○
P05.33	Corresponding setting of the lower limit of AI1		0.0%	○
P05.34	Upper limit of AI1		10.00V	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
P05.35	Corresponding setting of the upper limit of AI1	100.0% is different. See the application for detailed information. The figure below illustrates different applications:  Input filter time: this parameter is used to adjust the sensitivity of the analog input. Increasing the value properly can enhance the anti-interference of the analog, but weaken the sensitivity of the analog input. **Note:** Analog AI1 and AI2 can support 0~10V or 0~20mA input,when AI1 and AI2 selects 0~20mA input, the corresponding voltage of 20mA is 5V. AI3 can support the output of -10V~+10V. The setting range of P05.32:0.00V~P05.34 The setting range of P05.33:-100.0%~100.0% The setting range of P05.34:P05.32~10.00V The setting range of P05.35:-100.0%~100.0% The setting range of P05.36:0.000s~10.000s The setting range of P05.37:0.00V~P05.39 The setting range of P05.38:-100.0%~100.0% The setting range of P05.39:P05.37~10.00V	100.0%	○
P05.36	AI1 input filter time		0.100s	○
P05.37	Lower limit of AI2		0.00V	○
P05.38	Corresponding setting of the lower limit of AI2		0.0%	○
P05.39	Upper limit of AI2		10.00V	○
P05.40	Corresponding setting of the upper limit of AI2		100.0%	○
P05.41	AI2 input filter time		0.100s	○
P05.42	Lower limit of AI3		-10.00V	○
P05.43	Corresponding setting of the lower limit of AI3		-100.0%	○
P05.44	middle value of AI3		0.00V	○
P05.45	Corresponding middle setting of		0.0%	○

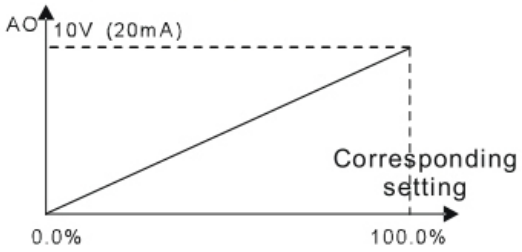
Function code	Name	Detailed instruction of parameters	Default value	Modify
	AI3	The setting range of P05.40:-100.0%~100.0%		
P05.46	Upper limit of AI3	The setting range of P05.41:0.000s~10.000s The setting range of P05.42:-10.00V~P05.44	10.00V	○
P05.47	Corresponding setting of the upper limit of AI3	The setting range of P05.43:-100.0%~100.0% The setting range of P05.44:P05.42~P05.46 The setting range of P05.45:-100.0%~100.0% The setting range of P05.46:P05.44~10.00V	100.0%	○
P05.48	AI3 input filter time	The setting range of P05.47:-100.0%~100.0% The setting range of P05.48:0.000s~10.000s	0.100s	○
P05.49	HDI high-speed pulse input function selection	The function selection when HDI terminals is high-speed pulse input 0:Frequency setting input, frequency setting source 1:Counter input, high-speed pulse counter input terminals 2:Length counting input, length counter input terminals	0	◎
P05.50	Lower limit frequency of HDI	0.00 KHz ~ P05.52	0.00KHz	○
P05.51	Corresponding setting of HDI low frequency setting	-100.0%~100.0%	0.0%	○
P05.52	Upper limit frequency of HDI	P05.50 ~50.00KHz	50.00KHz	○
P05.53	Corresponding setting of upper limit frequency of	-100.0%~100.0%	100.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	HDI			
P05.54	HDI frequency input filter time	0.000s~10.000s	0.100s	○
P06 Group Output terminals				
P06.00	HDO output type	The function selection of the high-speed pulse output terminals. 0:Open collector pole high speed pulse output: The Max.pulse frequency is 50.0kHz. See P06.27~P06.31 for detailed information of the related functions. 1: Open collector pole output. See P06.02 for detailed information of the related functions.	0	◎
P06.01	Y output selection	0:Invalid 1:On operation 2:Forward rotation operation 3:Reverse rotation operation 4: Jogging operation 5:The inverter fault 6:Frequency degree test FDT1 7:Frequency degree test FDT2 8:Frequency arrival 9:Zero speed running 10:Upper limit frequency arrival 11:Lower limit frequency arrival 12:Ready for operation 13:Pre-magnetizing 14:Overload pre-alarm 15: Underload pre-alarm 16:Completion of simple PLC stage	0	○
P06.02	HDO output selection		0	○
P06.03	Relay RO1 output selection		1	○
P06.04	Relay RO2 output selection		5	○

<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td></td><td></td><td>17:Completion of simple PLC cycle
18:Setting count value arrival
19:Defined count value arrival
20:External fault valid
21:Length arrival
22:Running time arrival
23:MODBUS communication virtual terminals output
24:PROFIBUS communication virtual terminals output
25~30:Reserved</td><td></td><td></td></tr>
<tr><td>P06.05</td><td>Polarity selection of output terminals</td><td>The function code is used to set the pole of the output terminal.
When the current bit is set to 0, input terminal is positive.
When the current bit is set to 1, input terminal is negative.
<table><tr><td>BIT0</td><td>BIT1</td><td>BIT2</td><td>BIT3</td></tr><tr><td>Y</td><td>HDO</td><td>RO1</td><td>RO2</td></tr></table>Setting range:00~0F</td><td>00</td><td>○</td></tr>
<tr><td>P06.06</td><td>Y switching on delay time</td><td rowspan="4">The function code defines the corresponding delay time of the electrical level change during the programmable terminal switching on and off.
 

The setting range :0.000~50.000s
Note:P06.08 and P06.08 are valid only when P06.00=1.</td><td>0.000s</td><td>○</td></tr>
<tr><td>P06.07</td><td>Y switching off delay time</td><td>0.000s</td><td>○</td></tr>
<tr><td>P06.08</td><td>HDO switching on delay time</td><td>0.000s</td><td>○</td></tr>
<tr><td>P06.09</td><td>HDO switching off delay time</td><td>0.000s</td><td>○</td></tr>
<tr><td>P06.10</td><td>RO1 switching on</td><td></td><td>0.000s</td><td>○</td></tr>
</table>

Function code	Name	Detailed instruction of parameters	Default value	Modify
	delay time			
P06.11	RO1 switching off delay time		0.000s	○
P06.12	RO2 switching on delay time		0.000s	○
P06.13	RO2 switching off delay time		0.000s	○
P06.14	AO1 output selection	0:Running frequency 1:Set frequency	0	○
P06.15	AO2 output selection	2:Ramp reference frequency 3:Running rotation speed	0	○
P06.16	HDO high-speed pulse output selection	4:Output current (relative to the rated current of the inverter) 5:Output current(relative to the rated current of the motor) 6:Output voltage 7:Output power 8:Set torque value 9:Output torque 10:Analog AI1 input value 11:Analog AI2 input value 12:Analog AI3 input value 13:High speed pulse HDI input value 14:MODBUS communication set value 1 15:MODBUS communication set value 2 16:PROFIBUS communication set value 1 17:PROFIBUS communication set value 2 18:Torque current(relative to the rated current of the	0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		motor) 19:Pre-magnetizing current(relative to the rated current of the motor) 20:Reserved		
P06.17	Lower limit of AO1 output	The above function codes define the relative relationship between the output value and analog output. When the output value exceeds the range of set maximum or minimum output, it will count according to the low-limit or upper-limit output. When the analog output is current output, 1mA equals to 0.5V. In different cases, the corresponding analog output of 100% of the output value is different. Please refer to each application for detailed information.  Setting range of P06.18 0.00V~10.00V Setting range of P06.19 P06.17~100.0% Setting range of P06.20 0.00V~10.00V Setting range of P06.21 0.000s~10.000s Setting range of P06.22 0.0%~P06.24 Setting range of P06.23 0.00V~10.00V Setting range of P06.24 P06.22~100.0% Setting range of P06.25 0.00V~10.00V Setting range of P06.26 0.000s~10.000s Setting range of P06.27 0.0%~P06.29 Setting range of P06.28 0.00~50.00kHz	0.0%	○
P06.18	Corresponding AO1 output to the lower limit		0.00V	○
P06.19	Upper limit of AO1 output		100.0%	○
P06.20	The corresponding AO1 output to the upper limit		10.00V	○
P06.21	AO1 output filter time		0.000s	○
P06.22	Lower limit of AO2 output		0.0%	○
P06.23	Corresponding AO2 output to the lower limit		0.00V	○
P06.24	Upper limit of AO2 output		100.0%	○
P06.25	Corresponding AO2 output to the upper limit		10.00V	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		"0.0.0.0.0" will be displayed. Unless input right password, the operator can not enter into it. **Note:** restoring to the default value can clear the password, please use it with caution.		
P07.01	Function parameter copy	The function code determines the mode of parameters copy. 0:No operation 1:Upload the local function parameter to the keypad 2:Download the keypad function parameter to local address(including the motor parameters) 3:Download the keypad function parameter to local address (excluding the motor parameter of P02, P12 group) 4:Download the keypad function parameters to local address (only for the motor parameter of P02,P12 group) **Note:**After completing the 1~4 operation,the parameter will come back to 0 automatically,the function of upload and download excludes the factory parameters of P29.	0	◎
P07.02	QUICK/JOG function selection	0:No function 1:Jogging running. Press QUICK/JOG to realizes the jogging running. 2:Shift the display state by the shifting key. Press QUICK/JOG to shift the displayed function code from right to left. 3:Shift between forward rotations and reverse rotations. Press QUICK/JOG to shift the direction of the frequency commands. This function is only valid in the keypad commands channels. 4:Clear UP/DOWN settings. Press QUICK/JOG to	1	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
		clear the set value of UP/DOWN. 5: Coast to stop. Press QUICK/JOG to coast to stop. 6: Shift the running commands source. Press QUICK/JOG to shift the running commands source. 7:Quick commission mode(committee according to the non-factory parameter) **Note:** Press QUICK/JOG to shift between forward rotation and reverse rotation, the inverter does not record the state after shifting during powering off. The inverter will run according to parameter P00.13 during next powering on.		
P07.03	QUICK/JOG the shifting sequence selection of running command channel	When P07.06=6, set the shifting sequence of running command channels. 0:Keypad control→terminals control →communication control 1:Keypad control←→terminals control 2:Keypad control←→communication control 3:Terminals control←→communication control	0	○
P07.04	STOP/RST stop function	Select the stop function by STOP/RST. STOP/RST is effective in any state for the fault reset. 0:Only valid for the panel control 1:Both valid for panel and terminals control 2:Both valid for panel and communication control 3:Valid for all control modes	0	○
P07.05	The parameter selection1 of running state	0x0000~0xFFFF BIT0:running frequency (Hz on) BIT1:set frequency(Hz flickering) BIT2:bus voltage (Hz on) BIT3:output voltage(V on) BIT4:output current(A on) BIT5:running rotation speed (rpm on)	0x03FF	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		BIT6:output power(% on) BIT7:output torque(% on) BIT8:PID reference(% flickering) BIT9:PID feedback value(% on) BIT10:input terminals state BIT11:output terminals state BIT12:torque set value(% on) BIT13:pulse counter value BIT14:length value BIT15:PLC and the current stage in multi-stage speed		
P07.06	The parameter selection2 of running state	0x0000~0xFFFF BIT0: analog AI1 value (V on) BIT1: analog AI2 value (V on) BIT2: analog AI3 value (V on) BIT3: high speed pulse HDI frequency BIT4: motor overload percentage (% on) BIT5: the inverter overload percentage (% on) BIT6: ramp frequency given value(Hz on) BIT7: linear speed BIT8: AC inlet current (A on) BIT9~15:reserved	0x0000	
P07.07	The parameter selection of the stop state	0x0000~0xFFFF BIT0:set frequency(Hz on, frequency flickering slowly) BIT1:bus voltage (V on) BIT2:input terminals state BIT3:output terminals state BIT4:PID reference (% flickering) BIT5:PID feedback value(% flickering) BIT6:torque reference(% flickering)	0x00FF	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		BIT7:analog AI1 value(V on) BIT8:analog AI2 value(V on) BIT9: analog AI3 value(V on) BIT10:high speed pulse HDI frequency BIT11:PLC and the current stage in multi-stage speed BIT12:pulse counters BIT13:length value BIT14~BIT15:reserved		
P07.08	Frequency display coefficient	0.01~10.00 Displayed frequency=running frequency* P07.08	1.00	○
P07.09	Rotation speed coefficient	0.1~999.9% Mechanical rotation speed =120*displayed running frequency×P07.09/motor pole pairs	100.0%	○
P07.10	Linear speed displayed coefficient	0.1~999.9% Linear speed= Mechanical rotation speed×P07.10	1.0%	○
P07.11	Rectifier bridge module temperature	-20.0~120.0℃		●
P07.12	Inverter module temperature	-20.0~120.0℃		●
P07.13	Software version	1.00~655.35		●
P07.14	Local accumulative running time	0~65535h		●
P07.15	High power	Display the power used by the inverter.		●

Function code	Name	Detailed instruction of parameters	Default value	Modify
	consumption of the inverter	The power consumption of the inverter =P07.15*1000+P07.16 Setting range of P07.15: 0~65535°(*1000) Setting range of P07.16: 0.0~999.9°		
P07.16	Low power consumption of the inverter			●
P07.17	Reserved	Reserved		●
P07.18	The rated power of the inverter	0.4~3000.0kW		●
P07.19	The rated voltage of the inverter	50~1200V		●
P07.20	The rated current of the inverter	0.1~6000.0A		●
P07.21	Factory bar code 1	0x0000~0xFFFF		●
P07.22	Factory bar code 2	0x0000~0xFFFF		●
P07.23	Factory bar code 3	0x0000~0xFFFF		●
P07.24	Factory bar code 4	0x0000~0xFFFF		●
P07.25	Factory bar code 5	0x0000~0xFFFF		●
P07.26	Factory bar code 6	0x0000~0xFFFF		●

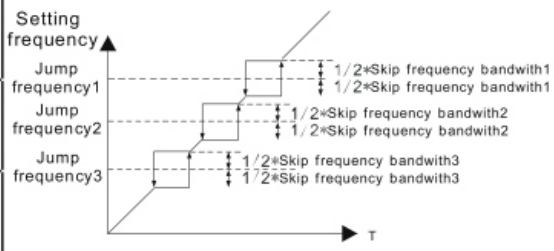
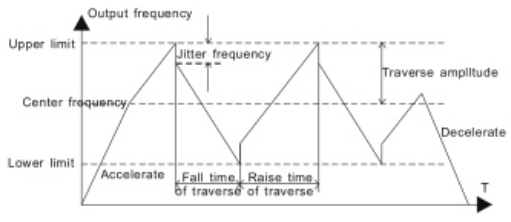
Function code	Name	Detailed instruction of parameters	Default value	Modify
P07.27	Current fault type	0:No fault 1:IGBT U phase protection(OUt1) 2:IGBT V phase protection(OUt2) 3:IGBT W phase protection(OUt3) 4:OC1 5:OC2 6:OC3 7:OV1 8:OV2 9:OV3 10:UV 11:Motor overload(OL1) 12:The inverter overload(OL2) 13:Input side phase loss(SPI) 14:Output side phase loss(SPO) 15:Overheat of the rectifier module(OH1) 16:Overheat fault of the inverter module(OH2) 17:External fault(EF) 18:485 communication fault(CE) 19:Current detection fault(ItE) 20:Motor antotune fault(tE) 21:EEPROM operation fault(EEP) 22:PID response offline fault(PIDE) 23:Braking unit fault(bCE) 24:Running time arrival(END) 25:Electrical overload(OL3) 26:Panel communication fault(PCE) 27:Parameter uploading fault (UPE) 28:Parameter downloading fault(DNE) 29:Profibus communication fault(E-DP) 30:Ethernet communication fault(E-NET)		●
P07.28	Previous fault type			●
P07.29	Previous 2 fault type			●
P07.30	Previous 3 fault type			●
P07.31	Previous 4 fault type			●
P07.32	Previous 5 fault type			●

Function code	Name	Detailed instruction of parameters	Default value	Modify
		31:CAN communication fault(E-CAN) 32:Grounding short circuit fault 1(ETH1) 33:Grounding short circuit fault 2(ETH2) 34:Speed deviation fault(dEu) 35:Maladjustment(STu) 36: Undervoltage fault(LL)		
P07.33	Current fault running frequency		0.00Hz	●
P07.34	Ramp given frequency at current fault		0.00Hz	
P07.35	Output voltage at the current fault		0V	
P07.36	Current fault output current		0.0A	
P07.37	Current fault bus voltage		0.0V	
P07.38	The Max. temperature at Current fault		0.0℃	
P07.39	Input terminals state at the current fault		0	●
P07.40	Output terminals		0	●

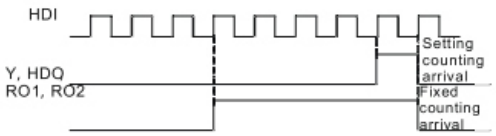
Function code	Name	Detailed instruction of parameters	Default value	Modify
	state at the current fault			
P07.41	Previous fault running frequency		0.00Hz	●
P07.42	Ramp reference frequency at previous fault		0.00Hz	●
P07.43	Output voltage at the previous fault		0V	●
P07.44	The output current at the previous fault		0.0A	●
P07.45	Bus voltage at the previous fault		0.0V	●
P07.46	The Max. temperature at the previous fault		0.0℃	●
P07.47	Input terminals state at the previous fault		0	●
P07.48	Output terminals state at the previous fault		0	●

Function code	Name	Detailed instruction of parameters	Default value	Modify
P07.49	Previous 2 fault runnig frequency y		0.00Hz	●
P07.50	Output voltage at the previous 2 faults		0.00Hz	●
P07.51	Output current at the previous 2 faults		0V	●
P07.52	Output current at the previous 2 fault		0.0A	●
P07.53	Bus voltage at the previous 2 fault		0.0V	●
P07.54	The Max. temperature at previous 2 fault		0.0℃	●
P07.55	Input terminals state at previous 2 fault		0	●
P07.56	Output terminals state at		0	●

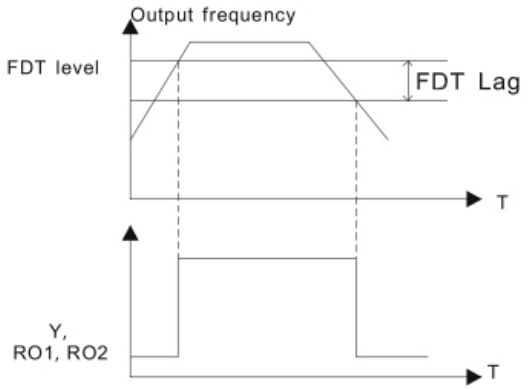
Function code	Name	Detailed instruction of parameters	Default value	Modify
	previous 2 fault			
P08 Group Enhanced function				
P08.00	ACC time 2	Refer to P00.11 and P00.12 for detailed definition. CE600 series define four groups of ACC/DEC time which can be selected by P5 group. The first group of ACC/DEC time is the factory default one. Setting range:0.0~3600.0s	Depend on module	○
P08.01	DEC time 2		Depend on module	○
P08.02	ACC time 3		Depend on module	○
P08.03	DEC time 3		Depend on module	○
P08.04	ACC time 4		Depend on module	○
P08.05	DEC time 4		Depend on module	○
P08.06	Jogging running frequency	This parameter is used to define the reference frequency during jogging. Setting range: 0.00Hz ~P00.03(the Max. frequency)	5.00Hz	○
P08.07	Jogging running ACC time	The jogging ACC time means the time needed if the inverter runs from 0Hz to the Max. Frequency. The jogging DEC time means the time needed if the inverter goes from the Max. Frequency (P0.03) to 0Hz. Setting range:0.0~3600.0s	Depend on module	○
P08.08	Jogging running DEC time		Depend on module	○
P08.09	Jumping	When the set frequency is in the range of jumping	0.00Hz	○

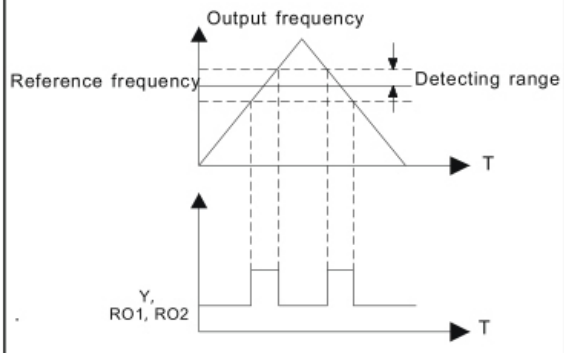
Function code	Name	Detailed instruction of parameters	Default value	Modify
	frequency 1	frequency, the inverter will run at the edge of the		
P08.10	jumping frequency range 1	jumping frequency. The inverter can avoid the mechanical resonance point by setting the jumping frequency. The inverter	0.00Hz	○
P08.11	Jumping frequency 2	can set three jumping frequency. But this function will be invalid if all jumping points are 0.	0.00Hz	○
P08.12	Jumping frequency range 2		0.00Hz	○
P08.13	Jumping frequency 3		0.00Hz	○
P08.14	Jumping frequency range 3	Setting range: 0.00~P00.03(the Max. frequency)	0.00Hz	○
P08.15	Traverse range	This function applies to the industries where traverse and convolution function are required such as textile and chemical fiber. The traverse function means that the output frequency of the inverter is fluctuated with the set frequency as its center. The route of the running frequency is illustrated as below, of which the traverse is set by P08.15 and when P08.15 is set as 0, the traverse is 0 with no function.	0.0%	○
P08.16	Sudden jumping frequency range		0.0%	○
P08.17	Traverse boost time		5.0s	○
P08.18	Traverse declining time	 Traverse range:The traverse running is limited by upper and low frequency.	5.0s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		The traverse range relative to the center frequency: traverse range AW = center frequency × traverse range P08.15. Sudden jumping frequency = traverse range AW × sudden jumping frequency range P08.16. When run at the traverse frequency, the value which is relative to the sudden jumping frequency. The raising time of the traverse frequency:The time from the lowest point to the highest one. The declining time of the traverse frequency :The time from the highest point to the lowest one. The setting range of P08.15: 0.0~100.0%(relative to the set frequency) The setting range of P08.16: 0.0~50.0%(relative to the traverse range) The setting range of P08.17: 0.1~3600.0s The setting range of P08.18: 0.1~3600.0s		
P08.19	Setting length	The function codes of setting length, actual length and unit pulse are mainly used to control the fixed length. The length is counted by the pulse signal of HDI terminals input and the HDI terminals are needed to set as the length counting input. Actual length = the length counting input pulse /unit pulse When the actual length P08.20 exceeds the setting length P08.19, the multi-function digital output terminals will output ON. Setting range of P08.19: 0~65535m Setting range of P08.20:0~65535m Setting range of P08.21:1~10000	0m	○
P08.20	Actual length		0m	●
P08.21	Pulse per rotation		1	○
P08.22	Alxe perimeter		10.00cm	○
P08.23	Length ratio		1.000	○
P08.24	Length correcting coefficient		1.000	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		Setting range of P08.22:0.01~100.00cm Setting range of P08.23:0.001~10.000 Setting range of P08.24:0.001~1.000		
P08.25	Setting counting value	The counter works by the input pulse signals of the HDI terminals. When the counter achieves a fixed number, the multi-function output terminals will output the signal of "fixed counting number arrival" and the counter go on working; when the counter achieves a setting number, the multi-function output terminals will output the signal of "setting counting number arrival", the counter will clear all numbers and stop to recount before the next pulse.	0	○
P08.26	Given counting value	The setting counting value P08.26 should be no more than the setting counting value P08.25. The function is illustrated as below:  Setting range of P08.25:P08.26~65535 Setting range of P08.26:0~P08.25	0	○
P08.27	Setting running time	Pre-set running time of the inverter. When the accumulative running time achieves the set time, the multi-function digital output terminals will output the signal of "running time arrival". Setting range:0~65535m	0m	○
P08.28	Time of fault reset	The time of the fault reset: set the fault reset time by selecting this function. If the reset time exceeds this set value, the inverter will stop for the fault and wait to be repaired.	0	○
P08.29	Interval time of automatic fault reset	The interval time of the fault reset:The interval	1.0s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		between the time when the fault occurs and the time when the reset action occurs. Setting range of P08.28:0~10 Setting range of P08.29:0.1~100.0s		
P08.30	Dropping control the frequency decreasing ratio	The output frequency of the inverter changes as the load. And it is mainly used to balance the power when several inverters drive one load. Setting range:0.00~10.00Hz	0.00Hz	○
P08.31	The shifting channel between motor 1 and motor 2	CE600 supports the shift between two motors. This function is used to select the shifting channel. 0:Terminals shifting, the digital terminal is selected as 35 1:MODBUS communication shifting 2:PROFIBUS communication shifting	0	◎
P08.32	FDT1 electrical level detection value	When the output frequency exceeds the corresponding frequency of FDT electrical level, the multi-function digital output terminals will output the signal of "frequency level detect FDT" until the output frequency decreases to a value lower than (FDT electrical level—FDT retention detection value) the corresponding frequency, the signal is invalid. Below is the waveform diagram:	50.00Hz	○
P08.33	FDT1 retention detection value		5.0%	○
P08.34	FDT2 electrical level detection value		50.00Hz	○
P08.35	FDT2 retention		5.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	detection value	 Setting range of P08.32: 0.00Hz~P00.03(the Max. frequency) Setting range of P08.33: 0.0~100.0%(FDT1 electrical level) Setting range of P08.34: 0.00~P00.03(the Max. frequency) Setting range of P08.35: 0.0~100.0%(FDT2 electrical level)		
P08.36	Frequency arrival detection value	When the output frequency is among the below or above range of the set frequency, the multi-function digital output terminal will output the signal of "frequency arrival", see the diagram below for detailed information:	0.00Hz	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		 The setting range:0.00Hz~P00.03(the Max. frequency)		
P08.37	Energy Braking enable	This parameter is used to control the internal braking unit. 0:Disable 1:Enable **Note:**Only applied to internal braking unit.	0	○
P08.38	Energy Braking threshold voltage	After setting the original bus voltage, adjust this parameter to brake the load appropriately. The factory value changes with voltage level. The setting range:200.0~2000.0V	230V voltage:380.0V 400V voltage:700.0V 660V voltage:1120.0V	○
P08.39	Cooling fan running mode	0:Rated running mode 1:The fan keeps on running after power on	0	○
P08.40	PWM selection	0:PWM mode 1, 3-phase commission and 2-phase commission	0	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
		1:PWM mode 2, 3-phase commission		
P08.41	Over commission selection	0:Invalid 1:Valid	1	◎
P08.42	Keypad data control setting	0x000~0x1223 LED ones:frequency enable selection 0:Both ∧ / ∨ keys and digital potentiometer adjustments are effective 1:Only ∧/∨ keys adjustments is effective 2:Only digital potentiometer adjustments is effective 3:Neither ∧ / ∨ keys nor digital potentiometer adjustments are effective LED tens: frequency control selection 0:Only effective when P00.06=0 or P00.07=0 1:Effective for all frequency setting manner 2:Ineffective for multi-stage speed when multi-stage speed has the priority LED hundreds: action selection during stopping 0:Setting is valid 1:Valid during running, cleared after stopping 2:Valid during running, cleared after receiving the stop command LED thousands: ∧ / ∨ keys and digital potentiometer Integral function 0:The Integral function is valid 1:The Integral function is invalid	0x0000	○
P08.43	Keypad data potentiometer integral ratio	0.01~10.00s	0.10s	○
P08.44	UP/DOWN	0x00~0x221	0x000	○

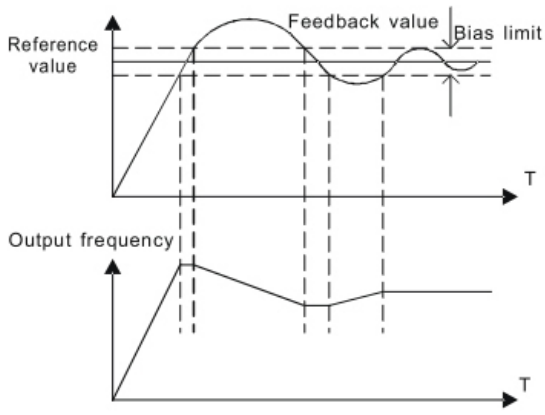
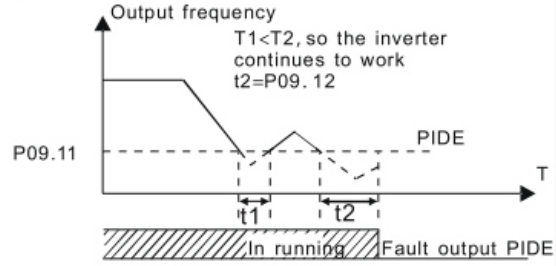
Function code	Name	Detailed instruction of parameters	Default value	Modify
	terminals control setting	LED ones: frequency control selection 0:UP/DOWN terminals setting effective 1:UP/DOWN terminals setting ineffective LED tens: frequency control selection 0:Only effective when P00.06=0 or P00.07=0 1:All frequency means are effective 2:When the multi-stage are priority, it is ineffective to the multi-stage LED hundreds: action selection when stop 0:Setting effective 1:Effective in the running, clear after stop 2:Effective in the running, clear after receiving the stop commands		
P08.45	UP terminals frequency increasing integral ratio	0.01~50.00Hz/s	0.50 Hz/s	○
P08.46	DOWN terminals frequency integral ratio	0.01~50.00 Hz/s	0.50 Hz/s	○
P08.47	Action selection when the frequency setting is off	0x000~0x111 LED ones:The action selection when the digital adjusting the frequency is off. 0:Save when the power is off 1:Clear when the power is off LED tens:The action selection when MODBUS set frequency is off 0:Save when the power is off 1:Clear when the power is off LED tens:The action selection when the other	0x000	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		frequency set frequency is off 0:Save when the power is off 1:Clear when the power is off		
P08.48	High position of original power consumption	This parameter is used to set the original value of the power comsumotion. The original value of the power consumption =P08.48*1000+ P08.49 Setting range of P08.48: 0~59999°(k) Setting range of P08.49:0.0~999.9°	0°	○
P08.49	Low position of original power consumption		0.0°	○
P08.50	Magnetic flux braking	This function code is used to enable magnetic flux. 0: Invalid. 100~150: the bigger the coefficient, the bigger the braking strength. This inverter can slow down the motor by increasing the magnetic flux. The energy generated by the motor during braking can be transformed into heat energy by increasing the magnetic flux. The inverter monitors the state of the motor continuously even during the magnetic flux period. So the magnetic flux can be used in the motor stop, as well as to change the rotation speed of the motor. Its other advantages are: Brake immediately after the stop command. It does not need to wait the magnetic flux weaken. The cooling is better. The current of the stator other than the rotor increases during magnetic flux braking, while the cooling of the stator is more effective than the rotor.	0	●
P08.51	Input power factor of the	This function code is used to adjust the displayed current of the AC input side.	0.56	○

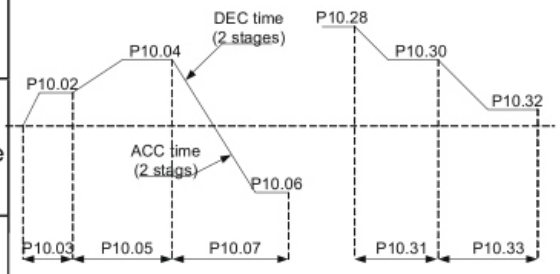
Function code	Name	Detailed instruction of parameters	Default value	Modify
	inverter	Setting range:0.00~1.00		
P09 Group	PID control			
P09.00	PID given source selection	When the frequency command selection (P00.06, P00. 07) is 7 or the voltage setting channel selection (P04.27) is 6, the running mode of the inverter is procedure PID controlled. The parameter determines the target given channel during the PID procures. 0:Keypad digital given(P09.01) 1:Analog channel AI1 given 2:Analog channel AI2 given 3:Analog channel AI3 set 4:High speed pulse HDI set 5:Multi-stage speed set 6:MODBUS communication set 7:PROFIBUS communication set 8:Ethernet communication set 9:CAN communication set The setting target of procedure PID is a relative one, 100% of the setting equals to 100% of the response of the controlled system. The system is calculated according to the relative value (0~100.0%). **Note:** Multi-stage speed given, it is realized by setting P10 group parameters. PROFIBUS communication setting, Ethernet communication setting and CAN communication setting need more corresponding extension cards.	0	○
P09.01	Keypad PID preset	When P09.00=0, set the parameter whose basic value is the feedback value of the system.	0.0%	○

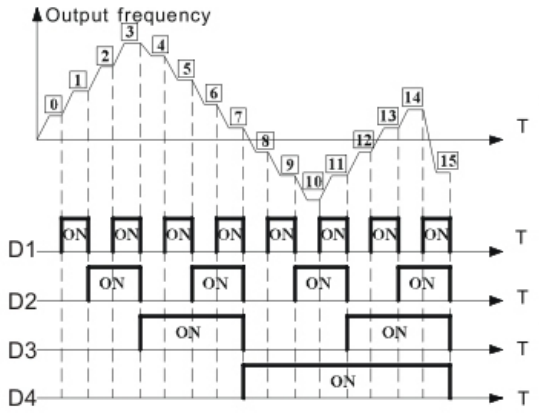
Function code	Name	Detailed instruction of parameters	Default value	Modify
		The setting range:-100.0%~100.0%		
P09.02	PID feedback source Selection	Select the PID channel by the parameter. 0:Analog channel AI1 feedback 1:Analog channel AI2 feedback 2:Analog channel AI3 feedback 3:High speed HDI feedback 4:MODBUS communication feedback 5:PROFIBUS communication feedback 6:Ethernet communication feedback 7:CAN communication feedback **Note:**The given channel and the feedback channel can not coincide, otherwise, PID can not control effectively.	0	○
P09.03	PID output feature selection	0:PID output is positive:When the feedback signal exceeds the PID given value, the output frequency of the inverter will decrease to balance the PID. For example, the strain PID control during wrapup 1:PID output is negative:When the feedback signal is stronger than the PID given value, the output frequency of the inverter will increase to balance the PID. For example, the strain PID control during wrapdown	0	○
P09.04	Proportional gain (Kp)	The function is applied to the proportional gain P of PID input. P determines the strength of the whole PID adjuster. The parameter of 100 means that when the offset of PID feedback and given value is 100%, the adjusting range of PID adjustor is the Max. Frequency (ignoring integral function and differential function). The setting range:0.00~100.00	1.00	○
P09.05	Interval	This parameter determines the speed of PID	0.10s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	time(Ti)	adjustor to carry out integral adjustment on the deviation of PID feedback and reference. When the deviation of PID feedback and reference is 100%, the integral adjustor works continuously after the time (ignoring the proportional effect and differential effect) to achieve the Max. Frequency (P00.03) or the Max. Voltage (P04.31). Shorter the integral time, stronger is the adjustment Setting range: 0.01~10.00s		
P09.06	Differential time(Td)	This parameter determines the strength of the change ratio when PID adjustor carries out integral adjustment on the deviation of PID feedback and reference. If the PID feedback changes 100% during the time, the adjustment of integral adjustor (ignoring the proportional effect and differential effect) is the Max. Frequency (P00.03) or the Max. Voltage (P04.31). Longer the integral time, stronger is the adjusting. Setting range: 0.01~10.00s	0.00s	○
P09.07	Sampling cycle(T)	This parameter means the sampling cycle of the feedback. The modulator calculates in each sampling cycle. The longer the sapling cycle is, the slower the response is. Setting range: 0.00~100.00s	0.10s	○
P09.08	PID control deviation limit	The output of PID system is relative to the maximum deviation of the close loop reference. As shown in the diagram below, PID adjustor stops to work during the deviation limit. Set the function properly to adjust the accuracy and stability of the system.	0.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		 Setting range:0.0~100.0%		
P09.09	Output upper limit of PID	These parameters are used to set the upper and lower limit of the PID adjustor output.	100.0%	○
P09.10	Output lower limit of PID	100.0 % corresponds to Max. Frequency or the Max. Voltage of (P04.31) Setting range of P09.09: P09.10~100.0% Setting range of P09.10: -100.0%~P09.09	0.0%	○
P09.11	Feedback offline detection value	Set the PID feedback offline detection value, when the detection value is smaller than or equal to the feedback offline detection value, and the lasting time exceeds the set value in P09.12, the inverter will report “PID feedback offline fault” and the keypad will display PIDE.	0.0%	○
P09.12	Feedback offline detection time	 Setting range of P09.11: 0.0~100.0% Setting range of P09.12: 0.0~3600.0s	1.0s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
P09.13	PID adjustment selection	0x00~0x11 LED ones: 0:Keep on integral adjustment when the frequency achieves the upper and low limit; the integration shows the change between the reference and the feedback unless it reaches the internal integral limit. When the trend between the reference and the feedback changes, it needs more time to offset the impact of continuous working and the integration will change with the trend. 1: Stop integral adjustment when the frequency reaches the upper and low limit. If the integration keeps stable, and the trend between the reference and the feedback changes, the integration will change with the trend quickly. LED tens: 0:The same with the setting direction; if the output of PID adjustment is different from the current running direction, the internal will output 0 forcedly. 1:Opposite to the setting direction	0x00	○
P09.14	Reserved			●
P09.15	Reserved			●
P09.16	Reserved			●
P10 Group Simple PLC and multi-stage speed control				
P10.00	Simple PLC means	0:Stop after running once. The inverter has to be commanded again after finishing a cycle. 1:Run at the final value after running once. After finish a signal, the inverter will keep the running frequency and direction of the last run. 2:Cycle running. The inverter will keep on running until receiving a stop command and then, the system	0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		will stop.		
P10.01	Simple PLC memory selection	0: Power loss without memory 1:Power loss memory；PLC record the running stage and frequency when power loss.	0	○
P10.02	Multi-stage speed 0	100.0% of the frequency setting corresponds to the Max. Frequency P00.03.	0.0%	○
P10.03	The running time of stage 0	When selecting simple PLC running, set P10.02~P10.33 to define the running frequency and direction of all stages.	0.0s	○
P10.04	Multi-stage speed 1	**Note:** The symbol of multi-stage determines the running direction of simple PLC. The negative value means reverse rotation.	0.0%	○
P10.05	The running time of stage 1		0.0s	○
P10.06	Multi-stage speed 2		0.0%	○
P10.07	The running time of stage 2		0.0s	○
P10.08	Multi-stage speed 3		0.0%	○
P10.09	The running time of stage 3		0.0s	○
P10.10	Multi-stage speed 4	Multi-stage speeds are in the range of $-f_{max}$~f_{max} and it can be set continuously. CE600 series inverters can set 16 stages speed, selected by the combination of multi-stage terminals 1~4, corresponding to the speed 0 to speed 15.	0.0%	○
P10.11	The running time of stage 4		0.0s	○
P10.12	Multi-stage speed 5		0.0%	○

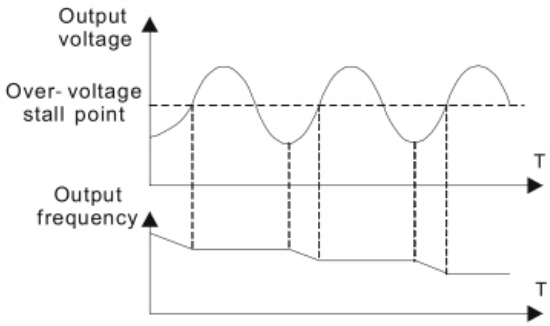
<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td>P10.13</td><td>The running time of stage 5</td><td rowspan="13"> 

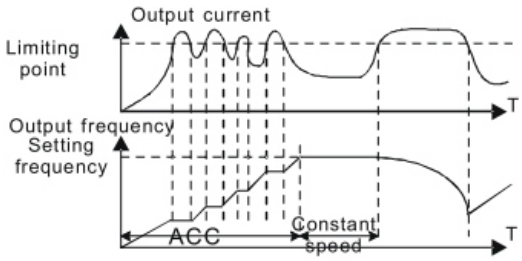
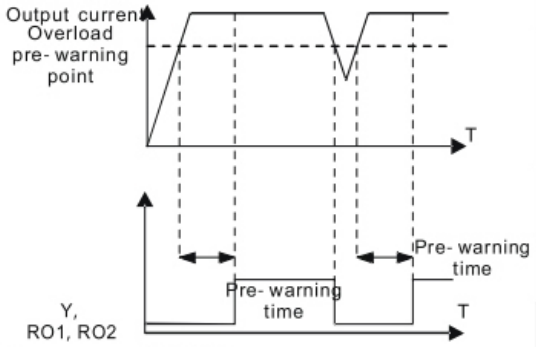
When D1=D2=D3=D4=OFF, the frequency input manner is selected via code P00.06 or P00.07. when all D1=D2=D3=D4 terminals aren't off, it runs at multi-stage which takes precedence of keypad, analog value, high-speed pulse, PLC, communication frequency input. Select at most 16 stages speed via the combination code of D1, D2, D3, D4.
The start-up and stopping of multi-stage running is determined by function code P00.06, the relationship between D1, D2, D3, D4 terminals and multi-stage speed is as following:
<table>
<tr><td>D1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td>D2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>D3</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr>
<tr><td>D4</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td></tr>
<tr><td>stage</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr>
<tr><td>D1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr>
<tr><td>D2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr>
<tr><td>D3</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr>
<tr><td>D4</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr>
</table></td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.14</td><td>Multi-stage speed 6</td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.15</td><td>The running time of stage 6</td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.16</td><td>Multi-stage speed 7</td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.17</td><td>The running time of stage 7</td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.18</td><td>Multi-stage speed 8</td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.19</td><td>The running time of stage 8</td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.20</td><td>Multi-stage speed 9</td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.21</td><td>The running time of stage 9</td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.22</td><td>Multi-stage speed 10</td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.23</td><td>The running time of stage 10</td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.24</td><td>Multi-stage speed 11</td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.25</td><td>The running</td><td>0.0s</td><td>○</td></tr>
</table>

<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td></td><td>time of stage 11</td><td>
<table>
<tr><td>stage</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr>
</table>
Setting range of P10.(2n,1<n<17): -100.0~100.0%
Setting range of P10.(2n+1,1<n<17):0.0~6553.5s (min)
</td><td></td><td></td></tr>
<tr><td>P10.26</td><td>Multi-stage speed 12</td><td></td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.27</td><td>The running time of stage 12</td><td></td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.28</td><td>Multi-stage speed 13</td><td></td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.29</td><td>The running time of stage 13</td><td></td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.30</td><td>Multi-stage speed 14</td><td></td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.31</td><td>The running time of stage 14</td><td></td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.32</td><td>Multi-stage speed 15</td><td></td><td>0.0%</td><td>○</td></tr>
<tr><td>P10.33</td><td>The running time of stage 15</td><td></td><td>0.0s</td><td>○</td></tr>
<tr><td>P10.34</td><td>Simple PLC 0~7 stage ACC/DEC time selection</td><td>Below is the detailed instruction:
<table>
<tr><th>Function code</th><th colspan="2">Binary bit</th><th>Stage</th><th>ACC/DEC 0</th><th>ACC/DEC 1</th><th>ACC/DEC 2</th><th>ACC/DEC 3</th></tr>
<tr><td rowspan="6">P10.34</td><td>BIT1</td><td>BIT0</td><td>0</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT3</td><td>BIT2</td><td>1</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT5</td><td>BIT4</td><td>2</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT7</td><td>BIT6</td><td>3</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT9</td><td>BIT8</td><td>4</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT11</td><td>BIT10</td><td>5</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
</table>
</td><td>0x0000</td><td>○</td></tr>
<tr><td>P10.35</td><td>Simple PLC 8~15 stage ACC/DEC time</td><td></td><td>0x0000</td><td>○</td></tr>
</table>

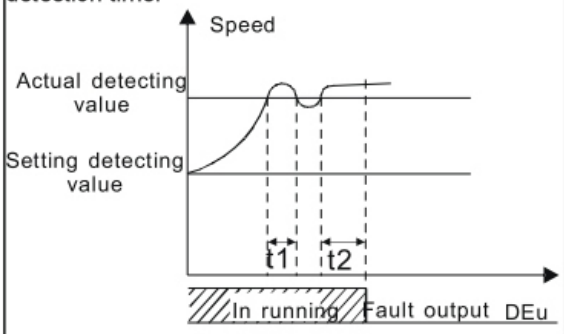
<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td></td><td>selection</td><td>
<table>
<tr><td rowspan="2"></td><td>BIT13</td><td>BIT12</td><td>6</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT15</td><td>BIT14</td><td>7</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td rowspan="8">P10.35</td><td>BIT1</td><td>BIT0</td><td>8</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT3</td><td>BIT2</td><td>9</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT5</td><td>BIT4</td><td>10</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT7</td><td>BIT6</td><td>11</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT9</td><td>BIT8</td><td>12</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT11</td><td>BIT10</td><td>13</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT13</td><td>BIT12</td><td>14</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
<tr><td>BIT15</td><td>BIT14</td><td>15</td><td>00</td><td>01</td><td>10</td><td>11</td></tr>
</table>
After the users select the corresponding ACC/DEC time, the combining 16 binary bit will change into decimal bit, and then set the corresponding function codes.
Setting range: -0x0000~0xFFFF</td><td></td><td></td></tr>
<tr><td>P10.36</td><td>PLC restart manner selection</td><td>0:Restart from the first stage; stop during running (cause by the stop command, fault or power loss), run from the first stage after restart.
1: Continue to run from the stop frequency; stop during running(cause by stop command and fault), the inverter will record the running time automatically, enter into the stage after restart and keep the remaining running at the setting frequency.</td><td>0</td><td>◎</td></tr>
<tr><td>P10.37</td><td>Multi-stage time unit selection</td><td>0: Seconds；the running time of all stages is counted by second
1: Minutes；the running time of all stages is counted by minute</td><td>0</td><td>◎</td></tr>
<tr><td colspan="5">P11 Group Protective parameters</td></tr>
<tr><td>P11.00</td><td>Phase loss protection</td><td>0x00~0x11
LED ones:
0: Input phase loss protection disable</td><td>11</td><td>○</td></tr>
</table>

<table>
<tr><th>Function code</th><th>Name</th><th>Detailed instruction of parameters</th><th>Default value</th><th>Modify</th></tr>
<tr><td></td><td></td><td>1: Input phase loss protection enable
LED tens:
0: Input phase loss protection disable
1: Input phase loss protection enable</td><td></td><td></td></tr>
<tr><td>P11.01</td><td>Sudden power loss frequency decreasing function selection</td><td>0: Enable
1: Disable</td><td>0</td><td>○</td></tr>
<tr><td>P11.02</td><td>frequency decreasing ratio of sudden power loss</td><td>Setting range: 0.00Hz/s~P00.03 (the Max. frequency)
After the power loss of the grid, the bus voltage drops to the sudden frequency-decreasing point, the inverter begin to decrease the running frequency at P11.02, to make the inverter generate power again. The returning power can maintain the bus voltage to ensure a rated running of the inverter until the recovery of power.<table><tr><td>Voltage degree</td><td>230V</td><td>400V</td><td>660V</td></tr><tr><td>frequency-decreasing point of sudden power loss</td><td>260V</td><td>460V</td><td>800V</td></tr></table>Note:
1. Adjust the parameter properly to avoid the stopping caused by inverter protection during the switching of the grid.
2. Prohibition of input phase protection can enable this function.</td><td>10.00Hz/s</td><td>○</td></tr>
<tr><td>P11.03</td><td>Overvoltage</td><td>0:Disable</td><td>1</td><td>○</td></tr>
</table>

Function code	Name	Detailed instruction of parameters	Default value	Modify
	speed loss protection	1:Enable 		
P11.04	Overvoltage speed loss voltage protection	120~150%(standard bus voltage)(400V)	140%	○
		120~150%(standard bus voltage)(230V)	120%	
P11.05	Current limit action selection	The actual increasing ratio is less than the ratio of output frequency because of the big load during ACC running. It is necessary to take measures to avoid overcurrent fault and the inverter trips.	1	◎
P11.06	Automatic current limit level	During the running of the inverter, this function will detect the output current and compare it with the limit level defined in P11.06. If it exceeds the level, the inverter will run at stable frequency in ACC running, or the inverter will derate to run during the constant running. If it exceeds the level continuously, the output frequency will keep on decreasing to the lower limit. If the output current is detected to be lower than the limit level, the inverter will accelerate to run.	G motor:160.0% P motor:120.0%	◎
P11.07	The decreasing ratio during current limit		10.00Hz/s	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
		 Setting range of P11.05: 0:current limit invalid 1:current limit valid 2:current limit is invalid during constant speed Setting range of P11.06:50.0~200.0% Setting range of P11.07:0.00~50.00Hz/s		
P11.08	Overload pre-alarm of the motor or the inverter	The output current of the inverter or the motor is above P11.09 and the lasting time is beyond P11.10, overload pre-alarm will be output.	0x000	○
P11.09	Overload pre-alarm test level		G : 150%	○
P11.10	Overload pre-alarm detection time	Setting range of P11.08: Enable and define the overload pre-alarm of the inverter or the motor. Setting range: 0x000~0x131 LED ones: 0:Overload pre-alarm of the motor, comply with the rated current of the motor	1.0s	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		1:Overload pre-alarm of the inverter, comply with the rated current of the inverter LED tens: 0:The inverter continues to work after underload pre-alarm 1:The inverter continues to work after underload pre-alarm and the inverter stops to run after overload fault 2: The inverter continues to work after overload pre-alarm and the inverter stops to run after underload fault 3. The inverter stops when overloading or underloading. LED hundreds : 0:Detection all the time 1:Detection in constant running Setting range of P11.09: P11.11~200% Setting range of P11.10: 0.1~60.0s		
P11.11	Detection level of the underload pre-alarm	If the inverter current or the output current is lower than P11.11, and its lasting time is beyond P11.12, the inverter will output underload pre-alarm. Setting range of P11.11: 0~P11.09 Setting range of P11.12: 0.1~60.0s	50%	○
P11.12	Detection time of the underload pre-alarm		1.0s	○
P11.13	Output terminal action selection during fault	Select the action of fault output terminals on undervoltage and fault reset. 0x00~0x11 LED ones: 0:Action under fault undervoltage	0x00	○

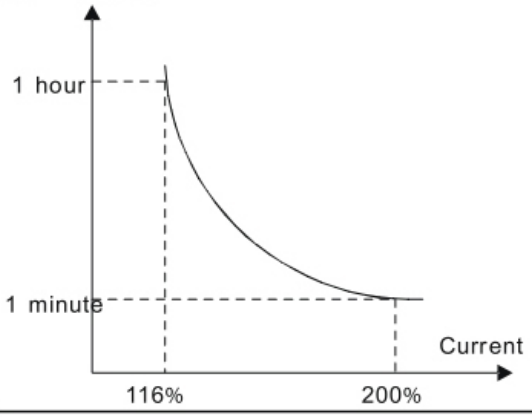
Function code	Name	Detailed instruction of parameters		Default value	Modify
		1:No action under fault undervoltage LED tens: 0:Action during the automatic reset 1:No action during the automatic reset			
P11.14	Speed deviation detection	0.0~50.0% Set the speed deviation detection time.		10.0%	●
P11.15	Speed deviation detection time	This parameter is used to set the speed deviation detection time.  T1<t2, so the inverter continues to work t2=P11. 13 Setting range of P11.08: 0.0~10.0s		0.5s	○
P11.16	Reserved				
P12 Group Motor 2					
P12.00	Motor type 2	0:Asynchronous motor 1:Synchronous motor **Note:** switch the current motor by the switching channel of P08.31.		0	◎
P12.01	Asynchronous motor 2 rated power	0.1~3000.0kW	Set the parameter of the controlled asynchronous motor.	Depend on module	◎
P12.02	Asynchronous motor 2 rated	0.01Hz~P00.03(the Max. frequency)	In order to ensure the controlling performance, set the	50.00Hz	◎

Function code	Name	Detailed instruction of parameters		Default value	Modify
	frequency		P12.01~P12.05 according to the name plate of the asynchronous motor. CE600 series inverters provide the function of parameter autotuning. Correct parameter autotuning comes from the correct setting of the motor name plate. In order to ensure the controlling performance, please configure the motor according to the standard principles, if the gap between the motor and the standard one is huge, the features of the inverter will decrease. **Note:**reset the rated power of the motor(P12.01),initialize the motor parameter of P12.02~P12.05		
P12.03	Asynchronous motor 2 rated rotation speed	1~36000rpm		Depend on module	◎
P12.04	Asynchronous motor 2 rated voltage	0~1200V		Depend on module	◎
P12.05	Asynchronous motor 2 rated current	0.8~6000.0A		Depend on module	◎
P12.06	Asynchronous motor 2 rotor resistance	0.001~65.535Ω	After finish the motor parameter autotuning, the value of P12.06~P12.10 will be	Depend on module	○

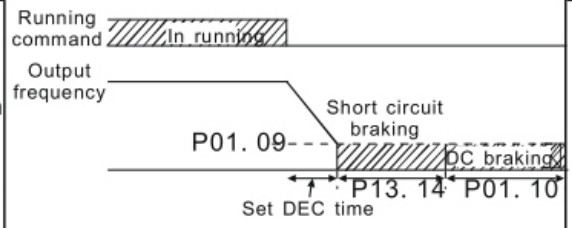
Function code	Name	Detailed instruction of parameters		Default value	Modify
P12.07	Asynchronous motor 2 stator resistance	0.001~65.535Ω	renewed automatically. These parameters are basic parameters of vector control which directly impact the features. **Note:** Users cannot modify the parameters freely.	Depend on module	○
P12.08	Asynchronous motor 2 leakage	0.1~655.35mH		Depend on module	○
P12.09	Asynchronous motor 2 mutual induction	0.1~655.35mH		Depend on module	○
P12.10	Asynchronous motor 2 noload current	0.1~6553.5A		Depend on module	○
P12.11	Reserved			88%	◎
P12.12	Reserved			81%	◎
P12.13	Reserved			75%	◎
P12.14	Reserved			70%	◎
P12.15	Synchronous motor 2 rated power	0.1~3000.0kW	Set the parameter of the controlled synchronous motor. In order to ensure the controlling performance, set the P12.151~P12.19 according to the name plate of the synchronous motor. CE600 series inverters provide the function of	Depend on module	◎
P12.16	Synchronous motor 2 rated frequency	0.01Hz~P00.03(the Max. frequency)		50.00Hz	◎
S	Synchronous motor 2 pority pairs	1~50		2	◎
P12.18	Synchronous motor 2 rated voltage	0~1200V		Depend on module	◎

Function code	Name	Detailed instruction of parameters		Default value	Modify
P12.19	Synchronous motor 2 rated current	0.8~6000.0A	parameter autotuning. Correct parameter autotuning comes from	Depend on module	◎
P12.20	Synchronous motor 2 rotor resistance	0.001~65.535Ω	the correct setting of the motor name plate. In order to ensure the controlling performance, please configure the motor according to the standard principles, if the gap between the motor and the standard one is huge, the features of the inverter will decrease. **Note:** reset the rated power of the motor(P12.15),initialize the motor parameter of P12.16~ P12.19.	Depend on module	○
P12.21	Synchronous motor 2 d-axis inductor	0.1~6553.5mH	After finish the motor parameter autotuning, the value of P12.20~P12.22 will be renewed automatically. These parameters are basic parameters of vector control which directly impact the features.	Depend on module	○
P12.22	Synchronous motor 2 quadrature axis inductor	0.1~6553.5mH		Depend on module	○
P12.23	Synchronous motor 2	When P00.15=2, the set value of P12.23 cannot be		300	○

Function code	Name	Detailed instruction of parameters		Default value	Modify
	counter-electromotive force constant	updated by autotuning, please count according to the following method. The counter-electromotive force constant can be counted according to the parameters on the name plate of the motor. There are three ways to count: 1. If the name plate designate the counter-electromotive force constant Ke, then: E=（Ke*n_N*2π）/ 60 2. If the name plate designate the counter-electromotive force constant E'(V/1000r/min), then: E=E'*n_N/1000 3. Iif the name plate does not designate the above parameters, then: E=P/√3*I In the above formulas: n_N is the rated rotation speed, P is the rated power and I is the rated current. Setting range: 0~10000	When P00.15=1, the set value of P12.23 can be updated through autotuning automatically, and there is no need to change the value of P12.23; when P00.15=2, the set value of P12.23 can not be updated through autotuning, please account and update the value of P12.23. **Note:**Users cannot modify the parameters freely.		
P12.24	Synchronous motor 2	0~FFFFH (reserved)		0x0000	●

Function code	Name	Detailed instruction of parameters	Default value	Modify
	original magnetic pority position			
P12.25	Synchronous motor 2 identification current	0%~50%(the rated current of the motor)(reserved)	10%	●
P12.26	Motor 2 overload protection selection	0:No protection 1:Common motor(with low speed compensation) 2:Invertering motor(without low speed compensation)	2	◎
P12.27	Motor 2 overload protection coefficient	When P12.27=overload protection current of the motor/rated current of the motor So, the bigger the overload coefficient is, the shorter the reporting time of the overload fault is. When the overload coefficient <110%, there is no overload protection. When the overload coefficient =116%, the fault will be reported after 1 hour, when the overload coefficient =200%, the fault will be reported after 1 minute. 	100.0%	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		Setting range: 20.0%~120.0%		
P12.28	Reserved			●
P12.29	Motor 2 parameters display selection	0: Display according to the motor type: only the parameters relative to the current motor type are displayed for the convenient for the customers in this mode. 1: All parameters are displayed: all parameters are displayed in this mode.	0	●
P13 Group Synchronous motor control				
P13.00	Reserved		30.0%	◎
P13.01	Initial pole angle identified mode	0:Inject current 1:Reserved 2:Reserved	0	◎
P13.02	Inject current 1	Injecting current is to fix the right direction of the magnetic pole position. Injecting current 1 is effective under the frequency point of current shifting. Generally the user need not change it. Setting range：0.0%~100.0%	10.0%	○
P13.03	Inject current 2	Injecting current is to fix the right direction of the magnetic pole position. Injecting current 2 is effective under the frequency point of current shifting. Please increase the value is the starting torque should be modified. Setting range: 0.0%~100.0%	8.0%	○
P13.04	Inject current shift frequency	Valid frequency shifting point between injecting current 1 and current 2. Setting range: 0.00Hz~P00.03(the Max. frequency)	10.00 Hz	○
P13.05	Reserved	0~65535	500Hz	◎
P13.06	Reserved	0~65535	10.0%	◎
P13.07	Reserved	0~65535	0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
P13.08	Reserved	0~65535	0	○
P13.09	Reserved	0~655.35	2.00	○
P13.10	Reserved	0~65535	0	○
P13.11	Maladjustment detection time	Adjust the response of anti-maladjustment. If the inertia of the load is bigger, this value may be bigger too, but the response will be slow. Setting range: 0.0~10.0s	0.5s	○
P13.12	Weakening coefficient	When the motor runs above the rated rotation speed, the parameter is valid, if vibration occurs to the motor, please adjust the parameter. Setting range: 0~65535	1000	○
P13.13	Braking current of shirt-circuit	When P01.00=0 during the starting of the inverter, set P13.14 to a non-zero value to enter the short circuit braking.	0.0%	○
P13.14	The retention time when starting short circuit braking	When the running frequency is lower than P01.09 during the stopping of the inverter, set 13.15 to a non-zero value to enter into stopping short circuited braking and then carry out the DC braking at the time set by P01.12.	0.0s	○
P13.15	The retention time of short circuit braking when stopping	 Setting range of P13.13: 0.0~150.0%(the inverter) Setting range of P13.14: 0.0~50.0s Setting range of P13.15: 0.0~50.0s	0.0s	○
P14 Group Serial communication				
P14.00	The communicati	The setting range:1~247 When the master is writing the frame, the	1	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	on address of the drive	communication address of the slave is set to 0; the broadcast address is the communication address. All slaves on the MODBUS fieldbus can receive the frame, but the salve doesn't answer. The communication address of the drive is unique in the communication net. This is the fundamental for the point to point communication between the upper monitor and the drive. **Note:**The address of the slave cannot set to 0.		
P14.01	The communication baud ratio of the drive	Set the digital transmission speed between the upper monitor and the inverter. 0:1200BPS 1:2400BPS 2:4800BPS 3:9600BPS 4:19200BPS 5:38400BPS **Note:**The baud rate between the upper monitor and the inverter must be the same. Otherwise, the communication is not applied. The bigger the baud rate, the quicker the communication speed.	4	○
P14.02	Digital bit checkout setting	The data format between the upper monitor and the inverter must be the same. Otherwise, the communication is not applied. 0: No check (N,8,1)for RTU 1:Odd check (E,8,1)for RTU 2:Even check (O,8,1)for RTU 3:No check (N,8,2)for RTU 4: Odd check (E,8,2)for RTU 5:Even check(O,8,2)for RTU	1	○
P14.03	Communicati	0~200ms	5	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	on answer delay	It means the interval time between the interval time when the drive receive the data and sent it to the upper monitor. If the answer delay is shorter than the system processing time, then the answer delay time is the system processing time, if the answer delay is longer than the system processing time, then after the system deal with the data, waits until achieving the answer delay time to send the data to the upper monitor.		
P14.04	Communication overtime fault time	0.0(invalid),0.1~60.0s When the function code is set as 0.0, the communication overtime parameter is invalid. When the function code is set as non-zero, if the interval time between two communications exceeds the communication overtime, the system will report "485 communication faults" (CE). Generally, set it as invalid; set the parameter in the continuous communication to monitor the communication state.	0.0s	○
P14.05	Transmission fault processing	0:Alarm and stop freely 1:No alarm and continue to run 2:No alarm and stop according to the stop means(only under the communication control) 3:No alarm and stop according to the stop means(under all control modes)	0	○
P14.06	Communication processing action selection	0x00~0x11 LED ones: 0:Operation with response: the drive will respond to all reading and writing commands of the upper monitor. 1:Operation without response；The drive only	0x00	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
		responds to the reading command other than the writing command of the drive. The communication efficiency can be increased by this method. LED tens:(reserved)		
P14.07	Reserved			●
P14.08	Reserved			●
P15 Group Profibus function				
P15.00	Module type	0:Profibus Select communication protocol	0	◎
P15.01	Module address	0~127 This function code is used to designate the address of the inverter. **Note:**0 is the broadcast address,when set it as broadcast address, only receive the radio command of the upper monitor other than answering the upper monitor.	2	◎
P15.02	PZD2 Receiving	0:Invalid 1:Set frequency(0~Fmax(unit:0.01Hz)) 2: Given PID, range (0~1000, 1000 corresponds to 100.0%) 3: PID feedback, range (0~1000, 1000 corresponds to 100.0%) 4:Torque set value(-3000~3000,1000 corresponds to 100.0% the rated current of the motor) 5: Upper-limit frequency of forward (0~Fmax unit:0.01Hz)) 6: Upper-limit frequency of reverse (0~Fmax(unit:0.01Hz)) 7:Electromotion torque upper limit (0~3000,1000 corresponds to 100.0%of the rated current of the motor)	0	○
P15.03	PZD3 Receiving		0	○
P15.04	PZD4 Receiving		0	○
P15.05	PZD5 Receiving		0	○
P15.06	PZD6 Receiving		0	○
P15.07	PZD7 Receiving		0	○
P15.08	PZD8 Receiving		0	○
P15.09	PZD9		0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	Receiving	8:Braking torque upper limit (0~2000,1000 corresponds to 100.0% of the rated current of the motor) 9:Virtual input terminals command Range:0x000~0x1FF 10:Virtual output terminals command Range:0x00~0x0F 11:Voltage setting value(specialized for V/F separation)(0~1000,1000 corresponds to 100.0% the rated voltage of the motor) 12: Output of AO1 (-1000~1000,1000 corresponds to 100.0%) 13: Output of AO2 (-1000~1000,1000 corresponds to 100.0%)		
P15.10	PZD10 Receiving		0	○
P15.11	PZD11 Receiving		0	○
P15.12	PZD12 Receiving		0	○
P15.13	PZD2 sending	0: Invalid 1: Running frequency(*100,Hz) 2: Set frequency(*100,Hz) 3: Bus voltage(*10,V) 4: Output voltage(*1,V) 5:Output current (*10,A) 6:Output torque actual value(*10,%) 7:Output power actual value(*10,%) 8:Running rotating speed(*1,RPM) 9:Running linear speed (*1,m/s) 10:Ramp given frequency 11:Fault code 12:AI1 value (*100,V) 13:AI2 value (*100,V) 14:AI3 value (*100,V) 15:PULSE frequency value (*100,kHz) 16:Terminals input state	0	○
P15.14	PZD3 sending		0	○
P15.15	PZD4 sending		0	○
P15.16	PZD5 sending		0	○
P15.17	PZD6 sending		0	○
P15.18	PZD7 sending		0	○
P15.19	PZD8 sending		0	○
P15.20	PZD9 sending		0	○
P15.21	PZD10		0	○

Function code	Name	Detailed instruction of parameters	Default value	Modify
	sending	17:Terminals output state		
P15.22	PZD11 sending	18:PID given(*100,%) 19:PID feedback(*100,%)	0	○
P15.23	PZD12 sending	20:Motor rated torque	0	○
P15.24	Temporarily variable 1 for PZD sending	0~65535	0	○
P15.25	DP communication overtime downtime	0.0(ineffective),0.1~60.0s When this function code is set as 0.0, this function is ineffective. When the function code is set as nonzero value, if the internal time between two adjent communication exceeds the communication overtime, the system will report "PROFIBUS communication fault"(P-DP) .	0.0s	○
P15.26	Reserved			●
P15.27	Reserved			●
P15.28	Reserved			●
P15.29	Reserved			●
P16 Group Ethernet function				
P16.00	Speed setting of the Ethernet communication	0:Self-adapting 1:100M full duplex 2:100M semiduplex 3:10M full duplex 4:10M semiduplex The function code is used to set the Ethernet communication speed.	3	◎
P16.01	IP address 1	0~255	192	◎
P16.02	IP address 2	Set the IP address of Ethernet communication	168	◎
P16.03	IP address 3	The format of IP address:PA.09.PA.10.PA.11.PA.12.	0	◎

Function code	Name	Detailed instruction of parameters	Default value	Modify
P16.04	IP address 4	For example:IP address is 192.168.0.1.	1	◎
P16.05	Subnet mask 1	0~255 Set the subnet mask of Ethernet communication. The format of IP subnet mask: PA.13.PA.14. PA.15.PA.16. For example:The mask is 255.255.255.0.	255	◎
P16.06	Subnet mask 2		255	◎
P16.07	Subnet mask 3		255	◎
P16.08	Subnet mask 4		0	◎
P16.09	Gateway 1	0~255 Set the gateway of Ethernet communication	192	◎
P16.10	Gateway 2		168	◎
P16.11	Gateway 3		1	◎
P16.12	Gateway 4		1	◎
P16.13	Reserved			●
P16.14	Reserved			●
P17 Group Monitoring function				
P17.00	Set frequency	Display current set frequency of the inverter Range: 0.00Hz~P00.03	0.00Hz	●
P17.01	Output frequency	Display current output frequency of the inverter Range: 0.00Hz~P00.03	0.00Hz	●
P17.02	Ramp given frequency	Display current ramp given frequency of the inverter Range: 0.00Hz~P00.03	0.00Hz	●
P17.03	Output voltage	Display current output voltage of the inverter Range: 0~1200V	0V	●
P17.04	Output current	Display current output current of the inverter Range: 0.0~5000.0A	0.0A	●
P17.05	The rotation speed of the motor	Display the rotation speed of the motor. Range: 0~65535RPM	0 RPM	●
P17.06	Torque	Display current torque current of the inverter	0.0A	●

Function code	Name	Detailed instruction of parameters	Default value	Modify
	current	Range: 0~65535RPM		
P17.07	Magnetized current	Display current magnetized current of the inverter Range: 0.0~5000.0A	0.0A	●
P17.08	Motor power	Display current power of the motor. Setting range: -300.0%~300.0%(the rated current of the motor)	0.0%	●
P17.09	Output torque	Display the current output torque of the inverter. Range: -250.0~250.0%	0.0%	●
P17.10	The motor frequency evaluation	Evaluate the motor rotor frequency on open loop vector Range: 0.00~ P00.03	0.00Hz	●
P17.11	DC bus voltage	Display current DC bus voltage of the inverter Range: 0.0~2000.0V	0V	●
P17.12	Switch input terminals state	Display current Switch input terminals state of the inverter Range: 0000~00FF	0	●
P17.13	Switch output terminals state	Display current Switch output terminals state of the inverter Range: 0000~000F	0	●
P17.14	Digital adjustment	Display the adjustment through the keypad of the inverter. Range : 0.00Hz~P00.03	0.00V	●
P17.15	Torque given	Display the torque given, the percentage to the current rated torque of the motor. Setting range: -300.0%~300.0%(the rated current of the motor)	0.0%	●
P17.16	Linear speed	Display the current linear speed of the inverter. Range: 0~65535	0	●
P17.17	Length	Display the current length of the inverter. Range: 0~65535	0	●

Function code	Name	Detailed instruction of parameters	Default value	Modify
P17.18	Counting value	Display the current counting number of the inverter. Range: 0~65535	0	●
P17.19	AI1 input voltage	Display analog AI1 input signal Range: 0.00~10.00V	0.00V	●
P17.20	AI2 input voltage	Display analog AI2 input signal Range: 0.00~10.00V	0.00V	●
P17.21	AI3 input voltage	Display analog AI2 input signal Range: -10.00~10.00V	0.00V	●
P17.22	HDI input frequency	Display HDI input frequency Range: 0.00~50.00kHz	0.00 kHz	●
P17.23	PID given value	Display PID given value Range: -100.0~100.0%	0.0%	●
P17.24	PID response value	Display PID response value Range: -100.0~100.0%	0.0%	●
P17.25	Power factor of the motor	Display the current power factor of the motor. Range: -1.00~1.00	0.0	●
P17.26	Current running time	Display the current running time of the inverter. Range:0~65535min	0m	●
P17.27	Simple PLC and the current stage of the multi-stage speed	Display simple PLC and the current stage of the multi-stage speed Range: 0~15	0	●
P17.28	ASR controller output	The percentage of the rated torque of the relative motor, display ASR controller output Range: -300.0%~300.0% (the rated current of the motor)	0.0%	●
P17.29	Synchronous motor	Display synchronous motor Magnetic pole angle Range: 0.0~360.0	0.0	●

Function code	Name	Detailed instruction of parameters	Default value	Modify
	Magnetic pole angle			
P17.30	synchronous motor phase compensation	Display synchronous motor phase compensation Range: -180.0~180.0	0.0	●
P17.31	synchronous motor high-frequency Superimposed current	Display synchronous motor high-frequency Superimposed current Range: 0.0%~200.0%(the rated current of the motor)	0.0	●
P17.32	Magnetic flux linkage	Display the magnetic flux linkage of the motor. Range: 0.0%~200.0%	0	●
P17.33	Exciting current given	Display the exciting current given in the vector control mode. Range: -3000.0~3000.0A	0	●
P17.34	Torque current given	Display the torque current given in the vector control mode. Range: -3000.0~3000.0A	0	●
P17.35	AC input current	Display the input current in AC side. Range: 0.0~5000.0A	0	●
P17.36	Output torque	Display the output torque. Positive value is in the electromotion state, and negative is in the power generating state. Range : -3000.0Nm~3000.0Nm	0	●
P17.37	Reserved		0	●
P17.38	Reserved		0	●
P17.39	Reserved		0	●

Fault tracking

2.1 What this chapter contains

This chapter tells how to reset faults and view fault history. It also lists all alarm and fault messages including the possible cause and corrective actions.

✧**Only qualified electricians are allowed to maintain the inverter. Read the safety instructions in chapter Safety precautions before working on the inverter.**

2.2 Alarm and fault indications

Fault is indicated by LEDs. See ***Operation Procedure***. When TRIP light is on, an alarm or fault message on the panel display indicates abnormal inverter state. Using the information given in this chapter, most alarm and fault cause can be identified and corrected. If not, contact with the Invent office.

2.3 How to reset

The inverter can be reset by pressing the keypad key STOP/RST, through digital input, or by switching the power light. When the fault has been removed, the motor can be restarted.

2.4 Fault history

Function codes P07.25~P07.30 store 6 recent faults. Function codes P07.31~P07.38, P07.39~P7.46, P07.47~P07.54 show drive operation data when the latest 3 faults occurrs.

2.5 Fault instruction and solution

Do as the following after the inverter fault:

1. Check to ensure there is nothing wrong with the kepad. If not, please contact with the local Invent office.

2. If there is nothing wrong, please check P07 and ensure the corresponding recorded fault parameters to confirm the real state when the current fault occurs by all parameters.

3. See the following table for detailed solution and check the corresponding abnormal state.

4. Eliminate the fault and ask for relative help.

5. Check to eliminate the fault and carry out fault reset to run the inverter.

Fault code	Fault type	Possible cause	What to do
OUt1	IGBT Ph-U fault	1. The acceleration is too fast. 2. IGBT module fault. 3.The connection of the driving wires is not good, 4. Grounding is not properly.	1. Increase Acc time. 2. Change the power unit. 3. Check the driving wires. 4. Inspect external equipment and eliminate interference.
OUt2	IGBT Ph-V fault		
OUt3	IGBT Ph-W fault		
OC1	Over-current when acceleration	1. The acceleration or deceleration is too fast. 2. The voltage of the grid is too low. 3. The power of the inverter is too low. 4. The load transients or is abnormal. 5. The grounding is short circuited or the output is phase loss. 6. There is strong external interference.	1. Increase the ACC time 2. Check the input power 3. Select the inverter with a larger power 4. Check if the load is short circuited (the grounding short circuited or the wire short circuited) or the rotation is not smooth. 5. Check the output configuration. 6. Check if there is strong interference.
OC2	Over-current when deceleration		
OC3	Over-current when constant speed running		
OV1	Over-voltage when acceleration	1. The input voltage is abnormal. 2. There is large energy feedback.	1. Check the input power 2. Check if the DEC time of the load is too short or the inverter starts during the rotation of the motor or it needs to increase the energy consumption components.
OV2	Over-voltage when deceleration		
OV3	Over-voltage when constant speed running		
UV	DC bus Under-voltage	The voltage of the power supply is too low.	Check the input power of the supply line

OL1	Motor overload	1. The voltage of the power supply is too low. 2. The motor setting rated current is incorrect. 3. The motor stall or load transients is too strong.	1. Check the power of the supply line 2. Reset the rated current of the motor 3. Check the load and adjust the torque lift
OL2	Inverter overload	1. The acceleration is too fast 2. Reset the rotating motor 3. The voltage of the power supply is too low. 4. The load is too heavy. 5. Close loop vector control, reverse direction of the code panel and long low-speed operation	1. Increase the ACC time 2. Avoid the restarting after stopping. 3. Check the power of the supply line 4. Select an inverter with bigger power. 5. Select a proper motor.
OL3	Electrical overload	The inverter will report overload pre-alarm according to the set value.	Check the load and the overload pre-alarm point.
SPI	Input phase loss	Phase loss or fluctuation of input R,S,T	1. Check input power 2. Check installation distribution
SPO	Output phase loss	U,V,W phase loss input(or serious asymmetrical three phase of the load)	1. Check the output distribution 2. Check the motor and cable
OH1	Rectify overheat	1. Air duct jam or fan damage 2. Ambient temperature is too high.	1. Refer to the overcurrent solution 2. Redistribute dredge the wind channel or

OH2	IGBT overheat		
EF	External fault	SI external fault input terminals action	Check the external device input
CE	Communication error	1. The baud rate setting is incorrect. 2. Fault occurs to the communication wiring. 3. The communication address is wrong. 4. There is strong interference to the communication.	1. Set proper baud rate 2. Check the communication connection distribution 3. Set proper communication address. 4. Chang or replace the connection distribution or improve the anti-interference capability.
ItE	Current detection fault	1. The connection of the control board is not good 2. Assistant power is bad 3. Hoare components is broken 4. The modifying circuit is abnormal.	1. Check the connector and repatch 2. Change the Hoare 3. Change the main control panel
tE	Autotuning fault	1. The motor capacity does not comply with the inverter capability 2. The rated parameter of the motor does not set correctly. 3. The offset between the parameters from autotune and the standard parameter is huge 4. Autotune overtime	1. Change the inverter mode 2. Set the ratedparameter according to the motor name plate 3. Empty the motor load and reindentify 4. Check the motor connection and set the parameter. 5. Check if the upper limit frequency is above 2/3 of the rated frequency.

EEP	EEPROM fault	1. Error of controlling the write and read of the parameters 2. Damage to EEPROM	1. Press STOP/RST to reset 2. Change the main control panel
PIDE	PID feedback fault	1. PID feedback offline 2. PID feedback source disappear	1. Check the PID feedback signal 2. Check the PID feedback source
bCE	Braking unit fault	1. Braking circuit fault or damage to the braking pipes 2. The external braking resistor is not sufficient	1. Check the braking unit and , change new braking pipe 2. Increase the braking resistor
ETH1	Grounding shortcut fault 1	1. The output of the inverter is short circuited with the ground. 2. There is fault in the current detection circuit.	1. Check if the connection of the motor is normal or not 2. Change the Hoare 3. Change the main control panel
ETH2	Grounding shortcut fault 2	1. The output of the inverter is short circuited with the ground. 2. There is fault in the current detection circuit.	1. Check if the connection of the motor is normal or not 2. Change the Hoare 3. Change the main control panel
dEu	Velocity deviation fault	The load is too heavy or stalled.	1. Check the load and ensure it is normal. Increase the detection time. 2. Check whether the control parameters are normal.

STo	Maladjustment fault	1. The control parameters of the synchronous motors not set properly. 2. The autoturn parameter is not right. 3. The inverter is not connected to the motor.	1. Check the load and ensure it is normal. 2. Check whether the control parameter is set properly or not. 3. Increase the maladjustment detection time.
END	Time reach of factory setting	The actual running time of the inverter is above the internal setting running time.	Ask for the supplier and adjust the setting running time.
PCE	Keypad communication fault	1. The connection of the keypad wires is not good or broken. 2. The keypad wire is too long and affected by strong interference. 3. There is circuit fault on the communication of the keypad and main board.	1. Check the keypad wires and ensure whether there is mistake. 2. Check the environment and avoid the interference source. 3. Change the hardware and ask for service.
DNE	Parameters downloading fault	1. The connection of the keypad wires is not good or broken. 2. The keypad wire is too long and affected by strong interference. 3. There is mistake on the data storage of the keypad.	1. Check the keypad wires and ensure whether there is mistake. 2. Change the hardware and ask for service. 3. Repack-up the data in the keypad.
LL	Electronic underload fault	The inverter will report the underload pre-alarm according to the set value.	Check the load and the underload pre-alarm point.

E-DP	Profibus communication fault	1. Communication address is not correct. 2. Corresponding resistor is not dialed 3. The files of main stop GSD does not set sound	Check related setting
E-NET	Ethernet communication fault	4. The Ethernet address is not set right. 5. The Ethernet communication is not selected to right. 6. The ambient interference is too strong.	1. Check the relative setting. Check the communication method selection. 2. Check the environment and avoid the interference.
E-CAN	CAN communication fault	1. The connection is not sound 2. Corresponding resistor is not dialed 3. The communication is uneven	1. Check the connection 2. Draw out the correspond resistor 3. Set the same baud rate