LCD keypad operating instructions

1、 Operations and Display Interface Introduction

LCD panel is a Human-Machine-Interface (HMI) for debugging inverter parameters. The following is keypad function structure and display interface
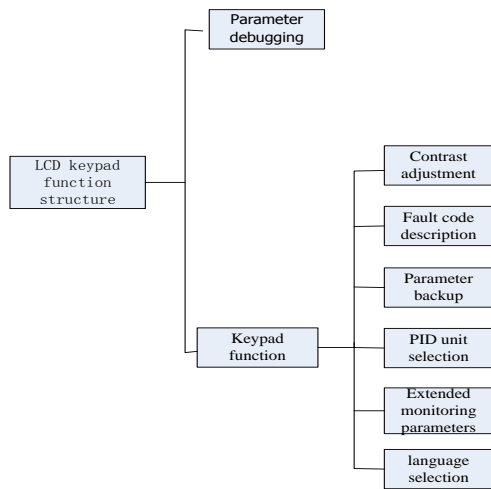

Figure 1-1 Keypad structure

Figure 1-2 Keypad interface

1.1 Operation panel button function introduction

Symbol	Name	Function
ESC	Escape	Exit
ENT	Enter	Enter the menu interfaces level by level,and confirm the parameter setting
∧	Increment	Increase data or function code
∨	Decrement	Decrease data or function code
≫	Shift	Select the displayed parameters in turn in the stop or running state, and select the digit to be modified when modifying parameters
MF.K	Multifunction	Perform function switchover (such as jog run and quick switchover of command source or direction) according to the setting of F16.00.
RUN	Run	Start the inverter in the keypad control mode
STOP RST	Stop/Reset	Stop the inverter when it is in the running state and perform the reset operation when it is in the fault state. The functions of this key are restricted in F16.01.
RUN + STOP RST	Key combinations 1	The inverter will free stop when the run and stop key are pressed simultaneously.
MF.K + ≫	Key combinations 2	The frequency inverter can be quickly set digital given frequency when the MF.K and ≫ keys are pressed at the same time,
ESC + ≫	Key combinations 3	ESC and ≫ keys are pressed simultaneously to unlock the keypad
ESC + ENT	Key combinations 4	ESC and ENT keys are pressed simultaneously for keypad lock (under the condition that F16.02 is not equal to 0)

1.2 Keypad indicator light description

Indicator		名称	含义
State	（Green border） Running state	Running state	On: Running state Off: Stopped state Flash:In process of stop
	（Red border） Fault state	Fault state	On: Fault state Off: Normal state Flash: Warning state

1.3 Status Identification Description

Status	Identification	Description
	（PARAM）	Parameter setting state (no-fault stop state)
	（RUN）	Currently running state

Operating status	(STOP)	The inverter is stopping
	(REST)	The inverter is in hibernation mode
	(ERR)	Inverter fault
	(TUNE)	The inverter is in a self-learning state
Starting method	(KEY)	Keypad start-stop mode
	(DI)	Terminal start-stop mode
	(PC)	Communication start-stop mode
Others	LCD2.0	LCD keyboard version
	⓪	Monitor page number (0-6)
	🔒	Keypad lock sign

1.4 Prompt message description

prompt	Meaning
Err00～Err99	Fault type
A00～A99	Alarm type
>>?	The current fault or alarm, press >> keypad to view the fault description

2、Operating instructions

2.1 Parameter debugging
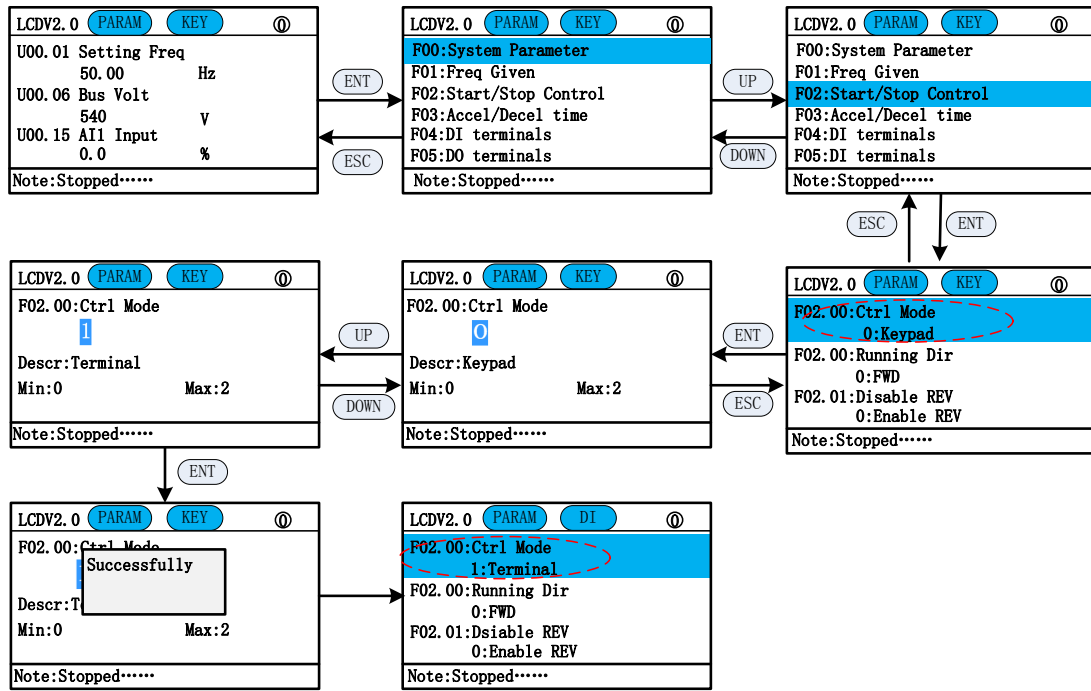
Operation panel adopts three-level menu structure to set parameters and other operations.

The third level menu is: Function parameter group (Level I menu) → Function code (Level II menu) → Function code setting (Level III menu). Below is operation example
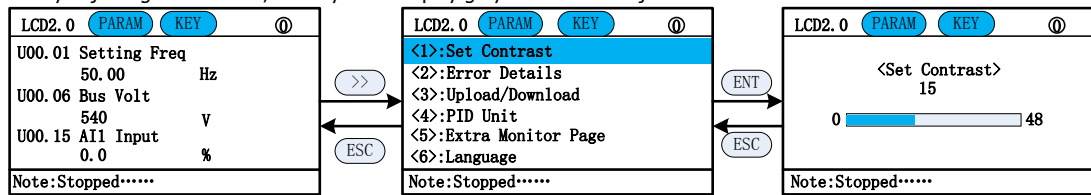
Example 1: Change the password (00000->10000)
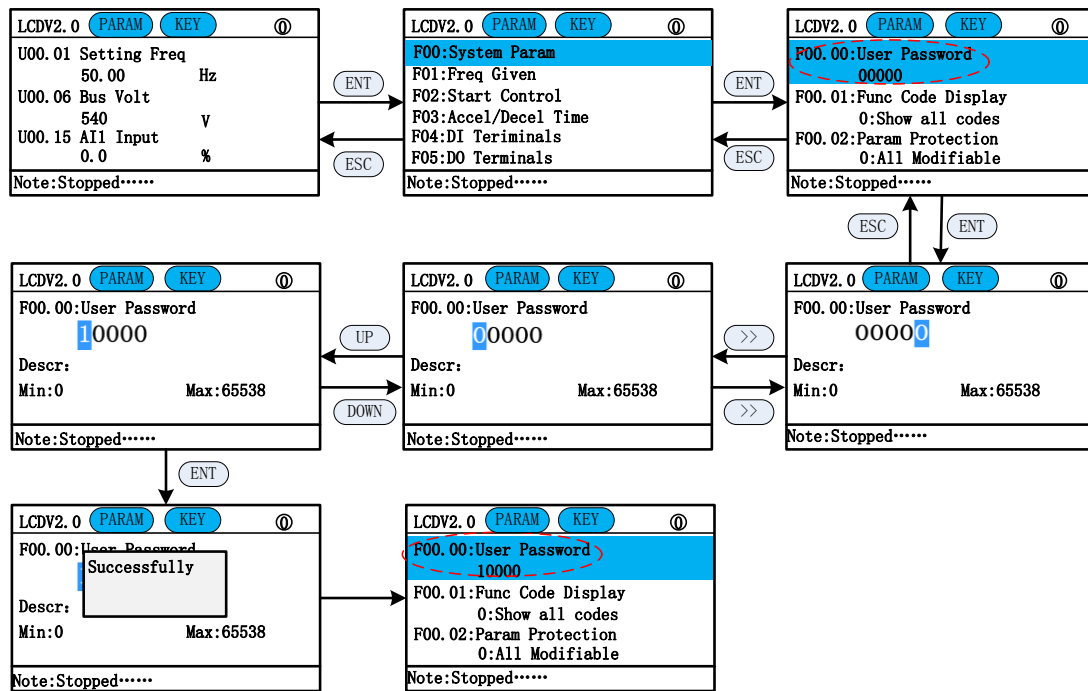
Example 2: Modify the starting mode (start by the button -> terminal start)

```
LCDV2.0 [PARAM] [KEY]      ◎
U00.01 Setting Freq
       50.00          Hz
U00.06 Bus Volt
       540            V
U00.15 AI1 Input
       0.0            %
Note:Stopped……
```

ENT → ← ESC

```
LCDV2.0 [PARAM] [KEY]      ◎
F00:System Parameter
F01:Freq Given
F02:Start/Stop Control
F03:Accel/Decel time
F04:DI terminals
F05:DO terminals
Note:Stopped……
```

UP → ← DOWN

```
LCDV2.0 [PARAM] [KEY]      ◎
F00:System Parameter
F01:Freq Given
F02:Start/Stop Control
F03:Accel/Decel time
F04:DI terminals
F05:DI terminals
Note:Stopped……
```

ESC ↑ ENT

```
LCDV2.0 [PARAM] [KEY]      ◎
F02.00:Ctrl Mode
     1

Descr:Terminal
Min:0          Max:2

Note:Stopped……
```

← UP / DOWN →

```
LCDV2.0 [PARAM] [KEY]      ◎
F02.00:Ctrl Mode
     0

Descr:Keypad
Min:0          Max:2

Note:Stopped……
```

ENT → ← ESC

```
LCDV2.0 [PARAM] [KEY]      ◎
F02.00:Ctrl Mode
     0:Keypad
F02.00:Running Dir
     0:FWD
F02.01:Disable REV
     0:Enable REV
Note:Stopped……
```

↓ ENT

```
LCDV2.0 [PARAM] [KEY]      ◎
F02.00:Ctrl Mode
  ┌─────────────┐
  │Successfully │
Descr:T         │
  └─────────────┘
Min:0          Max:2

Note:Stopped……
```

→

```
LCDV2.0 [PARAM] [DI]       ◎
F02.00:Ctrl Mode
     1:Terminal
F02.00:Running Dir
     0:FWD
F02.01:Dsiable REV
     0:Enable REV
Note:Stopped……
```

2.2 Contrast adjustment

By adjusting the contrast, the keyboard display grayscale can be adjusted .

```
LCD2.0 [PARAM] [KEY]       ◎
U00.01 Setting Freq
       50.00          Hz
U00.06 Bus Volt
       540            V
U00.15 AI1 Input
       0.0            %
Note:Stopped……
```

>> → ← ESC

```
LCD2.0 [PARAM] [KEY]       ◎
<1>:Set Contrast
<2>:Error Details
<3>:Upload/Download
<4>:PID Unit
<5>:Extra Monitor Page
<6>:Language
Note:Stopped……
```

ENT → ← ESC

```
LCD2.0 [PARAM] [KEY]       ◎

        <Set Contrast>
            15

     0 ▓▓▓▓▓▓         48

Note:Stopped……
```

In the contrast adjustment interface, press the UP / DOWN button to adjust the contrast, after adjusting, press the ENT key to save, ESC cancel.

2.3 Fault code description

If a fault or warning occurs, you can check the fault information through (>> key) -> fault code.

```
LCD2.0 [PARAM] [KEY]       ◎
U00.01 Setting Freq
       50.00          Hz
U00.06 Bus Volt
       540            V
U00.15 AI1 Input
       0.0            %
Note:Stopped……
```

>> → ← ESC

```
LCD2.0 [PARAM] [KEY]       ◎
<1>:Set Contrast
<2>:Error Details
<3>:Upload/Download
<4>:PID Unit
<5>:Extra Monitor Page
<6>:Language
Note:Stopped……
```

ENT → ← ESC

```
LCD2.0 [PARAM] [KEY]       ◎
Err01:Accel Overcurrent
Err02:Decel Overcurrent
Err03:Constant-Speed Overcurrent
Err04:Accel Overvoltage
Err05:Decel Overvoltage
Err06:Constant-Speed Overvoltage
Note:Stopped……
```

2.4 parameter backup function

Three backup parameters can be stored in the keypad and can be restored to the same machine as other software versions.

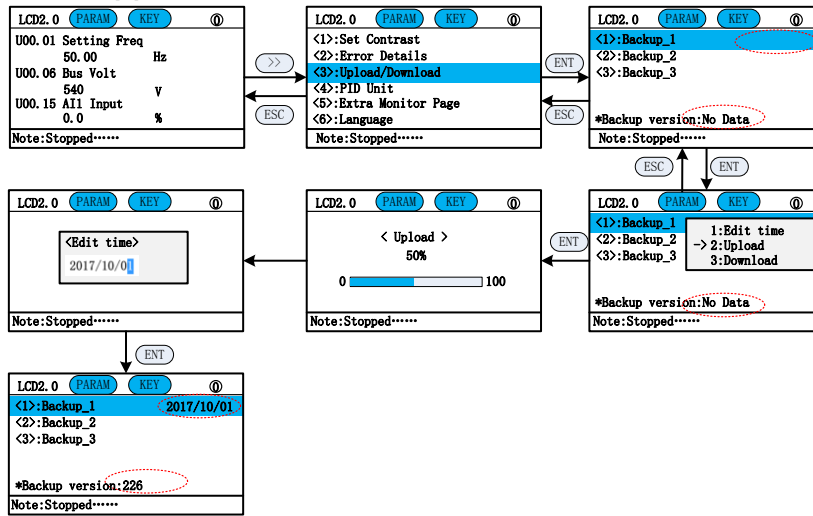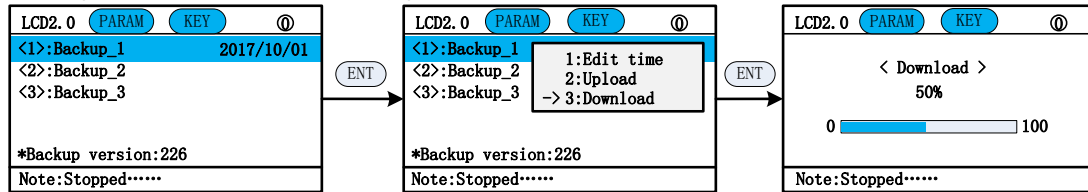Function: 1) Backup parameters; 2) Restore parameters; 3) View backup parameters; 4) Delete backup parameters.
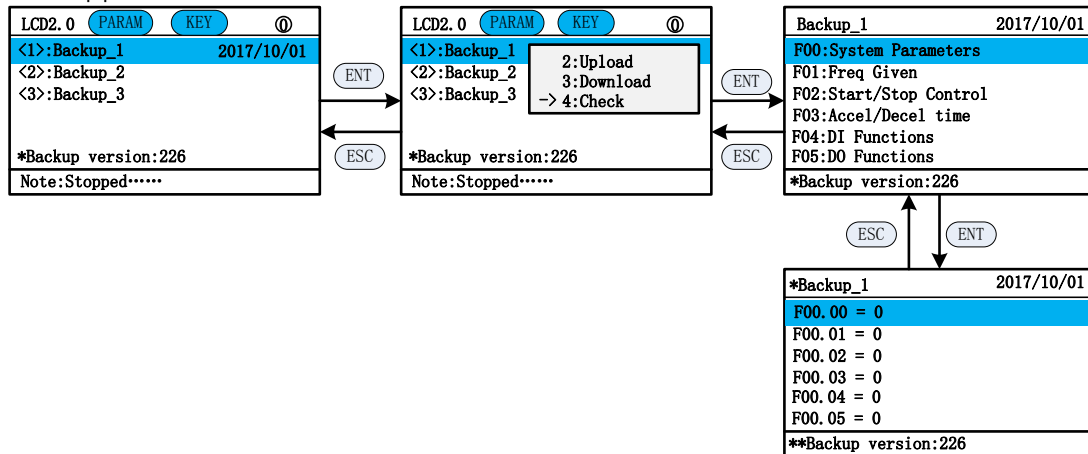
2.4.1 Backup parameters:

```
LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎
U00.01 Setting Freq              <1>:Set Contrast                 <1>:Backup_1
      50.00      Hz              <2>:Error Details                <2>:Backup_2
U00.06 Bus Volt          >>      <3>:Upload/Download      ENT     <3>:Backup_3
      540        V               <4>:PID Unit
U00.15 AI1 Input         ESC     <5>:Extra Monitor Page   ESC     *Backup version:No Data
      0.0        %               <6>:Language
Note:Stopped······               Note:Stopped······              Note:Stopped······
```

```
                                                                  ESC    ENT

LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎
                                                                  <1>:Backup_1
   <Edit time>                      < Upload >                    <2>:Backup_2   1:Edit time
   2017/10/0                           50%            ENT         <3>:Backup_3 ->2:Upload
                                                                               3:Download
                                 0 ▬▬▬▬▬▬ 100
                                                                  *Backup version:No Data
Note:Stopped······               Note:Stopped······              Note:Stopped······
```

```
       ENT

LCD2.0  PARAM   KEY    ◎
<1>:Backup_1     2017/10/01
<2>:Backup_2
<3>:Backup_3

*Backup version:226
Note:Stopped······
```

2.4.2 Restore Backup Parameters

The parameters that have been backed up can be restored to the same software version of the converter..

```
LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎
<1>:Backup_1     2017/10/01      <1>:Backup_1                     < Download >
<2>:Backup_2             ENT     <2>:Backup_2   1:Edit time  ENT      50%
<3>:Backup_3                     <3>:Backup_3   2:Upload
                                              -> 3:Download          0 ▬▬▬▬▬▬ 100
*Backup version:226              *Backup version:226
Note:Stopped······               Note:Stopped······              Note:Stopped······
```

2.4.3 View backup parameters

The backup parameters can be viewed.

```
LCD2.0  PARAM   KEY    ◎        LCD2.0  PARAM   KEY    ◎        Backup_1          2017/10/01
<1>:Backup_1     2017/10/01      <1>:Backup_1                     F00:System Parameters
<2>:Backup_2             ENT     <2>:Backup_2   2:Upload     ENT  F01:Freq Given
<3>:Backup_3                     <3>:Backup_3   3:Download        F02:Start/Stop Control
                                              -> 4:Check          F03:Accel/Decel time
                         ESC                                ESC   F04:DI Functions
*Backup version:226              *Backup version:226              F05:DO Functions
Note:Stopped······               Note:Stopped······              *Backup version:226
```

```
                                                                  ESC    ENT

                                                                  *Backup_1         2017/10/01
                                                                   F00.00 = 0
                                                                   F00.01 = 0
                                                                   F00.02 = 0
                                                                   F00.03 = 0
                                                                   F00.04 = 0
                                                                   F00.05 = 0
                                                                  **Backup version:226
```
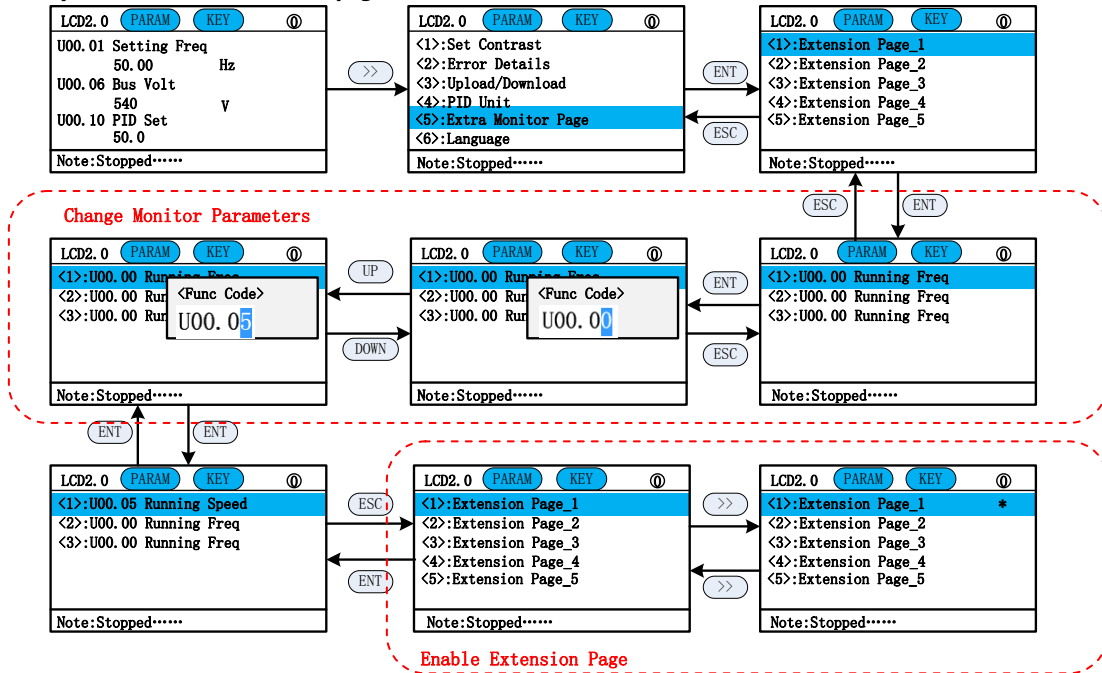
2.5 Set PID unit

The default PID is unitless and can be selected if needed.
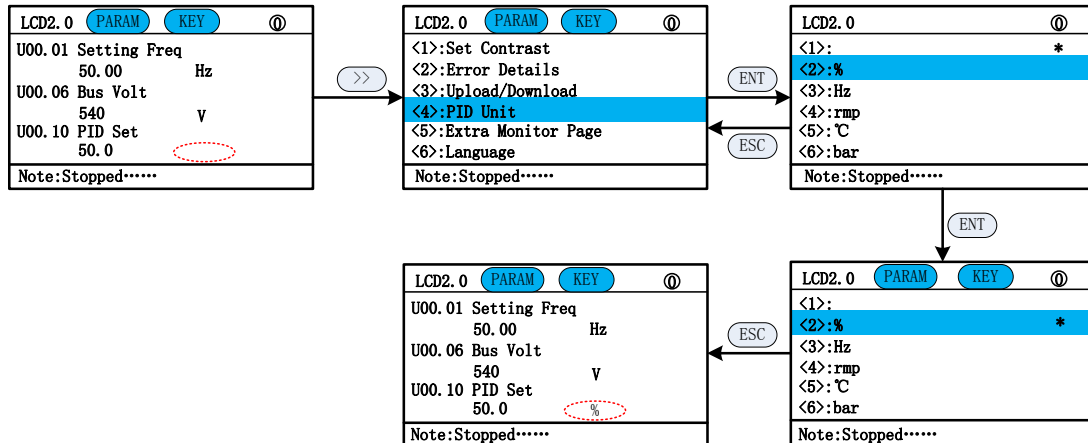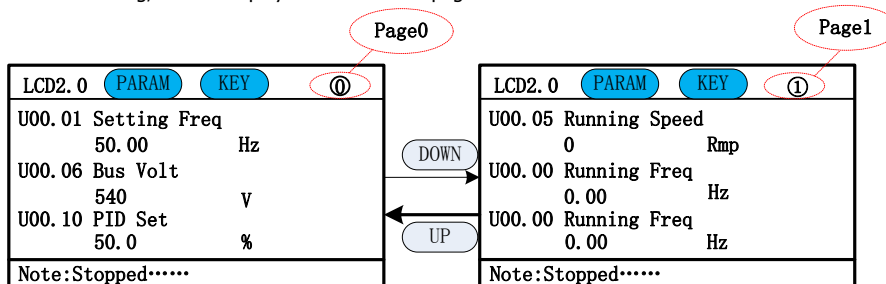

2.6 extended monitoring parameters

Can add up to 5 pages of extension parameters (15), parameter range (F group, U group, H group (for special machine).
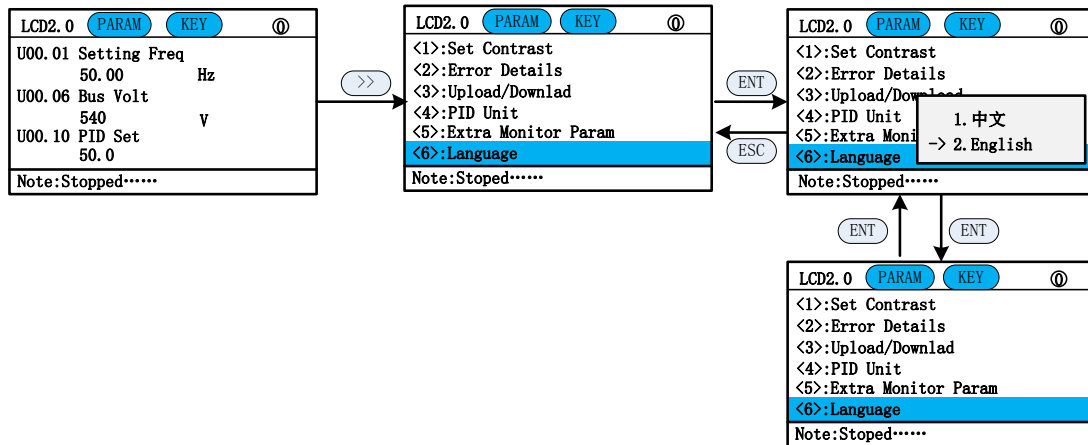
1) Set and add an extension page

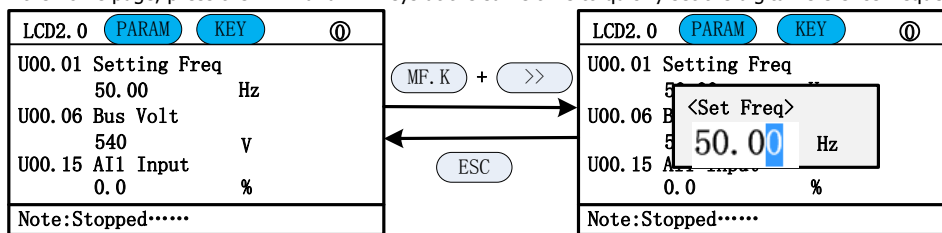### 2) Home view

After setting, can be displayed on the home page

2.7 Language setting

Support Chinese and English two languages.

2.8 quickly set the frequency

On the home page, press the MF.K and >> keys at the same time to quickly set the digital reference frequency.


2.9 password settings

The inverter provides the user password protection function. When F00.00 is greater than 100, it is the user password, and the 5-minute keypad no-operation password protection will take effect. The parameters can not be changed. Must enter the correct user password to enter the normal menu, or can not enter.

There are 3 ways for the user password to take effect:

Method 1: After setting F00.00 to be greater than 100, press ESC + ENT simultaneously.

Method 2: After setting F00.00 to be greater than 100, there is no keypad operation within 5 minutes.

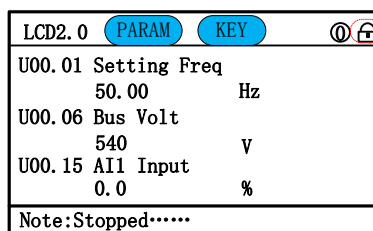Method 3:After setting F00.00 to be greater than 100,than power on again.
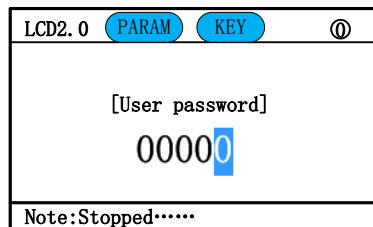
2.10 Keypad lock

1) 3 ways to lock the keypad;
Method 1: After setting F16.02 not equal to 0, press the ESC + ENT key at the same time.
Method 2: After setting F16.02 not equal to 0, do not operate the panel within 5 minutes.
Method 3: After setting F16.02 not equal to 0, power on again.

2)Keypad unlock: Press ESC + >> at the same time.

LCD keypad operating instrutions

```
┌─────────────────────────────────┐
│ LCD2.0  (PARAM)  (KEY)      ◎◯  │
├─────────────────────────────────┤
│ U00.01 Setting Freq             │
│        50.00          Hz        │
│ U00.06 Bus Volt                 │
│        540            V         │
│ U00.15 AI1 Input                │
│        0.0            %         │
├─────────────────────────────────┤
│ Note:Stopped……                  │
└─────────────────────────────────┘
```