VFD500 Double screen Display LED Keyboard User Manual

1. Product Introduction

The LED keyboard consists of two rows of digital tubes, nine indicator lights, six button and one number knob; the first row is used for monitoring parameters and auxiliary display, and the second row is used for parameter setting, operatiol control and monitoring.

The appearance of the LED keyboard is shown in Figure 1-1:

Figure 1-1 Dual Line Display LED Keyboard

The specific buttons and indicator functions are shown in Table 1-1:

Table 1-1 buttons and indicator functions description

Number	Picture	Name	Function
1		ESC: Exit Button	-Return to the previous menu. -Select list.
2		ENTER: Confirmation	-Enter the next menu. -The parameters take effect and are stored in EEPROM.
3		MK：Multi-function Button	-The default is positive transmission electric. Its function can be changed by parameter 21.02.
4		SHIFT：Right Shift	-Cursor shift. -The monitoring status displays the next monitoring data. (Only the second line of digital tubes can be operated)

5		RUN：Run Button	-When the command source is the keyboard, it is used to run the inverter.
6		STOP：Stop Button or Reset	-In the running state, press this button to stop running (restricted by parameter 21.03). -When a fault occurs, press this button to reset.
7		UP/DOWN/ENTER: Number Knob	-Rotate clockwise or counterclockwise, the number indicated by the cursor increases or decreases by 1. -Switch to the next or previous function code. -Pressing is equivalent to the confirm button.
8		Hz: Frequency	-The unit of value is Hertz.
9		A: Current	--The unit of value is Ampere.

10		V: Voltage	-The unit of value is Volt.
11		RUN: Running lights	-Turn off to indicate shutdown status. -Steady light means running.
12		REV: Direction indicator	-Steady light means reverse.
13		ALM: Fault indicator	-When it's on, it means the inverter is faulty

Note: Communication distance <30m

2. Hierarchical display and menu mode

The display of the VFD500 dual-line display LED keyboard is divided into two lines, the first line is used for monitoring and auxiliary display, and the second line is used for switching monitoring, menu mode, function code selection, parameter editing and viewing.

The menu is divided into four types: standard mode, user-defined mode, calibration mode, LED setting mode.

◆ Standard Mode（-bSC-）

If the access authority (P00.01) is the standard, all function codes mentioned in the VFD500 user manual can be accessed.

If the access authority (P00.01) is the end user (in the state where the user password is

locked), Then only individual function codes can be accessed.

◆ User-defined mode（-USr-）

In this menu mode, only 20 groups of user-defined parameters are displayed.

◆ calibration mode（-vrF-）

In this menu mode, only the parameters that differ from the factory values are displayed.

Note: The forward rotation of the knob will display the next function code, the reverse rotation will not respond.

◆ LED setting mode（-LEd-）

In this mode, PAr.00-PAr.03 can be set and viewed. This parameter belongs to the keyboard's own parameters and will be automatically stored in the keyboard's eeprom before power off.

Function Code	Name	Description
PAr.00	version number	-Can view the current LED keyboard software version number.
PAr.01	Monitoring parameters	-Turn the knob to set the first line of monitoring parameters.
PAr.02	Automatically save current settings when power off	0：Automatic quick save setting after power off 1：Automatic save setting without power off

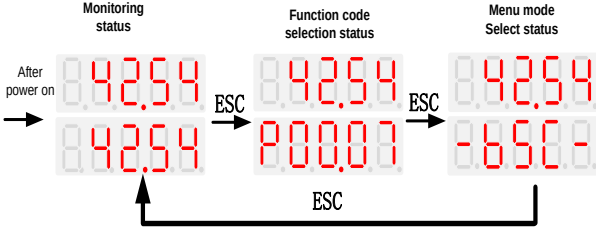
PAr.03	Communication error statistics	-Count the number of communication errors since the keyboard was powered on

Table 1-2 PAr.xx function code details in LED setting mode

3. Operation example

The three switchable interfaces after power-on, the respective operations are as follows:

The interface can be switched by the [ESC] button.



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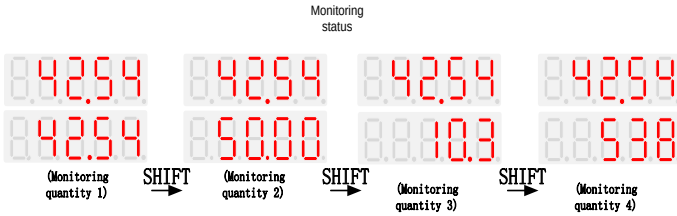
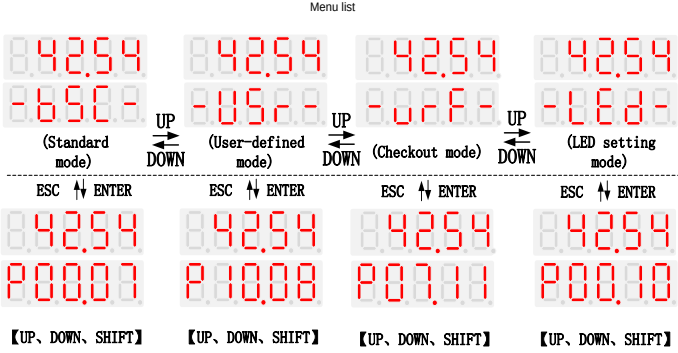
(1) Monitoring status interface

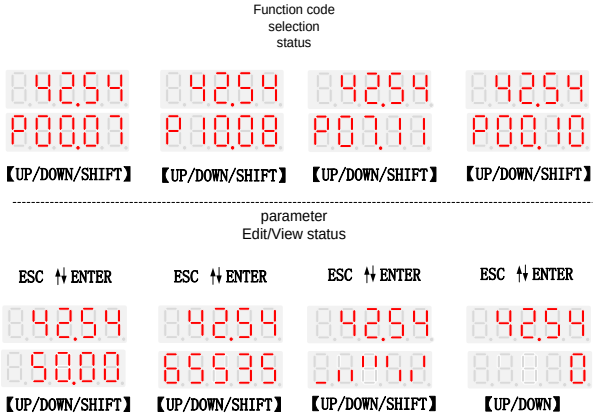
When the monitoring status interface is stopped, the default monitoring parameters are determined by function code P21.12, and the default monitoring parameters are determined by P21.11 during operation. At this time, you can switch and view the set monitoring parameters through the [SHFIT] butt



(2) Menu list interface



(3) Function code selection interface



Note:

1)Dual-line monitoring cannot monitor "32-bit data" and "binary data".

2)In the monitoring state of the second line, rotate “UP and DOWN” to set the frequency or torque in real time. For details, see function code P21.13 (the default factory setting is P00.07, and the rotary knob will take effect immediately after the change).

4. digital tube display

◆ **Display of decimal data**

16 digits:

The display range for unsigned numbers is 0 to 65535 (excluding the decimal point), the display range for signed numbers is -9999 to 32767 (excluding the decimal point), and negative numbers less than -9999 will be displayed as -9999.

32 digits:

Dot1 is used to distinguish between the upper and below screens, Light up means the up screen displayed (high 5 digits)，Off means down screen displayed (lower 5 digits).

The display range of 32-bit unsigned numbers is 0 ~ 4294967295.

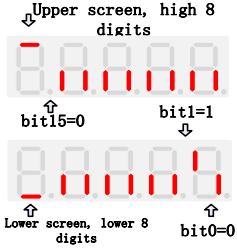
As shown 4294967295:

◆ **Binary data display**

Binary numbers currently only support 16 digits, which are displayed on the up and down screen.

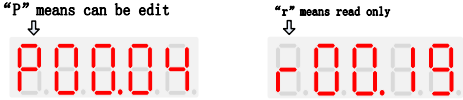
The leftmost digital tube is used to distinguish the up and down screens: the top segment lights up to indicate the up screen, and the bottom segment lights up to indicate the down screen.

Excluding the leftmost digital tube, from top to bottom are Bit15 ~ Bit0. The upper segment is lit to indicate 1, and the lower segment is lit to indicate 0.



◆ **Parameter attribute identification**

The leftmost digital tube of the editable parameter displays "P"; The leftmost digital tube of the read-only parameter displays "r", Show as the picture:



◆ **Specific symbol**

In some states, the digital tube will display a specific symbol. The meaning of specific symbols is shown in the table below:

Symbol	Significance
tUnE	Motor parameter self-learning
bUSY	Processing parameter read and write requests
End	-Indicates that the parameters have been changed and saved to EEPROM -The mission has been completed

Er.xxx	-Fault code, "XXX" is the fault type, For details, please refer to "VFD500 User Manual Troubleshooting"
Cr.xxx	Communication failure code, "XXX" is the failure type, Cr.001-Cr005 represents the data error, Cr.006 is the communication timeout, and Cr.007 is the CRC check error.
PAr.xxx	The LED's own parameters can be set in the "LEd" menu mode, see "LED Setting Mode (-LEd-)" for details.

Table 3-1 digital tube display symbols and meanings