Chengdu Ye Xian Technology Co.

Display Module UIM V2

user manual

Sage Technology

2012-8-30

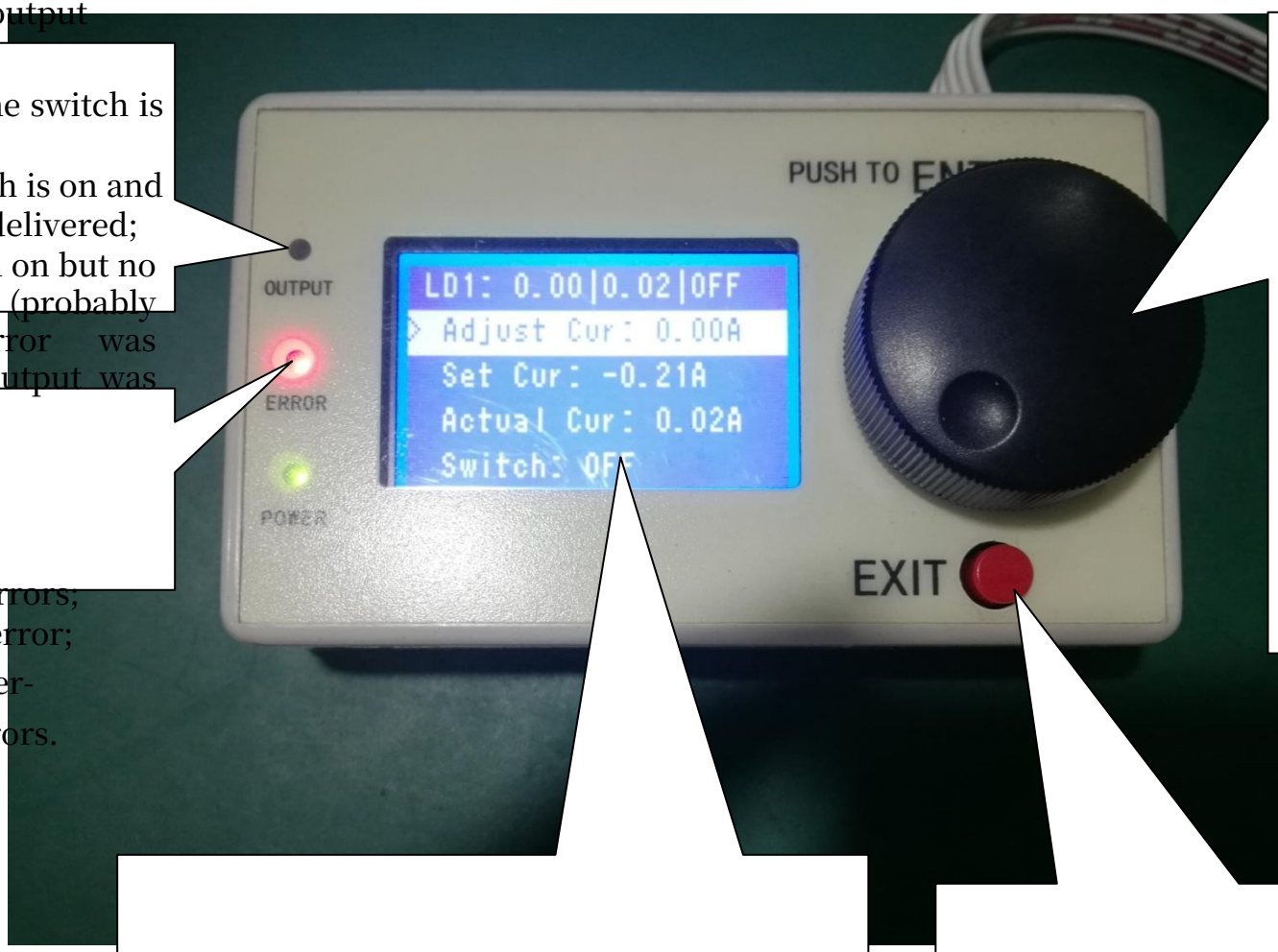
This document describes the structural characteristics and use of the display module UIM.

Yellow and green output lights:

1. extinguished, the switch is closed;
2. Lights up, switch is on and power is being delivered;
3. Blinking, switch on but no power output (probably because an error was detected so the output was disabled)

Red error light:

1. Extinction, no errors;
2. Ryo, there's an error;
3. Flicker, only over-temperature errors.



Single button shuttle that can be rotated or pressed.

Rotate:

1. Move the cursor up and down to change the current line;
2. Rotation can change the value of the parameter when the current line is highlighted;

Short press:

1. When the cursor in the front line is ">", short press can highlight the selection to enter the setting state;
2. When the cursor in the current line is "+", press briefly to enter the subdirectory.

Press and hold (more than 3 seconds)

1. A long press saves the setting values for the current row.

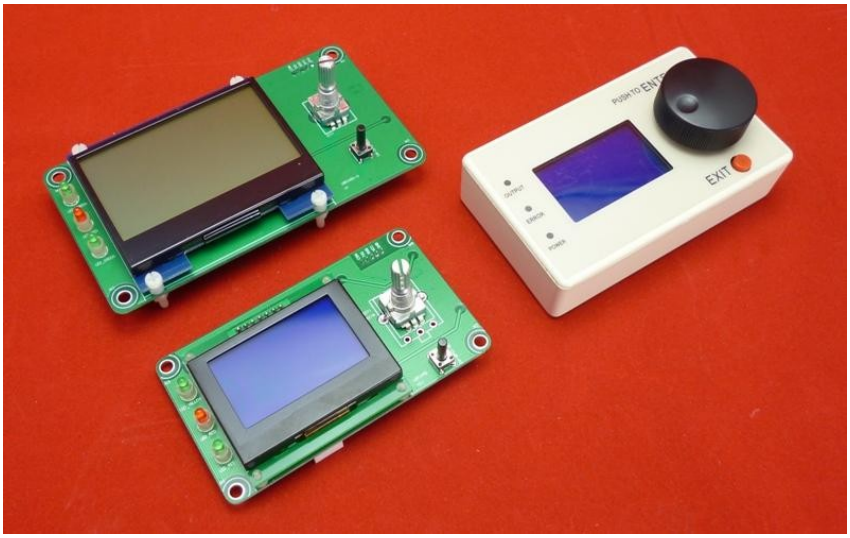
The first column is a cursor that marks the current line and also indicates the characteristics of that line;

1. "+" indicates catalogue
2. ">" indicates that the line is an adjustable parameter that can be highlighted and checked;
3. "<" means that the line just displays the parameter and cannot be adjusted.

Exit key, can be pressed briefly:

1. When the current line is selected by highlighting, short press to exit the setting status;
2. When in a subdirectory, short press to return to the previous menu.

1 UIM structure.



1.1 On the left side of the UIM, there are 3 LEDs, the meanings from top to bottom are: OUTPUT (switching status) ERROR (error message) and POWER (power status) The specific meanings of each LED are as follows

1.1.1 OUTPUT: The switching status of the core function of the function host. For example, the power output enable condition of the thermostat or the power output enable condition of the constant current source driver. When the core function is set to on and the actual function state is also on, the OUTPUT LED lights up; when it is set to on but fails to turn on, the OUTPUT LED blinks; when it is off or disabled, the OUTPUT LED goes out.

1.1.2 ERROR: ERROR LED flashes when the function host detects an

over-temperature error; ERROR LED lights when there are other errors or not only over-temperature errors; ERROR LED when there are no errors

Extinction.

1.1.3 POWER: The POWER LED is on when the UIM is properly powered up.

1.2 In the middle of the UIM is the LCD display.

1.3 On the right side are two buttons, the upper one is the rotary encoder button (here called the one-button shuttle) which allows selection, adjustment, and cursor move to functions, and the lower red button is the exit button. The specific functions of the keys are described in the menu operations section. The main operations of the keys are:

1.3.1 Single click single button shuttle: The single button shuttle can be rotated or pressed. The duration of the press is small An operation that takes less than 1 second is called a single-click shuttle.

1.3.2 Long Press Single Button Shuttle: An operation in which the Single Button Shuttle is pressed continuously for more than 3 seconds is called a Long Press Single Button Shuttle.

1.3.3 Spinning Single Button Shuttle: Spinning has clockwise spinning and anti-clockwise spinning. The parameter settings have a continuous speed increase effect when rotating continuously and rapidly.

1.3.4 Clicking the Exit key: An action where the Exit key is held down for less than 1 second is called clicking the Exit key.

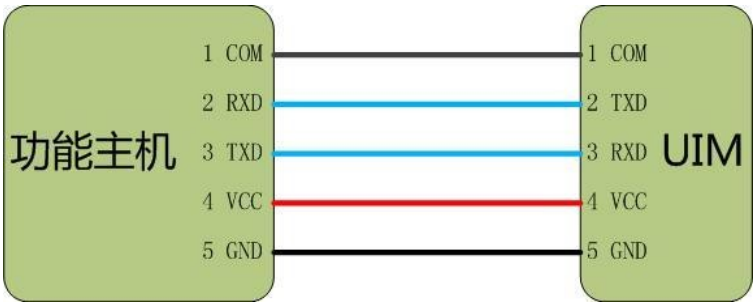
1.3.5 Long Press Exit: An operation in which the Exit key is pressed continuously for more than 10 seconds is called a long press of the Exit key.

1.3.6 Key combination: After pressing a key, rotate the knob of the single-button shuttle, and when the rotation is complete, release the key.

2 UIM connection.

The UIM is connected to the function host through a cable. Function host is a device with a specific function, relatively independent hardware, with digital control unit. For example, digital temperature controllers, CNC constant-current drivers, etc.

The wiring is 5-wire. The UIM's 5-pin interface definition has the RXD and TXD swapped so that the UIM and function host interfaces are directly connected and do not need to be crossed artificially.



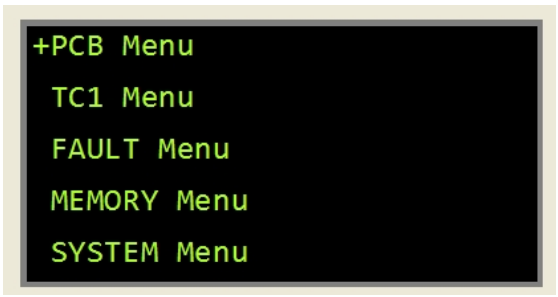
3 UIM display

Display effect of UIM (the display effect with case is the same as this)

4 Menu operations (for the convenience of screenshots, the menu display example on the UIM software EasyUI, EasyUI and

(The LCD display of the UIM is basically the same)

4.1 Cursor Prompt Meaning. Cursor prompt appears in front of a line of menu in LCD, marking the line where the current cursor is located, and indicating that the line of menu is the current focus menu, which is the menu responding to the user's operation. ">" means that the line is a parameter that can be adjusted; "<" means that the line is only a display parameter that cannot be

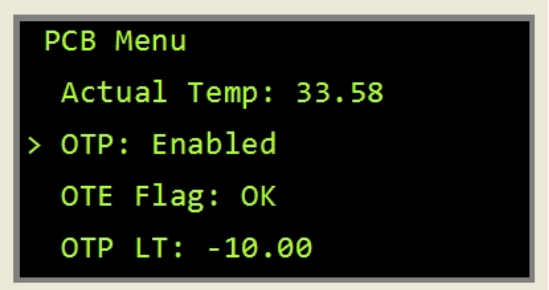


adjusted; "+" means that the line is a directory; "=" means the line is a command; "!" means that the line is a temporary prompt message. As shown in the figure below, the "+" symbol is displayed in front of the menu "PCB Menu", which means that the line is a directory menu.

4.2 Open the catalogue. When the cursor prompt is "+", clicking the single-key shuttle will open the directory and enter the submenu where the directory is located. As shown in the figure below, clicking the Shuttle will enter the sub-menu under the "PCB Menu"

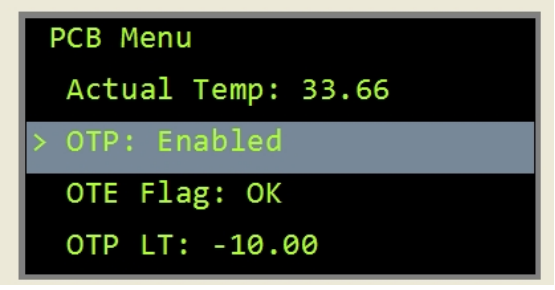
directory. If you enter a sub-menu, the name of the previous directory of the current menu will be displayed in the first line, as shown in the figure, the first line displays "PCB Menu".

4.3 Toggles menu rows. When no menu line is selected, rotate the one-key shuttle and the cursor will switch between menu lines. As shown in the figure below, rotating the One Touch Shuttle

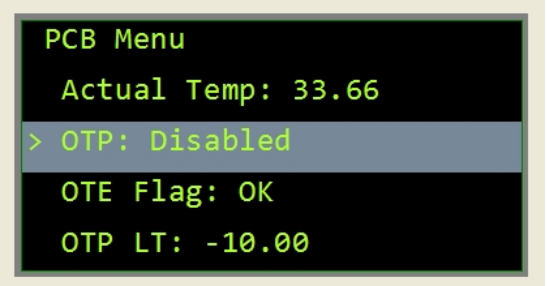


counterclockwise moves the cursor to the front of the next menu.

4.4 Check the adjustment parameter. When the cursor prompt is ">", clicking on the One Touch Shuttle results in the row being selected and the row being highlighted (i.e., the background of the menu in the row is different from the background of the overall LCD screen) As shown in the figure below, after clicking the Shuttle menu, the row is highlighted. Clicking the Shuttle again will exit the selected state, and clicking the Exit key will also exit the selected state.

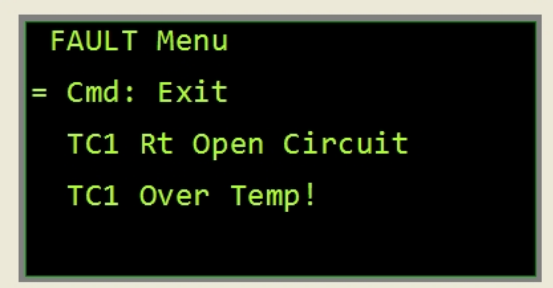


4.5 Adjustable Parameters. When the Adjustable menu is selected, rotate the single button shuttle to adjust the parameter size.



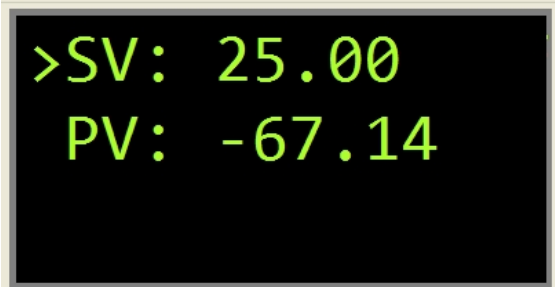
The speed at which the parameter changes varies depending on the speed of rotation. The parameter being adjusted may be a switch setting or a specific parameter value setting. The following figure demonstrates that the state of changing the OTP parameter is disable.

4.6 Execute Commands. When the cursor prompt is "=", clicking the one-key shuttle executes the command represented by that menu line. In the case shown below, if you



click the one-key shuttle, you exit that level of the menu and go to the previous level of the menu catalogue.

4.7 Storing parameter adjustment results. When the cursor prompt is ">", long press the single key shuttle, when released will store the parameter setting (if the parameter is allowed to store, do not allow the storage of the parameter long press will prompt to prohibit the storage) Used to save the user's parameter adjustment results.



4.8 The key combination sets the target serial port address. Pressing the Exit key and rotating the single-key shuttle clockwise or counterclockwise increases or decreases the target serial port address; used when a single UIM controls multiple lower units.

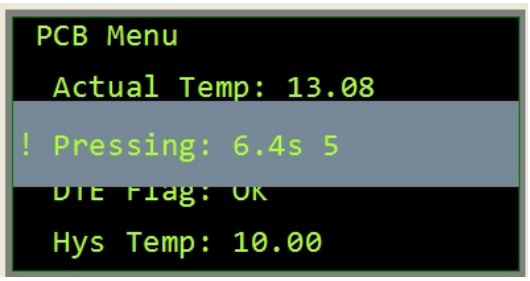
4.9 Exits the menu at that level. Clicking the Exit key exits the level of the menu and takes you to the previous level of the menu catalogue.

4.10 Reboot the UIM. a long press on the Cancel key reboots the UIM and has no effect on the feature host.

5 Info Tip.

5.1 Key Press Duration Prompt and Single Key Shuttle Rotation Prompt. To make it easier for users to know how long they have pressed a key, when a key is pressed, the LCD screen prompts for the key

time, as shown in the figure below, with a key duration of 6.4 seconds. The key duration is 6.4 seconds. The key duration indication is displayed in the centre of the screen. The value behind the time is the number of frames rotated by the single-key shuttle when the key is combined, as shown in the figure, the number of frames is 5, the surface is rotated by the single-key shuttle after the key is pressed, so it is a combination of the key, at this time, if you release the key, it will trigger the modification of the operation of the start menu; if the value is 0, it is the operation of the single-key shuttle when it is pressed for a long time.



5.2 Error message alert. When an error occurs, an alert message appears. As shown in the figure below, when a store operation is attempted for a parameter that cannot be stored, the display appears as shown in the figure. The error message stays for 10

seconds, and the user can click the Exit button if he/she wants to interrupt the display of the message. The error message is displayed on the menu line where the cursor is currently located.

6 Special Menu Catalogue. In addition to the individual menus for each function host, there are basically some special menu catalogues common to each function host.

6.1 FAULT Menu. directory of error message menus. Important error messages are not only displayed, but also a specific error report is generated in this catalogue, which is automatically deleted by the system only after the error has disappeared.

6.2 MEMORY Menu. memory menu catalogue. Functions Setting of the memory in which the host computer stores data. Mainly used to set the memory write protection.

6.3 SYSTEM Menu. Various system information.

7 Operating Procedure.

7.1 Turn off the power to the function main unit.

7.2 Use a cable to connect the function host to the UIM (do not plug and unplug it electrically)

7.3 Switch on the power of the function main unit.

7.4 Operate the UIM to control the function host.

7.5 At the end of function main unit operation, turn off the function main unit power.

7.6 If necessary, disconnect the cable between the function host and the UIM (do not plug and unplug it electrically)

8 Serial Communication Interface Parameters

	(be) worth	unit (of measure)
COM Series Resistance	100	Ohm
RXD Series Resistor	100	Ohm
TXD Series Resistor	100	Ohm
RXD Input Voltage	±15	V
TXD Output Voltage	±15	V
communication rate	57600	
VCC Allowable Input Voltage	4.5 to 13.2	V

9 UIM Dimensions

	contour			Viewing area of the LCD		mounting hole	
	elder	surname Kuan	your (honorific)	elder	surname Kuan	diameter of hole	orifice
UIM	95	55		40.92	24.28	3.6	88x48
UIM (with case)	100	60	25	40.92	24.28		

10 Revisionist history.

10.1 On 2012-8-22, v1.0, the basic version was completed.

10.2 2012-8-25, v1.1, add special menu catalogue description.

10.3 2012-9-2, v1.11, add serial communication interface parameter description.

10.4 2012-10-18, v1.12, fix some language errors.

10.5 2012-11-4, v1.13, added key combinations.

10.6 On 2012-12-11, v1.14, the cancel key was renamed to exit key.

10.7 On 2012-12-20, v1.15, SW LED was renamed to OUTPUT LED.

10.8 2013-9-13, v1.16, added key combination to open second menu.

10.9 2014-2-17, v1.17, added display effect description; added size

description.

10.10 2014-12-28, v1.18, added description of key combination for target serial port address setting.

10.11 2017-2-1, v1.2, renamed Display Module.

10.12 2017-6-23, v1.3, Add integrated graphic descriptions to reduce reading.