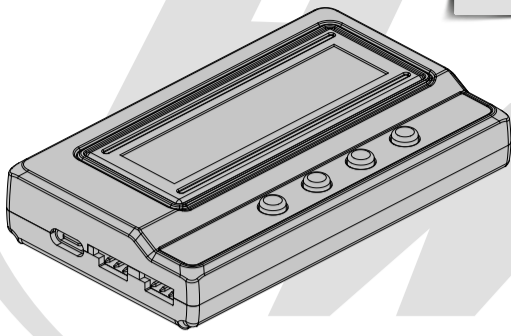


Multifunction Program Box USER MANUAL



20190827

01 FEATURE AND FUNCTION

The Multifunction Program Box is the equipment for setting brushless speed controllers; it works in the following 3 ways:

- Works as an individual equipment to set the ESC, the option of each programmable item is displayed on its own LCD screen;
- Works as an USB adapter to link the ESC with PC to update the ESC firmware or set the programmable item by the USB Link Software on PC.
- Works as a Lipo battery voltmeter to measure the voltage of the whole battery pack and each cell.

02 SPECIFICATION

- Size: 90mm * 51mm * 17mm
- Weight: 65g
- Power supply: DC 4.5V to 12.6V

03 Suitable for the following ESC

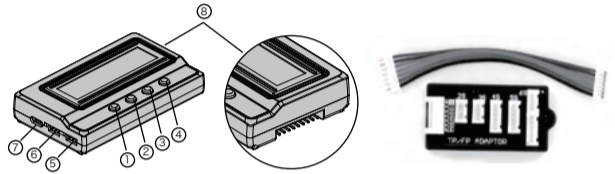
- XeRun Series Car ESC (Version 2.0/2.1/3.0/3.1 and later)
- EZRUN Series Car ESC (Version 2.0 and later)
- PLATINUM Series helicopter/airplane ESC
- Seaking Pro Series Boat ESC

04 FUNCTION OF EACH BUTTON AND PORT

1. **ITEM**: Circularly switch the programming item. Exit user-defined parameter value setting of programming item. Enter the programming item setting. Long press to switch quickly and circularly.
2. **VALUE +**: Circularly switch parameter value of some programming item in positive direction. Circularly switch user-defined parameter value of some programming item. Long press to switch quickly and circularly in positive direction.
3. **VALUE -**: Circularly switch parameter value of some programming item in negative direction. Circularly switch user-defined parameter value of some programming item. Long press to switch quickly and circularly in negative direction.
4. **OK(R/P)**: Save and send the parameter value in the current mode to ESC. Enter user-defined parameter value setting of some programming item. Long press Entry mode to select menu. Check and record data (Need ESC to support).
5. **Batt**: Setting box power supply input port. When the programming port of ESC has no voltage output (Such as OPTO ESC, please refer to the instruction of ESC.) A separated battery or UBEC is needed to supply power for LCD setting box from this port.
6. **ESC**: Use programming line to connect this port with programming port of ESC. (Each programming line of ESC is different. Please refer to the instruction.)
7. **"USB" Port**: Connect the program box to PC and also provide working voltage to the program box (If the USB port is connected, then the power supply at "Batt" port is unnecessary).
8. **"BATTERY CHECK"**: Connect to the balance charging connectors of the battery.

Note 1: Please pay attention to the polarity of the connectors.

Note 2: The space between pins is 2.54mm, so the "BATTERY CHECK" port is compatible with XH, EH and HPP/Q connectors. But Thunder Power battery uses different types of connectors so an adapter as above is needed.



05 Three WORKING WAYS

1 Working as an independent device to set parameter for ESC

1.1 Step A: Judge whether the ESC has built-in BEC and independent programming port. Select corresponding connection mode. Connect ESC with setting box well.

a) **Programming line of ESC shares a same line with throttle line. The throttle line has SEC output:**

Unplug throttle line from receiver and plug into "ESC" port of LCD setting box.

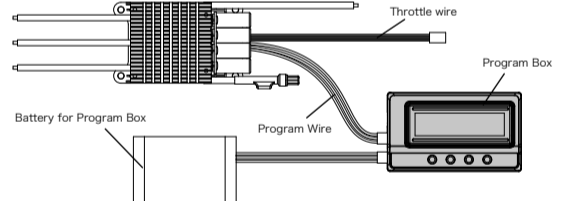
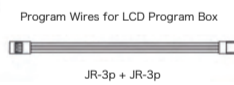
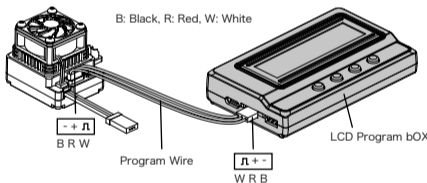
b) **ESC has independent programming port which has voltage output:**

Use programming line to connect programming port of ESC with "ESC" port of LCD setting box.

c) **Programming port of ESC has no voltage output (Such as OPTO type of ESC, please refer to instruction of ESC.)**

If Programming line shares a same line with throttle line, use throttle line to plug "ESC" port of LCD setting box; if ESC has independent programming port, then connect the independent programming port with the "esc" port of LCD setting box. Besides, when connect setting box, it must use extra battery (4.5-12.6V) or UBEC to plug into "BATT" port to supply power for LCD setting box.

Caution: For Platinum V3/V4 OPTP ESC, no extra battery or UBEC is needed to connect to supply power for programming box. Please refer to the instruction for the details.



1.2 Step B: Connect ESC to battery and switch it on.

LCD program box shows the in initial screen

Hobbywing
PB-4.0.01

, press any button on the LCD program box to communicate with the ESC, the screen show

Connecting ESC , after

several seconds, LCD shows the current profile name

Mode 0
mode0_car0

, and then the 1st programmable item is displayed. Press "ITEM" and "VALUE" buttons to select the options, press "OK" button to save the settings.

a) **Reset the ESC by the LCD program box**

When the connection between ESC and LCD program box is successfully established, press "ITEM" button for several time still the "Load Default Settings" is displayed, press "OK" button, then all programmable items in the current profile are reset to factory-preset options.

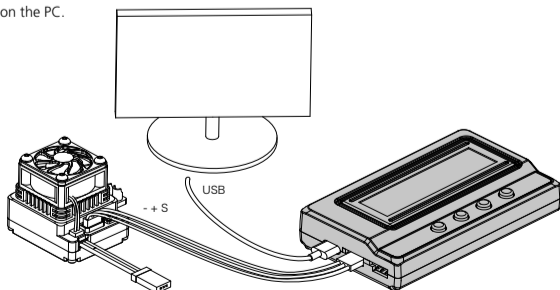
b) **Change Profiles of ESC**

If there are multiple sets of Profiles within ESC (Refer to the instruction to see whether it has or not.) Users can set the parameters in each mode first for different applications, such as "Modify" contest, "Stock-13.5T" contest and so on. When move to different areas or use different motors, only need to switch to corresponding mode. It is fast and convenient.

The switching method is: When ESC and LCD setting box is online status, long press "OK(R/P)" button. When LCD displays the current mode name, press "VALUE" button, it will switch to the next mode at this time, press again to switch to next mode, repeat it. If you need to modify the parameters of the selected mode, press "ITEM" button to display and modify the parameters of the current mode. Use Hobbywing USB Link software can modify the name of each mode on the computer.

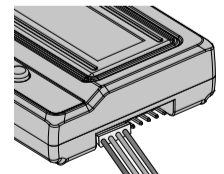
2 Works as USB adapter to connect ESC to PC

Connect the ESC, LCD program box and PC according to the picture. Run the USB Link Software. And then connect ESC to battery and turn it on, the USB Link Software will try to communicate with the ESC. After the connection is established, user can easily set the ESC or update its firmware on the PC.



3 Works as Lipo battery voltmeter

- Battery: 2-8S Lipo/Li-Ion/Li-Fe
- Precision: $\pm 0.1V$
- Usage:



Plug the balance charge connector of the battery pack into the "BATTERY CHECK" port (Please make sure that the negative pole points to the "-" symbol on the program box), and then LCD shows the firmware, the voltage of the whole battery and each cell.

HOBBYWING PB_4.0.01 Battery Voltage 1:3.7V 2:3.74V
11.18v 3:3.7V 4:0.00V

Note: When checking the voltage, please supply the LCD program box only from the balance charge connector. Don't supply LCD program box from Batt or USB port.

06 UPDATE THE FIRMWARE OF LCD PROGRAM BOX

Sometimes the firmware of LCD program box should be updated because the functions of ESC are improved continuously.

Connect the LCD program box with PC through USB port, run Hobbywing USB Link Software, select "Device" → "Multifunction LCD Program Box", at the "Firmware Upgrade" module, choose the new firmware you want to use, and then click "Upgrade" button.

For more detail information, please refer to Hobbywing Website: <http://www.hobbywing.com/>