HOBBYWING®

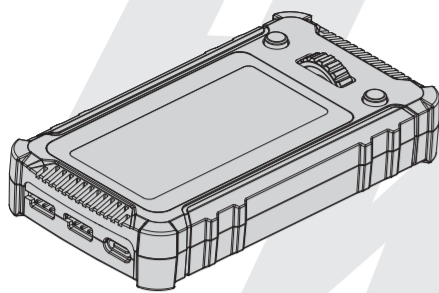## USER MANUAL
Multifunction LCD Program Box Pro

Thank you for purchasing this HOBBYWING product! Please read this declaration carefully before use, once you use the product, we will assume that you have read and agreed with all the content. Any improper use may cause personal injury and damage to the product and related devices, so please strictly follow the instruction during installation and use. Because we have no control over the use, installation, or maintenance of this product, no liability may be assumed for any damages or losses resulting from the use of the product. We do not assume responsibility for any losses caused by unauthorized modifications to our product.Besides, we have the right to modify our product design, appearance, features and usage requirements without notification. We, HOBBYWING, are only responsible for our product cost and nothing else as result of using our product.Regarding the possible semantic different between two different versions of declaration, for users in mainland China,please take the Chinese version as standard; for users in other regions, please take the English version as standard.

HW-SMD004DUL00-A0

01 Features

- As a programming device, directly use the built-in LCD screen to display, set, and share ESC parameters (import).
- Connect the ESC to a computer using a USB adapter. Use the USB Link application software on the computer to upgrade the ESC firmware and set parameters.
- The OTA Bluetooth module: Using the mobile APP to set ESC parameters, upgrade firmware, and read data.
- Detect the overall voltage of the lithium battery and the individual voltage of each cell.
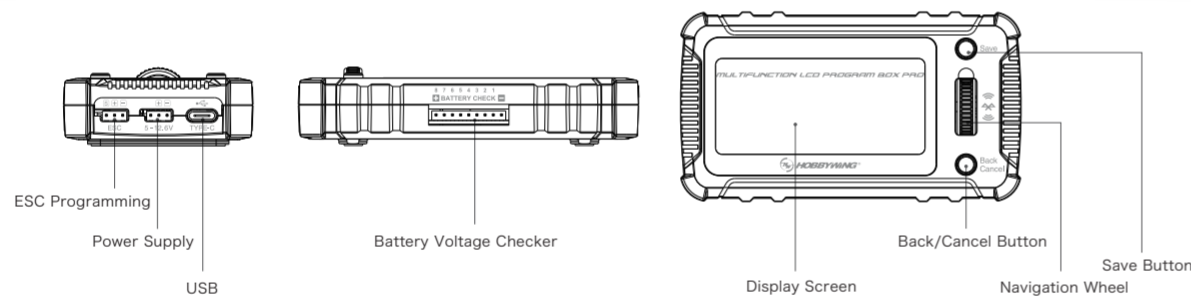
02 Specifications

Model	Exterior size	Weight	Input voltage
Multifunction LCD Program Box Pro	105.6mm(Length) x 59mm(width) x 24.4mm (Including wheel height)	85g	DC 5V~12.6V

03 Scope of application

- XERUN series car model brushless ESC (V2.0 and above)
- EZRUN series car model brushless ESC (V2.0 and above)
- PLATINUM series air model brushless ESC
- SEAKING Pro series ship model brushless ESC
- Some ESCs of QUICRUN series

Remarks: 1. The scope of application here can also be understood as all the escs that the old LCD G2 program box and OTA Bluetooth module can support.
2. Whether the programmable box is supported depends on the specific ESC model. If necessary, you can check the ESC information introduction on the official website or consult the Hobbywing official. Hobbywing official website: https://www.hobbywing.com

04 Product icon and button/interface description

ESC Programming
Power Supply
USB
Battery Voltage Checker
Display Screen
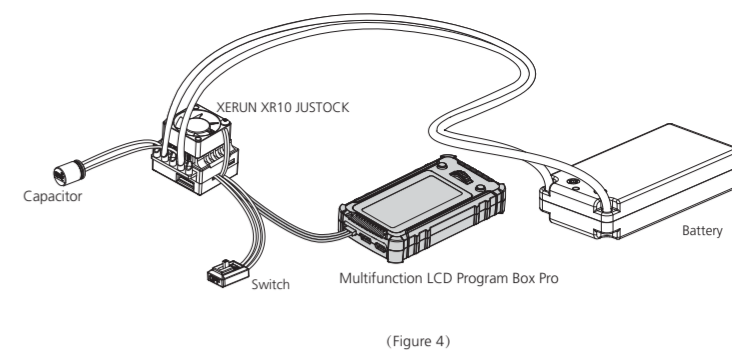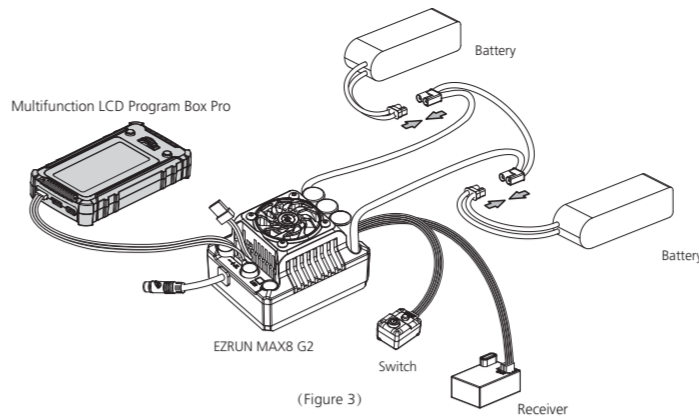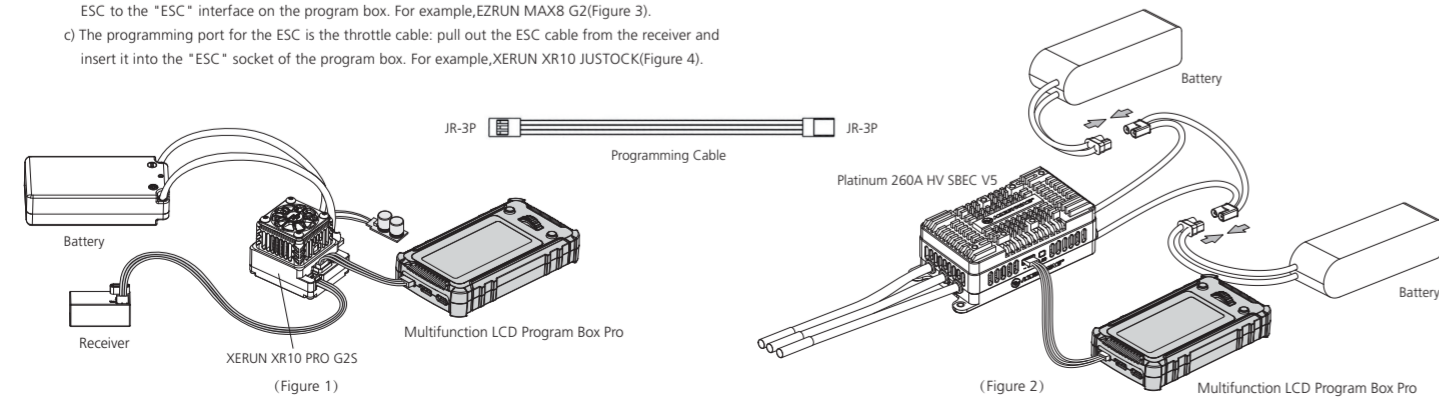Back/Cancel Button
Save Button
Navigation Wheel

- **Navigation Wheel:** Select the target menu by rotating the wheel up and down, press the wheel to enter the item.
- **Save:** Save button, to save parameter settings.
- **Back/Cancel:** Return button is used to return to the previous menu. If you press and hold this button for about 2 seconds, you will be returned back to the home page.
- **ESC (S + -):** This interface is used to connect to the programming interface of the ESC.
  Remarks: Different types of ESCs may have different programming interfaces. For example, some ESCs have an independent programming port, some ESCs share the interface with the fan, and some ESCs have a throttle signal line. Please check the manual of the ESC and use the correct programming interface to connect with the program box.
- **5-12.6V (+ -):** The power supply interface of the program box. Please use an independent battery or UBEC supplies power to the program box from this interface if the programming interface of the ESC has no voltage output (such as some old OPTO ESCs, please refer to the ESC manual).
  PLEASE NOTE: DO NOT SUPPLY POWER TO PROGRAM BOX UNLESS THE ESC INSTRUCTIONS STATES TO SUPPLY PROGRAM BOX WITH EXTERNAL POWER!!!
- **TYPE-C:** Connect the program box to a computer.
- **Battery Checker:** This interface is connected to the balance charging plug of the battery pack and is also used to detect the overall voltage of the battery pack and the individual voltage of each cell.
  Remarks: Please pay attention to the wiring direction to avoid damage to the equipment; The pin pitch of this interface is 2.54mm, and is consistent with XH, EH, HP/PQ standards. The battery balance plug can be directly inserted into this interface. However, some battery balancing charging plugs may have a different pin pitch and cannot be directly connected. It is recommended to use the conversion cable shown in the right figure to connect.

05 User Guide

1 Set the parameters of the ESC as an independent device

Step 1: Determine the programming interface of the ESC (check the ESC manual) and use the corresponding connection method.
a) The ESC has an independent programming interface: use a programming cable (JR/DuPont connectors at both ends) to connect the programming port of the ESC to the "ESC" interface on the program box. For example,XERUN XR10 PRO G2S(Figure 1) and Platinum 260A HV SBEC V5(Figure 2).
b) The programming interface of the ESC is shared with the fan interface: take off the fan plug of the ESC and use the programming cable (JR/DuPont connectors at both ends) to connect the fan interface of the ESC to the "ESC" interface on the program box. For example,EZRUN MAX8 G2(Figure 3).
c) The programming port for the ESC is the throttle cable: pull out the ESC cable from the receiver and insert it into the "ESC" socket of the program box. For example,XERUN XR10 JUSTOCK(Figure 4).

JR-3P Programming Cable JR-3P

Battery
Receiver
XERUN XR10 PRO G2S
Multifunction LCD Program Box Pro
(Figure 1)

Platinum 260A HV SBEC V5
Battery
Multifunction LCD Program Box Pro
(Figure 2)

Multifunction LCD Program Box Pro
Battery
EZRUN MAX8 G2
Switch
Receiver
(Figure 3)

XERUN XR10 JUSTOCK
Capacitor
Switch
Multifunction LCD Program Box Pro
Battery
(Figure 4)

Step 2: Determine whether the programming interface of the ESC has voltage output, and if the program box needs a separate power supply (check the ESC manual). The majority of Hobbywing ESCs have voltage output equipped. This does not require an external power source. However, there are also a few older ESCs whose programming interface does not have voltage output (such as Platinum-150A-OPTO V2). In that case, you would need to use an independent battery or UBEC on the "5-12.6V (+ -)" interface of the program box to power the device.
Step 3: Connect the battery to the ESC and turn on the ESC switch (if there is a switch).
The program box will display the homepage interface. Select the corresponding function menu according to your needs.

2 Computer USB Connection (WINDOWS ONLY), connect the ESC to a computer for parameter setting and firmware update

Connect the program box to the ESC according to the connection method introduced in the points above. Next, connect the program box to the computer using a USB cable. Open the HOBBYWING USB LINK application software on the computer and connect the ESC to a battery. Finally, turn on the ESC switch (if any), and the HOBBYWING USB LINK software on the computer can establish a connection with the ESC. Establish parameter settings and firmware upgrades on the computer. (HOBBYWING USB LINK software can be downloaded from Hobbywing official website, https://www.hobbywing.com)


HobbyWing USB Link
USB
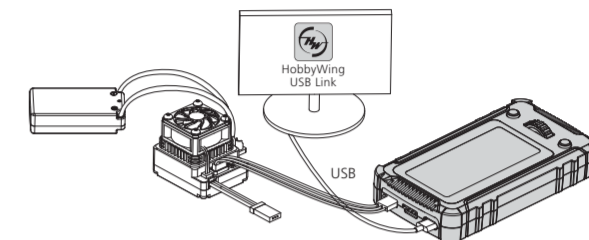
3 As an OTA Bluetooth module, set parameters, update firmware, and read data for ESCs

1) Connect the ESC to the program box according to the correct connection method (as described in the points above).
2) Download the official HW LINK V2 APP on the mobile phone. For iOS, search for Hobbywing directly in the App Store; for Android, search for Hobbywing in Google Play, or download it from the Hobbywing official website (https://www.hobbywing.com).
3) Power on the ESC, and open the APP. When you enter the APP for the first time, you will be prompted to choose Bluetooth connection or WiFi connection. Here, choose Bluetooth connection. If you want to switch to Bluetooth connection after using WiFi connection, please click "Select Connection Method" in the "System Settings" to change the settings. Click the ESC logo on the upper right-hand corner of the APP: The Bluetooth devices that can be connected will pop up. Click the Bluetooth name inside the program box to connect (Bluetooth factory default name: HW_BLE****, factory default password: 888888). After the connection is successful, you can make parameter adjustments, firmware update, data reading and other operations on the connected ESC.

Available devices
Select the connecting mode
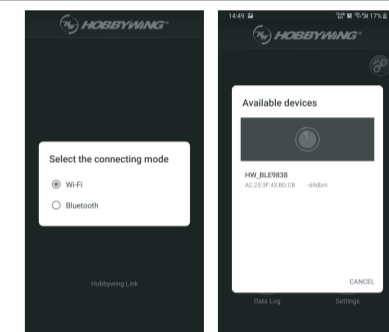
4 As a battery voltage detector (Monitor), measure and display the overall voltage of the battery pack and the voltage of the single cell
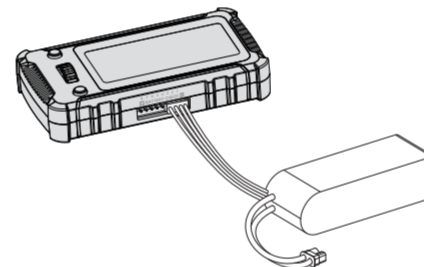

Measuring range: 2-8S Li-Polymer/Li-Lon/Li-Fe
Measurement accuracy: ±0.1V
How to use: Insert the battery balancing plug into the "BATTERY CHECK" port of the program box separately (the negative pole of the battery balance port corresponds to the negative pole symbol on the shell of the program box), as shown in the figure, after the battery is connected, the program box will Automatically display the total battery voltage and the voltage of each cell.

⚠ When detecting the battery voltage, please do not connect the ESC and USB port at the same time. DUAL POWER CONNECTIONS WILL CAUSE DAMAGE TO THIS DEVICE OR CONNECTED DEVICES.

06 Introduction to menu functions

- **Parameter settings**
  Click to view and set the ESC parameters.
- **Data record**
  Click to view the recorded data such as "maximum temperature of ESC", "maximum temperature of motor", "minimum voltage of battery" and "maximum rpm of motor" recorded by the ESC.
  Please Note: The ESC needs to support the data recording function in order to be viewed.
- **Mode setting**
  1) Profile switching: Refers to switching the application mode (profile) of the ESC, suitable for ESCs with multiple application modes.
  2) Import setup file: This is the sharing function for settings. Import the setting file of a certain ESC stored in the program box to another ESC of the same model. Use the scroll button to select and click a file to import, view, copy, delete, and rename. Press and hold the scroll button to delete all files with one click.
  3) Add setup file: This is the function of saving the setting file. Store and name the setting table of the current ESC separately in a file.
- **System settings**
  1) Language settings: Chinese/English/Japanese and other languages is switchable.
  2) Brightness: Set the brightness of the screen.
  3) On/Off Sound: Turn on and off the beeping sound during operation.
  4) Device information: View the version information of the ESC and the program box.
  5) Reset: "Only reset default setting" is to restore the system settings of the program box. "Full recovery" is to restore the system settings and database of the program box.

☰ Parameter settings
📊 Data record
Mode setting
⚙ System settings
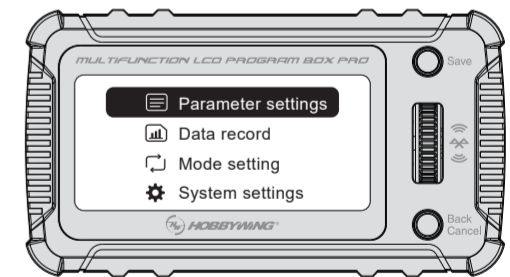
07 LCD program box firmware update

Due to the continuous update of the ESC function and the use of the LCD program box, it is recommended to upgrade to the latest firmware of the LCD program box if necessary. There are two methods:
1. Use a USB cable to connect the LCD program box to the computer. Run the HOBBYWING USB Link software. Select "LCD Program Box" under the "Device" menu. On the "Firmware Update" page, select the latest version of the firmware program and click "Upgrade", As shown in Figure 1.
2. Power the LCD program box (it can be powered through the esc programming interface or power supply interface), and open the HW LINK V2 APP on the mobile phone, click on the connection icon in the upper right corner of the APP homepage to connect to the program box via Bluetooth, and then click on 【Settings】- 【Setting of the Bluetooth Module】- 【Firmware Update】 to upgrade the firmware of the program box, As shown in Figure 2.
Note: HOBBYWING USB Link computer software or HW LINK V2 mobile app can be downloaded from the official website of Hobbywing Technology: https://www.hobbywing.com

HobbyWing USB Link
USB
(Figure 1)

(Figure 2)
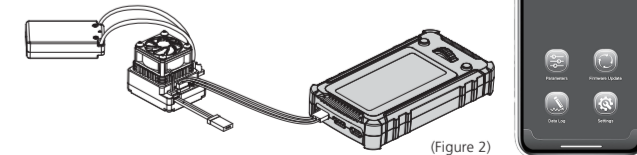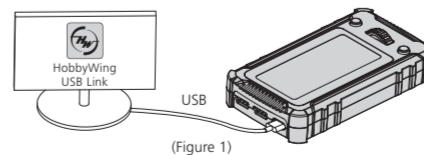
08 FCC Information

FCC Warning
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) this device must accept any interference received, including interference that may cause undesired operation.
CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.