▲ Thanks for purchasing the program card for brushless electronic speed controller (ESC). ESCs suitable for this program card: Skylord series brushless ESC.

## 1. Product Introductions

### 1.1 Features

The program card is used to set the programmable items for the ESCs. It functions with the following features:

· Compared with programming the ESC with throttle stick of the transmitter, the program card has a friendly user interface. You can set all the programmable items of ESC easily.

· It is so small that you can put it in pocket when you are on field.

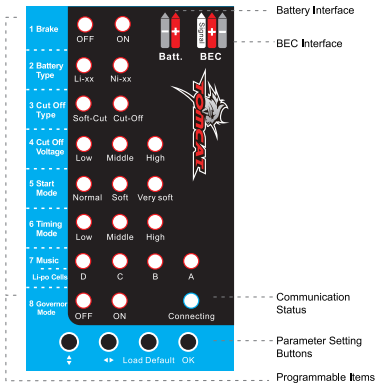
### 1.2 Specifications

Size (L*W*H): 92mm*51mm*6mm  Weight: 30g

### 1.3 Front Panel

Front panel of the program card is as shown in the figure, for instructions of the front panel, please see the following table.

When the program card functions normally, the LED status on the program card displays the current programmable values of the ESC.




| No. | Category | Display | Description |
|---|---|---|---|
| 1 | Items | Brake | This item is used to specify the brake setting of ESC. Values:<br>· **OFF**：The motor will gradually stop with inertia when the throttle stick is moved to bottom<br>· **ON**：The motor will stop immediately when the throttle stick is moved to bottom. |
| 2 | | Battery Type | This item is used to specify the battery type of ESC. Values:<br>· **Li-xx**: The ESC is powered by Li-xx battery pack.<br>· **Ni-xx**: The ESC is powered by Ni-xx battery pack. |
| 3 | | Cut Off Type | This item is used to specify the low voltage protection type of ESC when the battery voltage is lower than the cut off voltage. Values:<br>· **Soft-Off**：The ESC will gradually reduce the output power when the battery voltage is lower than the cut off voltage.<br>· **Cut-Off**：The ESC will immediately shut off the output power when the battery voltage is lower than the cut off voltage. |
| 4 | | Cut Off Voltage | This item is used to specify the cut off voltage of ESC. Values: **Low**、**Middle**、**High**。<br>For details about cut off voltage of each ESC, please see the user manual of ESC. |
| 5 | | Start Mode | This item is used to specify the start mode of ESC. Values:**Normal**、**Soft**、**Very Soft**。 |
| 6 | | Timing Mode | This item is used to specify the timing mode of ESC. Values: **Low**、**Middle**、**High**。 |
| 7 | | Music / Li-Po Cells | – |
| 8 | | Governor Mode | This item is used to specify the governor mode of ESC. Values:<br>· **OFF**：Close the governor mode.<br>· **ON**：Open the governor mode. |
| 9 | Parameter Setting Buttons | ▲▼ | **Up / Down** button, used to select the programmable items. |
| 10 | | ◀▶ | **Left / Right** button, used to select the value of each programmable item. |
| 11 | | OK | **OK** button, used to confirm and save the setting of programmable items. |
| 12 | | Load Default | Press this button to set the ESC to factory default. |
| 13 | Commun-ication Status | Connecting | This item is used to display the communication status between the program card and the ESC. Press **OK** button after setting the programmable items, the blue LED will flash, which means the current setting is being transmitted to the ESC. When the datatransmission is finished, the blue LED will go out, which means the new setting is saved in the ESC. |
| 14 | Interface | Batt. | This is the battery interface.<br>· When the program card is connected to an ESC without a built-in BEC, you need to connect the program card with an additional battery pack by this interface.<br>· When the program card is connected to an ESC with a built-in BEC, do not use this i nterface. |
| 15 | | BEC | This is an interface, which is connected to the signal line (trio wires) of the ESC. |

**Note**:The functions of different ESCs suitable for this program card are different. For one kind of the ESC, it may not have all the programmable items on this program card. The item which does not exist in the ESC is invalid.

## 2. Program the ESC with program card

### 2.1 Connect the Program Card to an ESC with a built-in BEC

1.Disconnect the battery pack of the ESC.

2.Connect the signal line (trio wires) of the ESC to the program card at the interface marked with **BEC**.

Please connect the signal line according to the line sequence marked on the program card.

3.Connect the battery pack to the ESC.

· If the output of the ESC is connected with a motor, the motor will emit a special warning tone like “12”, which means the ESC has entered the programming mode.

· After power on, the LEDs on the program card will light, showing the current programmable value of the ESC.

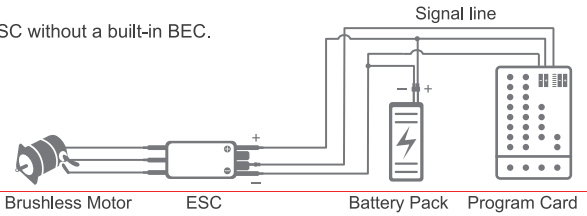
If the program card displays nothing, please check whether the signal line is reversed. If it is reversed, please disconnect the power supply of the ESC firstly, then reconnect the signal line, wait for several seconds, reconnect the power supply of the ESC.

⚠ **CAUTION**: Please follow the above steps. Otherwise the program card cannot work normally.

### 2.2 Connect the Program Card to an ESC without a built-in BEC

For ESCs without a built-in BEC (Battery Elimination Circuit), you need to use an additional battery pack to power the program card, that is connecting an additional battery pack (5V-18V) to the program card at the interface marked with Batt.. You can power the program card by connecting with power lines drawn from battery pack powered the ESC, the connection is as shown in the figure.

**Note**:The ESC suffixed by OPTO means this is an ESC without a built-in BEC.




1.Disconnect the battery pack of the ESC.

2.Connect the signal line (trio wires) of the ESC to the program card at the interface marked with **BEC**.

Please connect the signal line according to the line sequence marked on the program card.

3.Use a power line to connect the program card and the ESC. Insert one end of the power line into the program card interface marked with **Batt.**, connect the other end of the power line to the input line of the ESC.

4.Connect the battery pack to the ESC, the ESC and the program card will power on at the same time.

· If the output of the ESC is connected with a motor, the motor will emit a special warning tone like “12”, which means the ESC has entered the programming mode.

· After power on, the LEDs on the program card will light, showing the current programmable value of the ESC.

If the program card displays nothing, please check whether the signal line or power line is reversed. If it is reversed, please disconnect the power supply firstly, then reconnect the signal line, wait for several seconds, reconnect the power line.

⚠ **CAUTION**:

· Please follow the above steps. Otherwise the program card cannot work normally.

· The program card and the ESC must be powered on at the same time to ensure that the internal program operates synchronously. Otherwise the ESC cannot enter the programming mode correctly.

### 2.3 Set the Programmable Items

After connecting the ESC and the program card correctly and powering on, the ESC will enter the programing mode. You can begin to set the programmable items of the ESC.

Steps:

1.Press the **Up / Down** button to select the programmable item, the LEDs in the row where the item has been selected will flash.

2.Press the **Left / Right** button to select the item value, the LED flashing or keeping on shows the value you are selecting.

3.After setting the values, press **OK** button, the blue LED will flash, which means the current setting is being transmitted to the ESC.

When the data transmission is finished, the blue LED will go out, which means the new setting is saved in the ESC. The motor will emit a special warning tone like “21” at the same time.

**Note**: You can click or long press the **Up / Down**, **Left / Right**, or **OK** button.