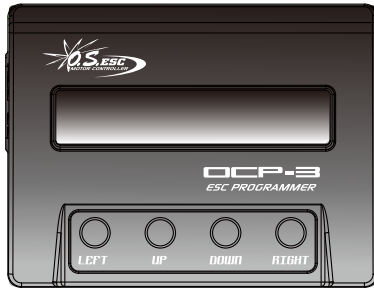


## ESC PROGRAMMER OCP-3

### INSTRUCTIONS

● **Corresponding ESC:**  
OCA-3100HV  
OCA-3070HV



The OCP-3 is a programmer for the corresponding ESCs listed above for the brushless motors. By using an optional extra ESC Programmer OCP-3, Settings of ESC can be programmed quickly and securely to meet model's specific requirements.

※ **The governor system of this ESC does not conform to FAI F3A regulations. Disable the function when you participate in the competitions based on FIA F3A regulations.**

### Notes on operation

#### ⚠ WARNINGS

❗ **Never touch or allow any part of the body to come into contact with any rotating part while operating.**  
 ※ Sudden rotating may cause serious injury.  
 ※ Be careful with some receivers the motor may rotate for a moment when the power puts on.

❗ **Be sure to check the ESC and all the movements of model controls before attempting flight.**

※ Incorrect settings or using of unsuitable model may cause to lose model control which is very dangerous.

#### ⚠ NOTE

⊘ **Do not disassemble. Do not open the ESC case.**

※ Opening of the case may cause damage inside components and render it irreparable.

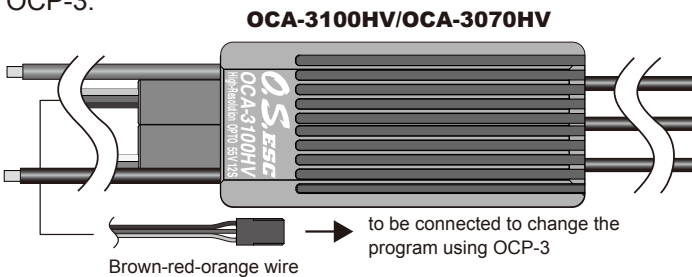
**This programmer especially designed for the left shown O.S. ESCs and cannot be used with other ESCs.**

## HOW TO USE

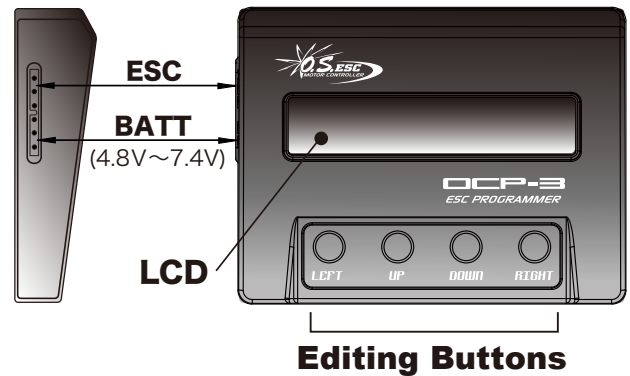
Set the each parameter of the ESC as follows.

### ● Connecting the programmer

Connect OCA-3100HV/OCA-3070HV to the ESC socket of OCP-3, and a battery (4.8~7.4V) to the BATT socket of OCP-3.



### ● Operation of the edit buttons



### ● Setting items

The following items can be set with OCP-3.

Setting items (model type: airplane)	
① Battery type	⑨ Brake Speed
② Battery Cut-off	⑩ Start Power
③ Cut-off type	⑪ Active Freewheel
④ Motor timing	⑫ Current Limit
⑤ Acceleration	⑬ Governor settings
⑥ Drive Frequency	⑭ Motor Type
⑦ Reverse Rotation	⑮ Throttle Mode
⑧ Brake Force	⑯ Restore Default

### ● How to set the ESC using OCP-3

- Disconnect the battery from the ESC.
- Connect a battery (4.8~7.4V) to the socket BATT socket of OCP-3.
- Select a setting item by pressing the UP and the DOWN buttons.
- Select or change the setting item by pressing the LEFT and the RIGHT buttons.
- Any chosen value of setting is memorized in the ESC automatically one by one without requesting you any further action to memorize the value in the ESC.
- ※ **No electronic sound is emitted from the OCP-3 and the motor when you press the buttons.**

Select a setting item by pressing the UP or the DOWN button. The LEFT and the RIGHT buttons are to select each item in the setting or to change the setting.

#### ① Battery type

**Setting choice : LiPo or NiCd**  
**Default setting : LiPo**

Select the battery type and number of cells with the LEFT and the RIGHT buttons.

Setting a number of the battery cells: AUTO

In case NiCd is selected, pass the setting item ②.

The cut-off voltage is automatically fixed at 50% of an initial value.

#### ② Battery Cut-off

**Setting range : 2.9V~3.2V**  
**Default setting : 3.2V**

Set the cut-off voltage when you select LiPo battery with the LEFT and the RIGHT button.

#### ③ Cut-off type

**Setting choice : Reduce power by 50% or Switch OFF (stop the motor)**  
**Default setting : Reduce power by 50%**

Select how to cut off the power when voltage of the battery drops to the set value of cut-off voltage with the LEFT and the RIGHT buttons.

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#### ④ Motor Timing

**Setting range : 0~25°**  
**Default setting : 12°**

For 2~4-pole motors, usually we recommend 0~5°  
Set the value within the range shown below.

**for inner rotor type : 0~10° for outer rotor type : 10~25°**

Select the advance timing with the LEFT and the RIGHT buttons.

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#### ⑤ Acceleration

**Setting range : 20~200**  
**Default Setting : 100**

This is the speed at which the ESC reaches the top speed. Select the acceleration value with the LEFT and the RIGHT buttons.

The setting value is 50 or lower in case a motor is turned ON/OFF by an on-board switch of a transmitter such as gliders.

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#### ⑥ Drive Frequency

**Setting choice : 8kHz / 16kHz / 32kHz**

Select the value with the LEFT and the RIGHT buttons.

We recommend 32kHz for 10-pole or less motors.

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#### ⑦ Reverse Rotation

**Setting choice : Normal / Reverse**

Select the direction of rotation with the LEFT and the RIGHT buttons.

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#### ⑧ Brake Force

**Setting range : OFF~100%**  
**Default Setting : OFF**

Select the value with the LEFT and the RIGHT buttons.

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#### ⑨ Brake Speed

**Setting range : 0~2.0 seconds**  
**Default Setting : 0.1 second**

Select the value with the LEFT and the RIGHT buttons.

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#### ⑩ Start Power

**Setting choice : Super Soft / Very Soft / Soft / Hard**  
**Default Setting : Soft**

Select the start power with the LEFT and the RIGHT buttons.

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#### ⑪ Active Freewheel (regenerative braking system)

**Setting choice : OFF / ON**  
**Default setting : OFF**

Select ON or OFF with the LEFT and the RIGHT buttons.

The "Brake Mode" activates when the throttle stick is moved up to 30% or more.

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#### ⑫ Current limit

**Setting range : OFF / 40~120%**  
**Default setting : 100%**

Select the value with the LEFT and the RIGHT buttons.

This parameter regulates excessive current for energy saving and reducing heat emission.

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#### ⑬ Governor setting (Disable the function for FAI F3A competitions.)

**Setting range : OFF / ON**  
**Default setting : OFF**

Select ON or OFF with the LEFT and the RIGHT buttons.

When you use the governor, select ON and decide the values of the following items to set the governor gain.

Minimum rotation position setting: Min Speed 1~25

Maximum rotation position setting: Max Speed 1~25

Minimum rotation position setting is the rpm when a throttle stick is at full low position.

Maximum rotation position setting is the highest rpm setting.

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#### ● Min Speed setting

**Setting range : 1~25**  
**Default setting : 1**

Set the value with the LEFT and the RIGHT buttons to decide the timing when the governor starts to work.

The governor starts to work the earliest at 1. At 25 it starts the latest.

※ The value is usually set 1 unless you want to change it.

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#### ● Max Speed setting

**Setting range : 1~25**  
**Default setting : 8**

Set the value with the LEFT and the RIGHT buttons.

This is to set the speed to reach the maximum rpm according to the throttle move.

The rpm rises linearly at 8 to the maximum rpm, but it depends on how the throttle curve is set. Reduce the value in case the rpm reaches the maximum rpm before full throttle.

※ Increase the value in case the rpm does not reach the maximum rpm even full throttle.

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#### ● Governor Gain setting

**Setting range : 10%~40%**  
**Default setting : 20%**

Select the value with the LEFT and the RIGHT buttons.

The larger the value is set, the more the motor rpm increases.

※ Start from 20% then find your best setting.

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#### ⑭ Motor Type

**Setting choice : Standard value / OMA-4013/OMA-6030/  
OMH-4535**

Select the value with the LEFT and the RIGHT buttons.

Select Standard value usually.

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#### ⑮ Throttle Mode

**Setting choice : Automatic / set value**

Select the value with the LEFT and the RIGHT buttons.

Select the setting item with the UP and the DOWN buttons.

When you do not choose "Automatic" and set the value:

PWM value for throttle stop position: 800~1200

PWM value for maximum throttle position: 1800~2200

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#### ⑯ Restore Default

**Setting choice : NO / YES**  
**Default setting : NO**

Select NO or YES with the LEFT and the RIGHT buttons.

In case you select YES, press the RIGHT button again to confirm to restore Default settings.

Select the setting item with the UP and the DOWN buttons.

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■ Specifications, design, and contents of the instruction manual of the motor are subject to change without prior notice for improvement.

Please contact e-info@os-engines.co.jp or professional@os-engines.co.jp for questions and inquiries.

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