

ESC PROGRAMMER OCP-1

OCP-1

INSTRUCTION MANUAL



- **Corresponding ESC:**
OCA-1100HV, OCA-170HV, OCA-150

The OCP-1 is a programmer for the corresponding ESCs listed above for the brushless motors. By using an optional extra ESC Programmer OCP-1, settings of ESC can be programmed quickly and securely to meet model's specific requirements.

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 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 the OCP-1 nor open the case.**

※ This may cause to fail or render it irreparable.

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

Setting items

※ Items can be programmed according to the model type with the OCP-1 are listed below.

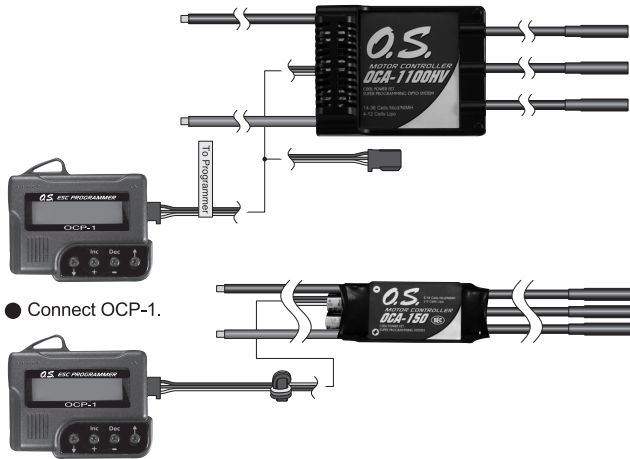
Setting Item	Model type		
	AIR	HELI	BOAT/CAR
① Selection of battery type	○	○	○
② Setting of cut off voltage	○	○	○
③ Selection of cut off type	○	○	○
④ Selection of motor rotating direction	○	○	○
⑤ Setting of advance timing	○	○	○
⑥ Setting of acceleration	○	○	○
⑦ Setting of start power	○	○	○
⑧ Selection of air brake type (only AIR)	○	---	---
⑨ Air brake ON/OFF (only AIR)	○	---	---
⑩ Selection of reverse function (only BOAT/CAR)	---	---	○
⑪ Response setting of governor function (only HELI)	---	○	---
⑫ Governor function ON/OFF (only HELI)	---	○	---
⑬ Setting of motor pole number	○	○	○
⑭ Setting of gear ratio	○	○	○
⑮ Indication of maximum RPM	○	○	○
⑯ Indication of average RPM	○	○	○
⑰ Down load the set data to the ESC	○	○	○
⑱ Access to the stored data in the programmer	○	○	○
⑲ Storing the set data in the programmer's memory	○	○	○

HOW TO USE

Set the each parameter of the ESC as follows.

● Connection of the programmer

Connect the OCP-1 and power battery to the ESC.



● Connect OCP-1.

● Operation of editing buttons



LCD
Editing Buttons

Selection of setting item	Select setting parameter with outer arrow buttons(↓ or ↑).
Change of setting	Use inner INC(+) and DEC(-) buttons to select setting or change setting.
Change of model type	You can change model type by pressing both arrow buttons at the same time.

● How to set

When the OCP-1 and power battery are connected to the ESC, current settings of the ESC are automatically stored in the OCP-1.

Select the item to change with the arrow buttons (↓ or ↑) and change the setting with INC(+) and DEC(-) buttons.

[IMPORTANT]

When the parameter setting of the ESC with the OCP-1 is completed, write the set data to the ESC with "⑰ Down load the set data to the ESC" function. Set data cannot be written to the ESC with only parameter setting.

① Selection of battery type

SELECT BATTERY
LiPo ± Air

Setting range: LiPo, NiCd

Select power battery type to use with INC(+) and DEC(-) buttons.

※ When the battery type is changed, "CUT OFF VOLTAGE" and "CUT OFF TYPE" parameters are changed.

② Setting of cut off voltage

CUT OFF VOLTAGE
Auto ± Air

Setting range: Auto, 4.5~50V

Set the cut off voltage according to the battery to use with INC(+) and DEC(-) buttons.

※ With LiPo in Auto mode, the ESC cuts off at 3V per cell. In case of NiCd, the ESC cuts off at total 12V.

③ Selection of cut off type

CUT OFF TYPE
Soft Off ± Air

Setting range: Soft off, Hard off

Select the cut-off method when battery voltage drops to the set cut-off voltage.

④ Selection of motor rotating direction

MOTOR DIRECTION
Normal ± Air

Setting range: Normal, Reverse

Select motor rotating direction.

※ If the direction is reverse, change the mode.

※ Direction can be changed by changing connection of the motor.

⑤ Setting of advance timing

ADVANCE TIMING
14 ° ± Air

Setting range: 0~25°

The following range of values is recommended.

0~10° for in-runner motors

14~25° for out-runner motors

⑥ Setting of acceleration

ACCELERATION
Normal ± Air

Setting range: Lowest/Low/Normal/High/Highest
Slow ⇄ Fast

Set how fast the ESC runs up to maximum speed using INC(+) and DEC (-) buttons. (Delay function) Usually this function is set when ON/OFF is done with switch.

⑦ Setting of start power

START POWER
Normal ± Air

Setting range: Lowest/Low/Normal/High/Highest
(Power small) ⇄ (Power large)

Set the power (torque) level of the motor starting up.

※ When used in a helicopter model, the value should be small to avoid premature gear wear.

⑧ Selection of air brake type (only AIR mode)

AIR BRAKE TYPE
Normal ± Air

Setting range: Slow/Normal/Fast or Value 5~100%
Slow ⇄ Fast

With model type AIR, adjust the air brake effect. Select to stop the motor gradually or suddenly with INC(+) and DEC(-) buttons.

※ With 100% motor stops suddenly.

⑨ Air brake ON/OFF (only AIR mode)

ABRAKE ON/OFF
Off ± Air

Setting range: On/Off

Select air brake ON or OFF.

⑩ Selection of reverse function (only BOAT/CAR mode)

REVERSE FUNCTION
One Way ± Boat

Setting range: One Way/Two Way
(forward only)/(forward/reverse)

With the model type BOAT or CAR, you can select forward only or forward/reverse.

Note: When this change is made, set each throttle position point (High/Neutral/Reverse) according to the HOW TO SET THROTTLE POSITION in the instruction manual of the ESC. There is a possibility other settings have also changed. Check settings.

⑪ Response setting of governor function (only HELI mode)

RESPONSE OF GOV
Fastest ± Heli

Setting range: Slowest/Slow/Normal/Fast/Fastest
Slow ⇄ Fast

To set the governor working response characteristics.

Note: The faster, the higher current is consumed.

※ To avoid shortening ESC and power battery life, it is suggested to set slower.

⑫ Governor function ON/OFF (only HELI)

GOVERNOR ON/OFF
On ± Heli

Setting range: On/Off

Select governor function ON or OFF.

※ Governor function works to keep the RPM corresponding to throttle position (throttle curve) against load changes due to pitch operation or voltage changes of the power batteries. Note that higher current of the power batteries is consumed.

⑬ Setting of motor pole number

MOTOR POLE NUM
14 Pole ± Air

Setting range: 2~36 poles

Change the value according to the motor to use.

※ This setting is required to indicate actual RPM.

⑭ Setting of gear ratio

GEAR RATIO
1.0 : 1 ± Air

Setting range: 1.0:1 ~ 25.0:1

Input the gear ratio of the gearbox to use.

※ RPM to indicate is calculated by motor pole number and gear ratio.

⑮ Indication of maximum RPM

MAXIMUM RPM
000000 RPM ± Air

The maximum RPM during the last flight is indicated.

※ RPM to indicate is calculated by motor pole number and gear ratio. Default is test value when the ESC leaves the factory. It changes when the motor is run.

⑯ Indication of average RPM

AVERAGE RPM
000000 RPM ± Air

The average RPM during the last flight is indicated.

※ RPM to indicate is calculated by motor pole number and gear ratio. Default is test value when the ESC leaves the factory. It changes when the motor is run.

⑰ Down load the set data to the ESC

DOWN LOAD
Really? No ± Air

This is to write (transfer) the set values to the ESC. Press INC(+) to start writing.

※ Beep once every second continues until the writing is completed. If you want to quit in the middle, press DEC(-).

⑱ Access to the stored data in the programmer

RESTORE MEMORY
Really? No ± Air

This is to access the stored data in the programmer. Press INC(+) to start the process.

※ Beep once every second continues until the process is completed. If you want to quit in the middle, press DEC(-).

⑲ Storing the set data in the programmer's memory

BACKUP MEMORY
Really? No ± Air

This is to store the set date in the programmer's memory. Press INC(+) to start the process.

※ Beep once every second continues until the process is completed. If you want to quit in the middle, press DEC(-).