



ACE ESC-10 & ESC-30 & ESC-50

Electric Motor Speed Control with BEC-for Aircraft

Instruction Manual

Thank you for choosing Ace R/C products. With proper use and care, it will provide many years of trouble-free service. Before operating your new radio system or installing it into your model, please take a few moments to familiarize yourself with the various features of this system by reading this owner's manual thoroughly.

ACE ESC-10, ESC-30 and ESC-50 allows remote control of airborne electric motors from an RC System. It features the latest all-solid state Integrated Circuits, and is capable of supplying up to 14 Amps (ESC-10) or 35 Amps (ESC-30) or 50 Amps (ESC-50) of continuous motor current. It is extremely small and lightweight, and fits most airborne installations. Its integrated Battery Eliminator Circuit (BEC) powers the receiver from the motor battery, with automatic cutoff of the motor power to preserve receiver power as the battery becomes depleted. Its onboard microprocessor requires no programming, and has built-in safety features to prevent accidental motor start up on powering up.

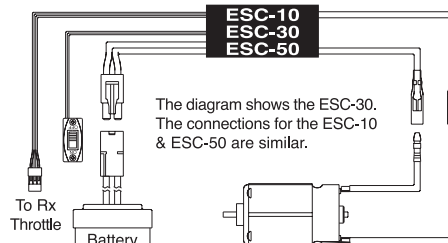
Specifications	ESC-10	ESC-30	ESC-50
Product No.	8015AC	8012AC	8014AC
Working Voltage	5-10 cells	5-10 cells	5-10 cells
Continuous Load Current	14A	35A	50A
Weight	12.5gm	24gm	47gm
BEC	5V/1A	5V/1A	5V/1A
Low Battery Cutoff	5V	5V	5V
Dimension (mm)	23x17x6	43x15x6	43x21x11
Remark	10 cells MAX with BEC Disabled		

Features:

- Small, Lightweight & High Efficiency
- BEC Overheat Circuit Protect
- Fail Safe Function
- Safe Low Speed Start Up
- Low Battery Auto Cutoff

Note:

Do not install a propeller on the motor until you fully understand all connections and have confirmed proper.



Installation:

1. Install suppressor capacitor(s) across the motor terminals following the motor manufacturer's instructions. This will reduce motor brush noise interference that may affect your radio operation.
2. Plug the radio connector to the Throttle Channel. The ESC-10/30/50 BEC will supply Rx power through the throttle connector.
3. Remove the propeller (for safety). Set the Tx throttle to the LOWest position, then switch on the ESC-10/30/50.
4. Slowly advance the throttle. The motor should start turning. If not, your throttle channel needs to be reversed on the Tx. Switch off, reverse the throttle channel at the Tx and re-start at Step 4.
5. Observe the direction of rotation of the motor. For most models, it should rotate counterclockwise when viewed from the front. If not, switch off, reverse the connection to the motor and re-start at Step 4.
6. Switch everything off. You are now ready for final testing.

Safety Warning:

An electric motor is a very powerful device, and when connected to a propeller, can potentially cause considerable property damage and severe bodily injuries. Ace Hobby Distributors, Inc. cannot be responsible for damage or injuries caused by proper or improper use of this device. It is your responsibility to ensure that all relevant safety precautions are taken.

Before installing a propeller, ensure that:

1. All the connections are correct.
2. Tx switch is off, Throttle is in the low (off) position.
3. ESC-10/30/50 switch is off.
4. All wires, and loose articles of clothing, jewelry, etc. are out of the way of the propeller.
5. The airplane and motor are safely secured.

Note:

The motor turns in the correct direction (counterclockwise when viewed from the front).

Install the propeller, following the manufacturer's instructions, ensure the propeller nut and spinner are on tight, and there are no nicks or cracks in the propeller. Replace the propeller in case of damage, do not attempt to repair it!

Controllability time after Auto-cutoff:

Before actually flying your model, you must find out the time left on BEC power after motor Auto-cutoff in your particular installation.

Install a fully charged battery and run it down on the model (with propeller installed) until the Auto-cutoff kicks in. Start timing from that point on, while moving the Tx controls back and forth, until they no longer respond to Tx commands. Take 50% of this time as your maximum safe controllability time after Auto-cutoff, and never exceed this when flying after Auto-cutoff, or risk losing of crashing your model.

YOU ARE NOW READY TO FLY !

Operation:

1. Keep the ESC-10/30/50 clean and dry. Make sure the propeller has no nicks or cracks. Replace if necessary.
2. Set the Tx throttle to low. Keep hands, clothing, jewelry, etc. clear of the propeller.
3. Always switch on the Tx FIRST, then the ESC-10/30/50. Failing to switch the Tx on first may cause erratic operation. Check for proper operation of the flying controls.
4. The ESC-10/30/50 microprocessor assumes the start up position is LOW throttle (motor stopped). Moving the throttle stick higher will turn on and increase power to the motor.
5. Make sure the launch area is clear and safe, move the throttle to high, and launch the model.
6. Once crash or the prop could not turn freely, low down the throttle or switch off the transmitter then the ESC will cut off the power. This is to protect electricity and prevent from any damage of the motor, ESC, battery or receiver.

How to Disable the BEC

BEC (5V/1A)-The BEC power is supplied to the receiver and servos through the receiver connector wire yet it has limited power supply at 5V/1A. WARNING: If BEC overloaded than the limited current draw then BEC might get overheat and shutdown. Always check your servos throws and make sure BEC will not shutdown before flight. If you wish to disable the BEC (required for ten cells or total current draw over 1A cause BEC overheat) and use a separate receiver battery, you must first cut the red wire in the trio of receiver wires. Simply use a pair of wire cutters to remove a short section of the red wire near the receiver connector, and be sure to insulate the cut wire with a bit of electrical tape. Now you may safely use a battery with your receiver. MAKE SURE YOU KNOW HOW MUCH TIME IS LEFT ON YOUR BEC AFTER CUTOFF.

Fail Safe

Ace ESC has Fail Safe Function to auto cutoff motor if you encounter any interference in flight. You might re-start the motor if plane still in the air, just move down the throttle stick then move up again the motor will rotate accordingly. However, we recommend you land the plane immediately when cutoff. Check the field if there is any same frequency used.

If you encounter any tech problem, please contact Ace Hobby for tech support.

SERVICE

All ACE R/C products have been carefully inspected prior to shipment. However, if you should discover any defect in materials and workmanship it will be repaired free of charge if returned directly to Ace Hobby Distributors Systems. DO NOT return the equipment to the place you purchased as they are not authorized to do warranty. To validate the warranty, a copy of your sales receipt is required.

When requesting any service, please observe the following guidelines:

1. Remove the unit from the model. We cannot accept equipment still installed in the model. Always send the complete unit when service is required.
2. Attach a note to the unit describing the problems you are having or the service you are requesting. Do not send this letter separately. All units received by us without an enclosed letter will be returned to the sender as-is.
3. When sending the unit by US Mail or United Parcel, package it in the original carton surrounded by a strong cardboard box. Never send anything which is not an original part of the product. Include a copy of your original sales receipt.
4. If the product has been modified or serviced by anyone other than an authorized service center, you will be charged for the repair of your equipment. Any modifications which impede normal servicing will be removed at your expense.
5. You may request a free estimate at the time you submit your equipment for service. An omission of this request implies permission for service at discretion.
6. Include a method of payment for any service charges. If not specified, the unit will be returned C.O.D.
7. You are responsible for all postage and handling charges.
8. Send the unit by United Parcel Service or by insured U.S. Mail to:
Ace Hobby Distributors, Inc.
2055 Main Street, Irvine CA 92614
9. Outside of the U.S.A., contact the local Ace R/C agent.

Your new Ace ESC-10, ESC-30 and ESC-50 is warranted to the original purchaser for one full year from the date of purchase against defects in materials and workmanship. During this period, Ace R/C will repair or replace at our discretion, any defective components. A copy of the original sales receipt is required to validate the warranty. This warranty does not apply to any unit which has been repaired or altered by an unauthorized agency including the owner. This warranty is for the original product only and does not extend to the airplane, engine, property, or persons. Under no circumstances will the buyer be entitled to consequential or incidental damages. This limited warranty gives you specific legal rights. You may also have other rights which vary from State to State.

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**This manual is subjected to change without Notice.*

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