

INSTRUCTION SHEET AND WARRANTY

PLEASE READ & FULLY UNDERSTAND THE INSTRUCTIONS & WARRANTY BEFORE USE

INSTALLING YOUR ESC

Positioning of your ESC in the model

Mount the ESC as far away as possible from the receiver, using double sided tape or velcro.

Keep the thick power wires away from the antenna and other thin wires to avoid interference problems (See Fig.1 for example install).

The antenna should come straight out of the receiver into the antenna tube and up out of the model. Do not attempt to use any part of the model as an antenna!

The ESC should be positioned to allow cooling air to pass over the heatsink, this reduces the risk of over-temperature shutdown. Make sure your motor is fitted with two (2) motor capacitors (0.1uF) - one from the negative terminal to the can and one from the positive terminal to the can.

Wiring up of your ESC in model (See Fig.1)

The ESCs are supplied with Tamiya style plug and bullet connectors at the factory. (Some of the higher powered versions come fitted with solder posts and loose wires.)

Colour coding for the wires is as follows:

Black=Batt -ve, Red=Batt +ve, Blue=Mot -ve, Yellow=Mot +ve

ALWAYS DISCONNECT FROM THE BATTERY PACK WHEN NOT SUPERVISED!

Receiver Lead Connections

The receiver lead on the ESC is the JR type, see chart below. For some receivers you may need to swap the red and brown wires in the plug.

RECEIVER TYPE	SIGNAL POSITION 1	+VE POSITION 2	-VE POSITION 3
FUTABA, SANWA, KO	White/Blue	Red	Black
HI-TEC	Yellow	Red	Black
JR, GRAUPNER, KYOSHO	White/Orange	Red	Brown
ACOMS	Yellow	Red	Black
AIRTRONICS	White/Orange	Black	Red

CAUTION! If using an external receiver battery, you must remove the red wire from the ESC's receiver lead first. If using more than one ESC in your model with an external receiver battery you must disconnect the red wire from ALL ESC's. If using more than one ESC in your model without an external receiver battery ensure that only one of the ESC's has the red wire connected.

All ESCs are fitted with 1.5A BEC unless otherwise stated.

SET-UP

Before beginning set-up you need to connect up your ESC as in Fig.1. (When plugging the ESC's receiver lead into the receiver make sure that the signal wire - orange - is facing inwards).

Calibrating the ESC to your transmitter

1. Switch on your transmitter ensuring the throttle control and throttle trim are in the neutral position.

NOTE: If you have removed the factory fitted battery connector, (see warranty) ensure polarity is correct.

2. Plug your ESC into your battery pack and turn the ESC on with the on/off switch. The red, green and blue LED's will flash for 2 seconds (This is the set-up window, if you press the button once whilst the LED's are flashing you enter set-up, if you let the LED's flash for 2 seconds then stop, the ESC will operate with previously set values)

3. With the LED's flashing, press the set button once, this will set your neutral position, the green LED will light.

4. Push the throttle control to the full forward position, then return to the neutral position, (This has set maximum forward speed point, the red LED will light).

5. With the red LED lit, pull the throttle control to the full brake/reverse position, then return to the neutral position. (This has set the maximum brake/reverse point). The ESC will light the LEDs to show it is in the neutral position. The ESC is now ready to use.

Calibration is complete and the ESC will power the motor!

Failsafe mode

In failsafe mode the controller returns to the neutral position, this is shown by the Red LED flashing.

Failsafe mode is activated if there is a loss of signal due to being out of range or not receiving a correct receiver signal.

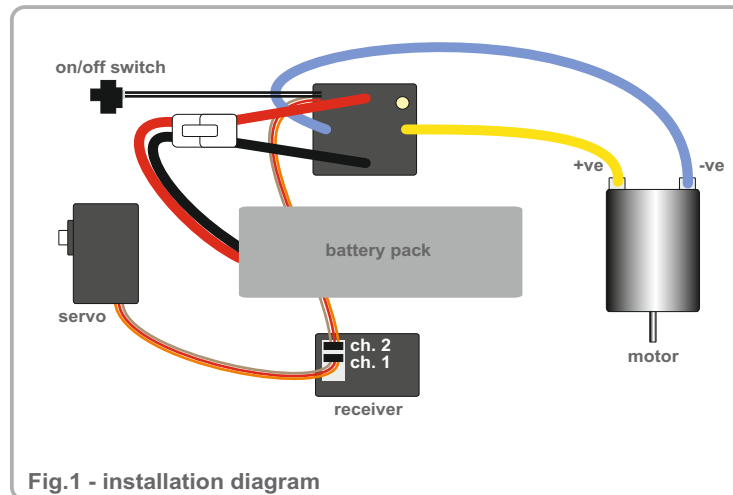


Fig.1 - installation diagram

Battery type selection

The ESC is NiCAD/NiMH and Lipo compatible.

To switch between **auto NiCAD/NiMH** cut off and **auto Lipo cutoff** you must press and hold the set button **before** switching the ESC on. With the set button pressed, switch on the ESC using the on/off switch, the LED's will cycle between blue and green, to use NiCAD/NiMH cells release the set button when the green LED is lit, to use Lipo cells release the set button when the blue LED is lit. The ESC will flash all 3 LED's then return to the neutral position. The Blue LED will be on solid all the time whilst being used in auto Lipo mode.

Brake mode selection (Crawler ESC only)

The Crawler ESC has 2 brake modes, 'standard' and 'Crawler'. Crawler mode automatically gives full brakes in the neutral position. It also reduces the top speed of the ESC in both directions.

To switch between **standard mode** and **crawler mode**, at any time when the ESC is in the neutral position, press and hold the set button. The LED's will cycle between red and blue, to use the ESC in standard mode, release the set button when the red LED is lit. To use the ESC in Crawler mode, release the set button when the blue LED is lit. The ESC is ready to use.

What do the LED's mean?

Blue & Green LED's cycling - Battery type selection window.

Red & Blue LED's cycling - Brake mode selection window.

Red & Green & Blue LED's flashing for 2 seconds - Calibration window.

Red LED flashing - Failsafe mode.

Red & Green LED's on solid - Neutral position in NiCAD/NiMH mode.

Green LED lit solid - Full forwards position in NiCAD/NiMH mode.

Red LED lit solid - Full brake/Reverse position in NiCAD/NiMH mode.

Red, Green & Blue LED's on solid - Neutral position in Lipo mode.

Green & Blue LED's lit solid - Full forwards position in Lipo mode.

Red & Blue LED's lit solid - Full brake/Reverse position in Lipo mode.

LIMITED WARRANTY
Mtronics Ltd. guarantee this product to be free from factory defects for 24 months from purchase date, verified by receipts. This does not cover suitability for specific applications, components worn by use, tampering, incorrect connection, alteration to original connectors, switches or wires (apart from the fitting of an in-line fuse), damage to batteries or other equipment through use, misuse or shipping damage. Our liability is limited to repairing or replacing units to original specification. Our liability will not exceed the cost of the product. By using this ESC, the user accepts all liability. We reserve the right to modify this guarantee without notice.
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