

VIPER INSTRUCTION SHEET & WARRANTY

Please read & fully understand the instructions & warranty before use.

Installing your ESC.

Mount the **VIPER** ESC as far as is possible away 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. The antenna should come straight out of the receiver into the antenna tube and up and 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 2 motor capacitors (0.1uF) - one from the negative terminal to the can and one from the positive terminal to the can. **If your ESC is Forwards only you MUST run an 8A Schottky diode on the motor. (Fitted across the motor terminals - silver band to positive)**

Receiver Connections

The servo lead on the ESC is wired for all manufacturers in the chart except Airtronics. For Airtronics receivers you need to swap the red and black wires in the plug.

	SIGNAL	+5V	0V, Common
RECEIVER TYPE	POSITION 1	POSITION 2	POSITION 3
FUTABA, SANWA, KO	White/Blue	Red	Black
HI-TEC	Yellow	Red	Black
GRAUPNER, JR, KYOSHO	White/Orange	Red	Brown
ACOMS	Yellow	Red	Black
AIRTRONICS	White/Orange	Black	Red

CAUTION! - If using external receiver battery, disconnect the thin red wire from the ESCs receiver lead first! If using more than one ESC in your model with an external receiver battery, disconnect the thin red wire from ALL ESCs. If using more than one ESC in your model without an external receiver battery ensure only one of the ESCs has the thin red wire connected.

If removing receiver wires from factory-fitted plug, lift small plastic retaining tab that holds each wire in place and remove each wire in turn. Before refitting, please ensure that each wire is in line with the adapter plug opening. Push each wire in until the plastic retaining tab snaps into position. On some receiver plugs, the flange fitted may require removal in order to fit into the receiver. **VIPER** ESCs are fitted with 1.2A BEC unless otherwise stated.

Battery Connections

The **VIPER** is fitted with Tamiya style plug and bullet connectors at the factory. (Some units come fitted with solder posts and loose wires.)

Reversing ESC wiring :

Black = Battery -ve / Red = Battery +ve / Yellow = Motor +ve / Blue = Motor -ve

Forwards only ESC wiring :

Black = Battery -ve / Red = Battery +ve / Red = Motor +ve / Blue = Motor -ve

N.B. ALWAYS DISCONNECT ESC FROM BATTERY CELLS WHEN NOT IN USE.

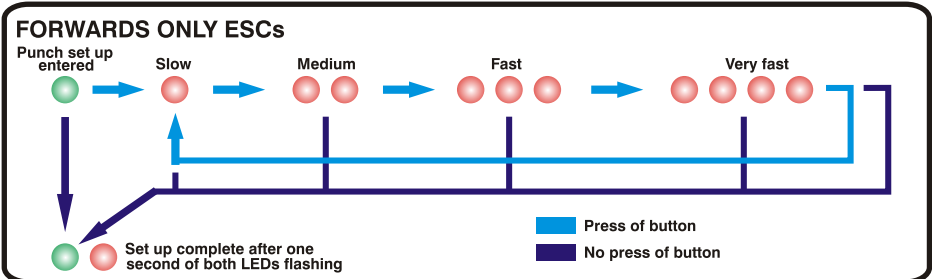
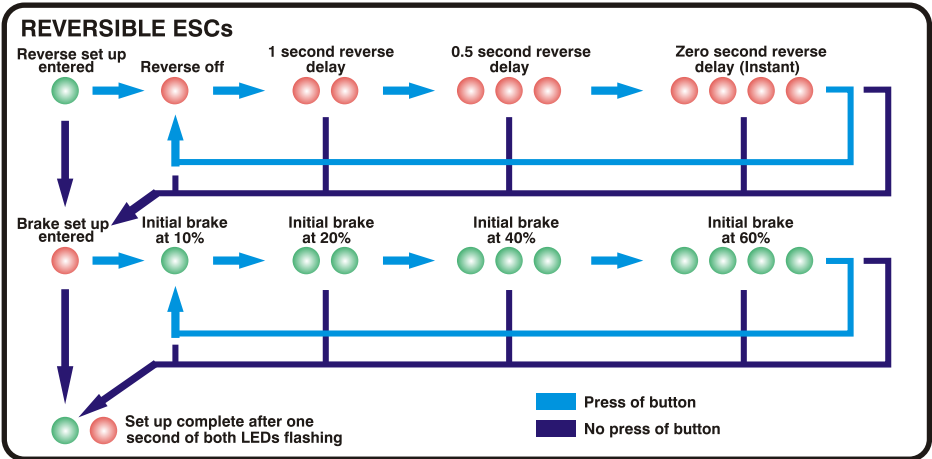
We recommend fitting an in line fuse in the positive wire between the cells and the ESC. (Usually 5Amps lower than the ESCs stated limit. eg.. 10A for a 15A ESC)

Initial Set-up Procedure

- 1 Plug the **VIPER** into the receiver. Ensure plug is fitted with the signal wire facing inward toward the receiver label. (Modify plug if necessary.)
- 2 Plug the steering/rudder servo plug into the receiver.
- 3 Connect the yellow/red wire bullet connector to the positive on the motor.
- 4 Connect the blue wire bullet connector to the negative on the motor.
- 5 Disengage motor to prevent the movement during ESC set-up.
- 6 Switch on the transmitter **ensuring all control positions and trims are central.**
- 7 Plug the Speed Controller into the power source (battery), **ENSURING POLARITY IS CORRECT!**. If the unit is fitted with a switch, turn to the 'ON' position. The red and green LEDs will flash for 2 seconds. If LEDs do not flash, it means there is no receiver signal (Check connections). **If button is not pressed within 2 seconds, previous set up values will be used to program the ESC.**
- 8 If you want to change the Speed Controller's settings you must press the button whilst the LED's are flashing. When the button is pressed, the neutral setting will be stored. The green LED will now light, showing that the ESC is ready to accept the full forward speed setting.
- 9 Move the throttle control forward to position where you want full forward speed to be.
- 10 Move the throttle control back to the neutral position. The ESC will now store the full forward speed setting. The red LED will now light, showing that the ESC is ready to store the full reverse/brake setting.
- 11 Move the throttle control to where you want full reverse speed/brake setting to be.
- 12 Move the throttle control back to the neutral position. The ESC will now store the full reverse speed/brake setting.
- 13 **Initial set up is now complete.** The ESC will now operate using the factory set programmable features. If you wish to adjust the programmable features of the ESC, see over the page.

Programmable feature adjustment.

Feature set up can be entered by pressing and holding the set button for one second at any time whilst throttle is in the neutral position. Once the feature set up is entered the green LED will begin to flash. See below for graphical description.



NOTES ON FEATURE SET UP.

1. Throttle must be in neutral when pressing the button to enter feature set up.
2. Feature set up can be entered as many times as you like, ESC will store last used before switch off.
3. Make sure you follow the correct flow diagram - FORWARDS ONLY or REVERSIBLE!
4. Once in feature set up, not pressing the set button for more than 1 second at any point will skip to the next step. (Nextstep or end of feature set up.)

Capacitor Connections (if supplied)

μ Power Cap(1000uF) - Connect the negative lead (indicated by negative sign on the heatshrink) to the negative battery wire & the positive lead to the positive battery wire,(The nearer to the ESC the better.)

MPOWER Cap - Connect the negative lead to the negative battery wire & the positive lead to the positive motor terminal. (If fitting to a reversible ESC fit in same way as the μ Power Cap above)

Trouble Shooting

When I turn the ESC on, the motor starts to turn immediately.

1. Check to see if the lights are still flashing when the motor begins to turn, if they have already stopped flashing when the motor turns, you have missed the setup window, turn off and start again from step 7.
2. If the lights are still flashing and the motor is turning, your unit is damaged, please return to Mtroniks service department with a covering note.

The steering works but I have no throttle?

1. Check the motor connections, check the motor and that the brushes are not 'sticking' (Flick the spring holding each brush in place)
2. Check you have plugged the receiver lead for the speed controller into the correct channel in the receiver.
3. Check throttle channel operation with a servo to make sure that channel is not damaged.

Throttle stutters under acceleration.

1. Receiver or arial may be too close to main power wires (See installation section.)
2. Poor connection to battery/motor, check all connectors make good contacts.
3. Motor brushes worn, replace brushes.
4. Excessive current is being drawn by the motor, use a less powerful motor or install an 'MPOWER Cap'. (Available from all good model stores.)

LIMITED WARRANTY

M.troniks Ltd guarantees 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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