

## OPERATING INSTRUCTIONS

### ⚠ Precautions:

Take care to connect the speed control correctly as the unit is not protected against reverse voltage.

### Installation:

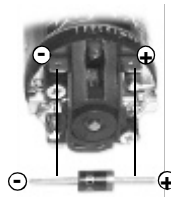


Attach the heat sink to the bottom of the speed control using the supplied countersunk screws. When using motors with more than 12 turns the heat sink is not required. Install the speed control to the car. Solder the motor and battery wires to the supplied mini-gold connectors. Connect the speed control to motor and battery as shown in the picture above.

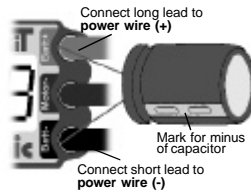
**CAUTION!** Make sure to connect the speed control correctly to the battery. Reverse voltage will destroy the speed control.

Connect the receiver signal harness (red/black/white) to the receiver. The thin blue wire is used to connect a FET servo.

The speed control features a built in Schottky diode as well as a built in power-capacitor. However, an additional Schottky diode can be installed directly to the motor. The diode's white ring must face the motor's positive pole.



When using motors with less than 12 turns an additional power-capacitor is recommended to increase efficiency. The power-capacitor is to be installed directly on the speed control between the battery positive and negative poles.



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### Programming the speed control:

Press the setup button for more than two seconds. The display will indicate the current setup mode with an arrow and the current setting with a number. Pressing the setup button again enables to switch to another setup mode.



After entering the desired setup mode do not press the setup button for two seconds. When the display starts flashing the setting can be adjusted by pressing the setup button.



Two seconds after the adjustment the display stops flashing and another setup mode can be adjusted.

The speed control saves all settings five seconds after the last adjustment and is ready to use.

### Setup modes:

#### 1) Program

The power programs allow to adjust the speed control precisely to your requirements.

|   |                   |   |                 |
|---|-------------------|---|-----------------|
| 0 | 4 cells 8 khz     | 4 | max power 4 khz |
| 1 | very smooth 4 khz | 5 | max power 2 khz |
| 2 | smooth 4 khz      | P | pc adjustment   |
| 3 | medium 4 khz      |   |                 |

#### 2) Limit

this mode allows to adjust the torque limiter.

|   |          |   |         |
|---|----------|---|---------|
| 0 | no limit | 5 | 50 amps |
| 1 | 10 amps  | 6 | 60 amps |
| 2 | 20 amps  | 7 | 70 amps |
| 3 | 30 amps  | 8 | 80 amps |
| 4 | 40 amps  | 9 | 90 amps |

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### Transmitter setup:

Adjust throttle and brake settings to maximum. Set exponential (if available) to zero.

Make sure that the speed control is turned off. Turn on the transmitter with the throttle at neutral.

Press the setup button until all arrows on the display are turned on the speed control is in setup mode



Keep the throttle at neutral until the display turns to the full-forward symbol.



Now pull the throttle to the full-forward position until the display turns to the full-brake symbol.



Push the throttle to the full-break position until the display turns to the neutral symbol.



The speed control is now properly adjusted to the transmitter and ready to use. The display shows the symbols for neutral, forward, and brake.

In case the display turns to the symbol "E" the transmitter setup is incomplete. Check the connection to the receiver as well as the transmitter adjustments. Make sure throttle and brake settings are adjusted to maximum.



### Turn the speed control on/off:

The speed control can be turned on using either the setup button (default setting) or automatically by connecting the speed control to a battery. This function can be set in the setup mode "function".

To turn off the speed control press the setup button for five seconds or push the throttle to the full-break position for five seconds. The latter function can be switched off.

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### 3) Brake

Adjusts the braking power of the speed control.

|   |                   |   |                    |
|---|-------------------|---|--------------------|
| 1 | 10% braking power | 5 | 60% braking power  |
| 2 | 25% braking power | 6 | 75% braking power  |
| 3 | 40% braking power | 7 | 90% braking power  |
| 4 | 50% braking power | 8 | 100% braking power |

### 4) Auto

Auto brake (coast brake) allows to brake automatically when entering a turn. Returning the throttle to neutral automatically engages the brake, thus enabling tighter cornering.

Auto roll decreases the drag brake effect of motors with high power magnets, thus allowing smoother cornering, especially through high speed turns.

|   |                |   |                |
|---|----------------|---|----------------|
| 0 | disabled       | 4 | 40% auto brake |
| 1 | 10% auto brake |   |                |
| 2 | 20% auto brake | 5 | 10% auto brake |
| 3 | 30% auto brake | 6 | 20% auto brake |

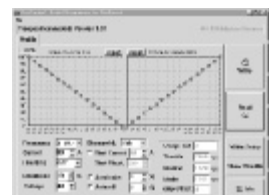
### 5) Function

The factory setting (0) allows to turn on the speed control by pressing the setup button and to turn off the speed control with either the setup button or the transmitter as mentioned above.

|   |  |
|---|--|
| 0 | turn on with setup button / turn off with either setup button or transmitter |
| 1 | turn on with setup button / turn off with either setup button                |
| 2 | speed control turned on automatically / turning off is not possible          |

### Optional parts:

- Optional:
- PC interface & software
- Power capacitor
- Shottky diode
- Plugs



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