

Instruction manual for the Robitronic Speedstar Brushless ESC programmer (order no. R01209)



Before using this product

Before you start using the programmer, please make sure that you've read this manual! Keep this instruction manual in a safe place for later reference. Robitronic is not liable for any warranty claims or damages that occur from a nonobservance of this manual.

Disclaimer: As Robitronic cannot observe the correct installation, use or maintenance of this product, Robitronic hence cannot be held responsible for any damages nor any consequential losses that occur due to misguided use of this product.

It is designed to work maintenance free. Care must be taken when determining the polarity. It's not allowed to operate the Programmer in adverse environments, such as:

- High humidity
- Wet conditions
- Dust or combustible gases, vapors, solvents or benzene
- High temperature (> approx. +40°C)
- Heavy vibrations

Important safety advices:

- Chargers and accessories are not suitable for children! They're not toys and children should be carefully advised, not to use primary cells or batteries other than the supported types with this charger.
- When the programmer is subjected to considerable temperature differences, (especially from cold to hot) let the condensation dry up first, before you use it.
- If you may assume, that the Programmer cannot be used safely any more, you must immediately stop using it and secure it against unintended operation. Such an assumption can be made if the Programmer:
 - is apparently damaged.
 - malfunctions
 - is stored in an adverse environment for prolonged periods of time.



Disposal of Electronic Waste

Electronic waste is a commodity and must be disposed through special electronic waste sites. Please inform yourself about adequate facilities in your community area. Disposal of this product through domestic waste is illegal.

		Default
1. Battery	LiPo / LiFe / NiMH (NiCd)	NiMH
2. Cutoff voltage	Auto / 3.0V ~ 14V (0,1V)	Auto
3. Power curve	Soft / Linear / Hart	Linear
4. Advance Timing	0°-25° (Sensorless) / 0°-10° (Sensor)	25° (Sensorless) / 10° (Sensor)
5. Acceleration	Lowest / Low / Normal / High / Highest	Normal
6. Start power	Lowest / Low / Normal / High / Highest	Lowest
7. Start Current Limit	Off, 1% ~ 100%	Off
8. Current Limit	Off, 1% ~ 100%	Off
9. Reverse Function	One way / Two way	One way
10. Reverse Delay	0,2s/0,5s/0,8s/1,3s/1,8s/2,5s	2,5s
11. Neutral Width	Narrow / Normal / Wide	Narrow
12. Motor Direction	Normal / Reverse	Normal
13. Speed Mixing Brake	0% ~ 100% (10% Steps)	0%
14. A.B.S. Brake	Off / Weakest / Weak / Normal / Strong / Strongest	Off
15. Auto Brake Amount	0% ~ 100% (1% Steps)	0%
16. Min. Brake Amount	0% ~ 100% (1% Steps)	30%
17. Max. Brake Amount	0% ~ 100% (1% Steps)	100%
18. Current Voltage	XX,X V	Display
19. Current Temperature	0° ~ 135°	Display
20. Max. Temperature	0° ~ 135°	Display
21. Max. Current	0A ~ 999A	Display
22. Motor Pole	2 ~ 20 Pole	2
23. Gear Ratio	2,0:1 ~ 15,0:1	2,0:1
24. Tire Diameter	40mm ~ 200mm	63mm
25. Max. Speed	XXX,X km/h	Display
26. Average Speed	XXX,X km/h	Display
27. Error History	(T) Temperatur, (S) Sensor, (V) Voltage, (R) Signal	Display
28. Download	Parameters are downloaded to the speedo	
29. Restore Memory	EEPROMs Data saved into the RAM of the Programmer.	
30. Backup Memory	RAMs Data saved into the EEPROM	
31. Factory Setting	Restes all data into default	

As soon as you connect your ESC to both, the battery and the programmer, the welcome screen appears.

On the programmer itself, you'll find four buttons: "UP", "DOWN", "DEC", "INC".

With the buttons "UP" and "DOWN", you can select each of the available modes, while using "DEC" and "INC" modifies their associated value or parameter.

To change from sensorless brushless to sensored brushless or brushed mode, press both "UP" and "DOWN" simultaneously.

1. Battery type:

Use the "INC" and "DEC" buttons to choose between LiPo, LiFe, NiMH (NiCd). Make sure that this setting corresponds to the battery, you're going to use, as the battery may otherwise be damaged because of a low cutoff voltage.

Note: Changing the battery type sets the cutoff mode to "AUTO"

2. Cutoff voltage

Use the "INC" and "DEC" buttons to select the cutoff voltage from "Auto" > 3,0V up to 14,0V in 0,1V increments.

3. Power mode

Similar to setting an EXP curve on the transmitter (where available), this parameter controls the acceleration in a soft, linear and hard mode.

4. Motor timing

The timing advance can be adjusted between 0° and 10°. Higher timing translates to higher rpm, but may also increase the temperature on the motor and the ESC, so test new settings with care!

5. Throttle speed

Using the throttle speed setting, you can determine how fast the ESC should react to the trigger on acceleration. The settings available are: lowest, low, normal, high, and highest.

6. Start power

Start power can be adjusted according to the following settings: lowest, low, normal, high, and highest.

7. Startup-current limiter

To prevent wheel spin upon the first acceleration. Depending on the track conditions, you may set this from off to 100% in 1% increments.

8. Current limiter

The current limiter is especially useful for 2wd classes where it limits torque and hence wheel spin. As with the Startup-current limiter, this can be set from off to 100% in 1% increments.

9. Reverse mode

One Way = forward/brake, Two Way = forward/brake/reverse

10. Reverse delay

Use this to set the time frame between braking action and the reverse kicking in. Available settings are: 0,2s/0,5s/0,8s/1,3s/1,8s/2,5s

11. Dead band

Depending on the accuracy of your transmitter and its transmission mode, you may set this from narrow to normal or wide to adjust the range around neutral position of the trigger, where the ESC is set to neutral.

12. Rotation

Depending on your setup, you may require to adjust the direction of rotation. Never use the servo reverse function of your transmitter instead!

13. Speed brake

While in sensored mode, the braking power can be correlated to the current motor rpm and speed, enabling more fine control over the brakes. Settings available range from 0% to 100%

14. A.B.S brake

Set the ABS brake to: off, weakest, weak, normal, strong, and strongest.

15. Drag brake

Using drag brake can mimic the behavior of brushed motors where the motor is braking when you return the trigger to neutral. Depending on your driving style, you may use this to take on corners harder. Settings available range from 0% to 30%

16. Minimum brake

Use this setting together with maximum brake to adjust the feel of your brakes. Recommended settings range from 0% to 30%,

17. Maximum brake

Use this setting together with minimum brake to adjust the feel of your brakes. Recommended settings range from 70% to 90%.

18. Current voltage

Displays the current voltage of the battery.

19. Current temperature

Displays the current temperature of the ESC.

20. Maximum temperature

Displays the maximum temperature of the ESC.

21. Maximum current

Displays the maximum current draw during the last run.

22. Number of poles

For the speed logging to work correctly, this must be set to the actual number of poles, the motor has. Common motors for car use have 2 poles.

23. Gear ratio

For the speed logging to work correctly, this must be set to the overall ratio of your rc car. Available settings range from 2,1:1 to 15,5:1.

24. Diameter of the tires

For the speed logging to work correctly, you must set the correct tire diameter.

25. Maximum speed

Relying on settings 22, 23 and 24, this will display the highest speed attained during the last run. This mode is not available when using brushed motors.

26. Average speed

Relying on settings 22, 23 and 24, this will display the average speed during the last run. This mode is not available when using brushed motors.

27. Error diagnosis

Displays errors that might have occurred during the last run: (T) temperature, (S) sensor, (V) under voltage, (R) receiver signal.

28. Download

Using the "INC" button, you can download modified settings to ESC. When pressing "INC" and "DEC" simultaneously, you can jump from any of the displayed modes directly to the download function.

29. Memory readout

Using the "INC" button, you can upload the ESC's setting to the programmer for adjustments.

30. Memory backup

Using the "INC" button, you can backup the settings to the ESC's EEPROM.

31. Return to factory settings

Using the "INC" button, you can return the ESC to its default settings. The settings for motor type and transmitter calibration however remain unaffected.



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Robitronic Electronic GmbH
Brunhildengasse 1/1, A-1150 Wien
Österreich
Tel.: +43 (0)1-982 09 20
Fax.: +43 (0)1-98 209 21
www.robitronic.com

