#29146
XP SC1300-DB
Brushless ESC

Introduction

Congratulations on your XP Brushless Electronic Speed Control (ESC) purchase. The latest electronics technology along with the design and engineering experience that is responsible for multiple World Championship titles has been incorporated into its design.

Your XP Brushless ESC is water-resistant for maximum durability. Its light and compact design allows for easy installation in most 1/8 vehicles. Dual connectors allow plug and play use in vehicles that require two batteries. Simple calibration and a wide variety of tuning options make this ESC perfect for both casual enthusiast and racers. When paired with a Reedy Brushless Motors, you create a potent combination of power and efficiency that brings performance to a new level. More power and less maintenance elevate the fun factor by increasing top speeds and reducing down time.

Please read the following before installing and operating your new ESC.

Features

- Adjustable LiPo Low-Voltage Cutoff
- LiPo Cell Count Auto Detect
- Reversible With Reverse Lockout
- Fully Proportional Brakes
- Adjustable Drag Brakes
- Adjustable Throttle Profile
- Hard Case with Aluminum Heat Sink
- Water Resistant
- Heavy Duty Silicone Wires
- Dual Deans® Ultra Plug® Connector
- 4.0mm Motor Connectors
- Pre-Wired For Optional Cooling Fan

Specifications

	#29146
Description	XP SC1300-DB
Cells	2 x 2S LiPo 2 x 7-cell NiMH
On Resistance	0.5 mΩ x2
Brakes	Proportional
Motor Limit	4S (2x2S) 2650kV
Reversible	Yes, w/Brakes Only Option
Low Voltage Cutoff	Adjustable, w/Cell Auto-Detect
Dimensions	46mm x 42mm x 26mm
Weight w/Wires	100g (3.5oz)
Power Wires	12-Gauge Silicone
Connector Type	Battery / Deans® x2, Motor / 4.0mm sockets

Installation

- Mount your ESC securely using high quality double-sided tape.
- Install your ESC in a position that allows easy access to all connectors.
- Plug the ESC's receiver wire into the receiver (refer to radio manufacturer's manual)
- To prevent radio interference, arrange ESC wiring so that it is not in close proximity to the receiver antenna wire.
- Connect the three motor leads exiting the ESC to the three leads exiting your motor. If the motor runs backwards when giving it forward throttle, reverse any two motor leads. The motor will now run the desired direction.
- Mount the switch to the case using the tab provided.
- Always power ON your transmitter before the ESC, and power OFF the ESC before the transmitter.

Safety Precautions

This product is a sophisticated hobby product and not a toy. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this product in a safe and responsible manner could result in injury or damage to the product or property. This product is not intended to be used by children without direct adult supervision. It is essential to read and follow all instructions and warnings found in this manual prior to installation, set up, and use, in order for the product to operate properly and to avoid damage or injury.

Throttle Calibration

Your new ESC must be calibrated before use. Before calibration, be sure to set your radio's throttle and brake EPAs to 100% and your throttle trim to neutral. Then follow the steps outlined below.

		Signal From ESC	
Step #	*Procedure*	*Audio*	*LED*
1	Power ON transmitter		
2	Throttle position to maximum throttle (hold)		
3	Power ON ESC	*bibibibibibi*	red static/6 green flash
4	Throttle trigger position to neutral	*bibi-bibi*	red static/4 green flash
5	Throttle trigger position to maximum brake	*bibi-bibi*	red static /4 green flash
6	Throttle trigger position to neutral		red static
7	Power OFF ESC, then transmitter		

Once the calibration procedure is complete, turn on your transmitter, then your ESC, and begin operating your vehicle. Note: If you choose to make settings adjustments at this time, you can do so immediately after step #6 of the throttle calibration procedure.

Programmable Settings

Your ESC comes with pre-programmed default settings. You can also change the setting based on the type of vehicle used as well as personal performance preferences based on the track you are driving on and your driving style.

Drag Brake - Drag brake is the amount of braking achieved when the throttle is returned to neutral. A setting of 0% means the vehicle will free wheel to a stop while higher settings will stop the car faster. Please note that regardless of the drag brake setting, you will still be able to use the brake trigger to manually slow the car.

Throttle Profile – This setting adjusts the power delivery of your ESC/motor combination. The Very Soft setting can be used on loose or bumpy track to reduce wheel spin while the Maximum setting works well when high traction is available. Four settings provide options for any track condition.

Run Mode - This gives the option of using reverse or eliminating it completely (for competition). With reverse activated, you will still have fully proportional braking.

To make settings adjustments, you must first follow the calibration procedure. After step #6, you will encounter a 5-second delay before entering the settings adjustment mode. All changes will be made using your transmitter's throttle trigger. Note: Once you enter the settings adjustment mode, the ESC will scroll through all options. If you fail to choose a setting, the ESC will keep the previously saved setting.

For example, if you want to change the throttle profile from Soft to Standard, enter the settings mode. You will encounter the Drag Brake mode first at which time you can let the ESC scroll through the choices (the previously saved setting will be kept) until you reach the Throttle Profile choices. You must make the selection by pulling the throttle trigger to maximum after the ESC scrolls to the desired setting (in this case Standard) indicated by the appropriate audible tones. Once this setting (or any setting for that matter) is chosen, you can skip to Step #5 if no other changes are desired.

		Signal From ESC	
Step #	*Procedure*	*Audio*	*LED*
1	**Drag Brakes**		
	0% (default)	♪-♪	red static/green flashes
	2.5%	♪-♪♪	
	5%	♪-♪♪♪	
	10%	♪-♪♪♪♪	
	Throttle trigger position to maximum to select value	*bibi-bibi*	red static/4 green flash
	Throttle position to neutral		red static
2	**Throttle Profile**		
	Very Soft	♪♪-♪	red static/green flashes
	Soft	♪♪-♪♪	
	Standard (default)	♪♪-♪♪♪	
	Maximum	♪♪-♪♪♪♪	
	Throttle trigger position to maximum to select value	*bibi-bibi*	red static/4 green flash
	Throttle position to neutral		red static
3	**Run Mode**		
	Reverse Off (Forward Only)	♪♪♪-♪	red static/green flashes
	2-Stage Reverse (default)	♪♪♪-♪♪	
	Throttle trigger position to maximum to select value	*bibi-bibi*	red static/4 green flash
	Throttle position to neutral		
4	Power OFF ESC and transmitter		
5	Power ON transmitter and ESC	*melody bi-bi*	3 green flash, 2 red flash green static or red static

Battery Management System

Battery Management System - A choice of either LiPo mode or NiMH mode adjusts the low voltage cutoff point. This is critically important when using LiPo batteries that should not, for performance and safety reasons, be discharged below 3.0V per cell. In LiPo mode, the ESC detects whether you are using 2 or 3 cells and adjusts the cutoff accordingly.

The ESC can be toggled between LiPo and NiMH by following the steps outlined below. ***The default setting is NiMH mode.***

		Signal From ESC	
Step #	*Procedure*	*Audio*	*LED*
	Battery Management System		
1	Power ON transmitter		
2	Throttle position to maximum brake (hold)		
3	Power ON ESC	*bi-bi*	2 green flash green static (LiPo) or red static (NiMH)
4	Throttle trigger position to neutral		
5	Power OFF ESC, then transmitter		
6	Power ON transmitter, the ESC	*melody* *bibi-bibi*	3 green flash, 2 red flash green static or red static

IMPORTANT! When the transmitter and ESC are turned on, the color of the ESC LED at neutral indicates which mode the ESC is in. When the LED is green, the ESC is in LiPo mode (3.2V/cell cut off). When the LED is red, the ESC is in NiMH mode (default).

Vehicle Operation - To operate the vehicle, pull back on the throttle trigger to move forward and push forward on the throttle trigger to engage brakes. To engage reverse, push forward on the throttle trigger to maximum brakes. Hold the trigger in this position for at least .5 seconds before returning the throttle trigger to neutral. Now push the throttle trigger forward to reverse the vehicle.