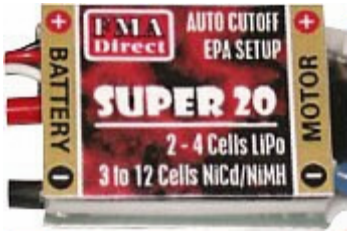
Product Type:	Speed Controllers
Manufacturer:	FMA Direct
Product:	SUPER 20
Size:	1.15x0.71x0.40
Weight:	18 grams
Ratings:	1-4 Cell LiPo, 3-12 Cells NiCd/NiMH
Street Price:	$37.95
Website:	Buy Now!
Phone Orders:	800.343.2934

Mini Auto Cell Detect ESC

Super 20



The SUPER 20 is a 20A, miniature aircraft speed controller with several unique features. First and foremost, it was designed to prevent damage to Lithium battery technology. Low Voltage Cutoff or LVC is the term used to describe what happens when an ESC determines that there is no longer sufficient battery voltage to continue running the motor on an aircraft and the on-board electronics. The ESC shuts off the motor to prevent the battery from discharging to the point where it will no longer power the receiver and servos. This provides the pilot adequate time to continue controlling the aircraft until it can be safely landed. Most ESC''s have a fixed cutoff point of around 5 to 5.5V. This has not created a problem for most installations using NiCd or NiMH batteries, particularly lower cell count battery packs of 6 to 8 cells. These battery technologies are fairly forgiving in this regard. Although it really isn''t good to deep-discharge any battery, NiCd/NiMH usually continue to operate even after deep discharge. Lithium batteries, on the other hand, while boasting incredible capacity and extremely light weight, do have one draw back. If they are allowed to discharge below around 2.5V per cell under load, there is a chance that they will not recharge. While there are a handful of ESC''s available with programmable cutoff points, the requirements for programming these products is often difficult and time-consuming. The SUPER 20 is a radical approach to LVC. This computer-controlled ESC detects the un-loaded battery pack voltage on power up. In less than 1 second, it characterizes the battery pack, determining the number of cells in the pack, and stores the proper cutoff voltage for the particular battery in memory. Then it continuously measures the battery pack voltage as you fly. When the measured pack voltage reaches the stored cutoff point, power is cut off to the motor. The SUPER 20 also provides 2 motor restarts assuming your battery pack is in good condition. Based on requests from our customers, the latest computer code for the SUPER series controllers includes a user-programmable, fixed LVC that can be set at any level within valid operating voltage parameters of the controller. This feature does not eliminate the auto-cell detect feature, it is a new option that can be selected.

But that's just the start! The SUPER 20 also includes other unique features. Several functions can be controlled by a bank of tiny dip switches. For example, the brake can be disabled for use in electric helicopters. Also, the LVC circuit can be disabled allowing the ESC to operate reliably with NiCd/NiMH down to 3 cells in series. Finally, the SUPER 20 includes a one-time end point adjustment (EPA) procedure that custom tailors throttle response to a specific transmitter. The first time you use the SUPER 20, you will go through a simple series of steps to teach the computer about your transmitter throttle channel. After the procedure is complete, you move one of the dip switches. From then on, the custom end points are stored in permanent memory and recalled each time you turn power on. If you change transmitters, you simply return the EPA setup switch back to ON and perform the setup again.

The unit also includes a battery eliminator circuit (BEC) which is composed of a 1A, low dropout, 5V regulator. This feature enables the ESC to provide power to the receiver without a separate receiver battery pack. At 1A, the unit can easily power from 3 to 4 standard or micro servos.

FMA Direct considers the SUPER series a major advancement in electronic speed control technology and we are pleased to offer this "made in the USA" product to the public at an extremely attractive price. Plug and fly. No more headaches, no more worries. Protect your batteries at the same time.