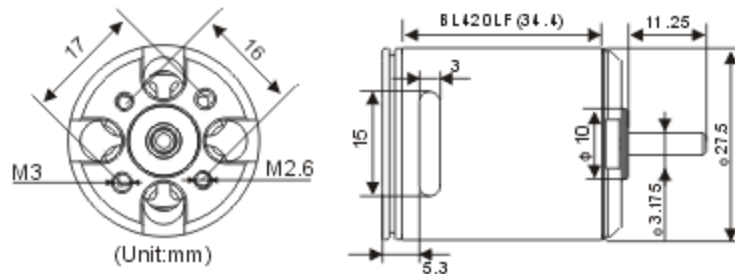


## RCM-BL420LF Brushless Motor

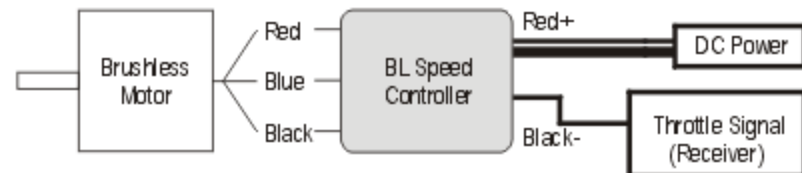


This new Brushless motor developed by the ALIGN POWER R&D TEAM, is packed with the latest, cutting edge technology available today. It features exceptional levels of high-torque power. The 420LF utilizes an 8-pole outrunner stator-rotor and unrivaled Ndfcb extra strong magnets that traditional magnets cannot compare to. Also included is a high temperature, wear-resisting, low friction, double ZZ high efficiency bearing. The 420LF will be the most revolutionary motor operating on low current amperage, and delivering high torque to RC models.

### Specification



### Illustration



Exchange two wire for changing motor rotation direction.

Model	Input voltage	Dimension	Weight	KV	Max. Output Current
RCM-BL420LF	DC7.4~14.8V	Shaft 3.17x27.5x33mm	Approx 66g	3200KV	290W

### Features

- The 420LF is maintenance free, and has a light, compact design. Gilt terminals are included for simple connection with ESC. The motor operates with very high efficiency, and low power consumption. The motors will provide many hours of smooth, reliable, quiet, and efficient flying.
- These new brushless motors are designed with a new radiator system. The motors are built with an integrated cooling fan and has air ingress/egress vents, circulating cool air inside the rotor continuously. The motors efficiently lower operating temperature.
- The motors feature High-speed ball bearings, powerful magnetic outrunner rotor. These high-torque, high-speed, brushless motors, RCM-BL420LF, are suitable for RC electronic products. The features of high efficiency output, low amperage, and light weight are suitable for electronic car airplanes/helicopters which require high-torque and high-speed power systems. We recommend using one of our perfectly mated Brushless Speed Controllers, such as ALIGN or other brushless electronic speed controllers available on the market.

Rotor is constructed with very powerful Ndfcb Magnets. The stator is coiled by our NC auto winding machine, formed and protected with high strength resin for heat resistance and low vibration. The spindle is designed with Hardened Stainless Steel and a double ZZ high speed bearing. Additionally, 420 brushless AC motor is custom developed by ALIGN R&D technology specifically for RC model use. These motors provide long lasting, high efficiency, impact-resistance, low magnetic loss.

These new product have passed various thorough inspections made by our technical department, including motive testing, static testing, magnetic field testing, heat resistance and magnetic loss testing, running balance and vibration testing, noise testing, and many hours of actual loading and flying testing, etc. Align is proud to provide the latest innovations in RC Modeling to its consumers. Please enjoy your Align products safely.

### CONSTANT VOLTAGE TESTING REFERENCE

According to battery characteristic, the current, RPM, thrust are calculated about 85%~90% when using lithium battery.

KV	Voltage	Current	Prop Dimension	Thrust	RPM	G/W	G/A
3200KV	7.4V	12.4	4.5x4.1	263	19124 rpm	2.92	21.21
	9.0V	17.2	4.5x4.1	368	22419 rpm	2.42	21.40
	7.4V	7	4.2x2	229	21916 rpm	4.49	32.71
	9.6V	10.4	4.2x2	368	26707 rpm	3.76	35.38
	11.1V	13.3	4.2x2	467	29697 rpm	3.22	35.11

### RCM-BL420LF 3200KV Power collocation suggestion

RCM-BL420LF 3200KV brushless motor is applied to electric airplane 400/up and electric helicopter 450. Recommend to use gear box in the ratio 3:1 or more. We suggest the following configurations for the electric helicopter 450. Battery : ALIGN Li-Poly 11.1V 1800mAh 12C

Motor Gear	Main Rotor Blade	PITCH	Current(A)	Throttle Curve	RPM
13T	315mm Wooden Blade	Hover	+5° 6.3	Normal 0/50/70/85/100%	2050
		Idle 2	+9° 16.5	Idle 2	2280
			0° 9	100/98/95/98/100%	2650
	325mm Fiber Blade	Hover	+5° 7	Normal 0/50/65/80/100%	1950
		Idle 2	+8° 18.5	Idle 2	2150
			0° 11	100/98/95/98/100%	2450
13T	315mm Wooden Blade	Hover	+5° 6.3	Normal 0/50/70/85/100%	2050
		Idle 2	+9° 16.5	Idle 2	2280
			0° 8.5	100/95/85/95/100%	2600
	325mm Fiber Blade	Hover	+5° 7	Normal 0/50/65/80/100%	1950
		Idle 2	+8° 18.5	Idle 2	2150
			0° 10.5	100/95/85/95/100%	2400
15T	315mm Wooden Blade	Hover	+5° 6.5	Normal 0/50/70/85/100%	2100
		Idle 2	+9° 19	Idle 2	2380
			0° 10	100/98/95/98/100%	2800