

Ultrafly C/13/xx Series Brushless, Sensorless Motor



The Lightest 200W Motor

Designed for helicopters and other applications that demand the best power-to-weight ratio, Ultrafly's unique, self-cooled C/13/XXH is a brushless, sensorless "outrunner" motor that transfers 200 watts of power -- but weighs only 45 grams (1.6 ounces)!

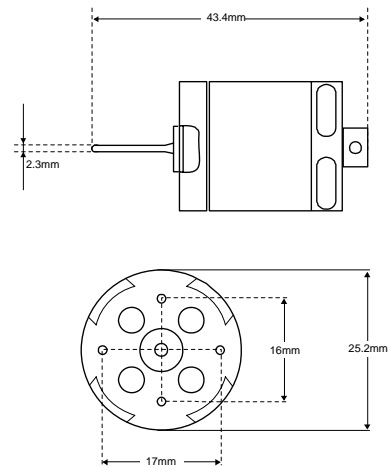
Even in installations where there's little air movement, such as helicopters and boats, the motor stays safely cool. At a constant 180 watts of power, the fan design still holds the motor core at just 90 degrees.

High-quality construction and precise CNC tooling enable the C Series motor to operate at high RPM without serious vibration. Four different KV configurations (2050, 2350, 2750, and 3350) are available to suit a very wide range of needs. It will fit in many 300/400 size gearboxes with a shaft diameter and screw holes comparable to a 400 size motor.

Used with the appropriate gear ratio, the C Series motor can turn propellers ranging from 4 inches to 12 inches in diameter. You can power it with NiCd or NiMH batteries having 7-12 cells, or with a 2-6 cell Li-Po battery. See the motor application reference table below for more details.

Specifications

Shaft Diameter: 2.3mm
 Shaft Length: 12mm
 Motor Diameter: 25.2mm
 Motor Length: 43.4mm
 Motor Weight: 45.5g (1.60oz)
 Distance of Mounting Holes: 16mm & 17mm
 Mounting Screw: M3x3mm
 Maximum Input Power: 200watt
 Maximum RPM: 50,000
 Maximum Operating Core Temperature: 120°C
 Optional 3.17mm shaft is available separately.



C/13/XX Brushless Motor Application Reference Table

Motor	Application Type	Battery	Gear Ratio	Propeller
C/13/20	Pylon models or boat	7-8cells	Direct	4.75x4.75, 5x5
C/13/24	250-340g 3D models	3S LiPo	3 to 1	APC 9x4.7 or 10x4.7SF
C/13/24	400-600g Sports/speedy model 600g Hi-wing model	3S LiPo, 8-10 cells	2.38 to 1	APC 7x5E or 8x6E
C/13/24	340-500g Sports park flyer -750g Hi-wing model	3S LiPo, 8-10 cells	3 to 1	APC 8x8E, 9x4.7SF 9x6SF or 10x4.7SF
C/13/28	250-450g 3D models	3S LiPo	3 to 1	APC 10x4.7SF
C/13/28	400-700g Sports Models -900g Hi-wing Model, Glider	8-10 cells	3 to 1	APC 8x8E 9x6SF or 10x4.7SF
C/13/28	400-550g 3D Models 1kg Hi-wing, Glider model	8-10 cells, 3S LiPo	3.89 to 1	APC 11.4.7SF
C/13/28	-600g Heli -450g 3D Heli	8-12 cell, 3-4S LiPo	Direct	Heli
C/13/33	500-800g Sports models	8 cells or 3S LiPo	3 to 1	APC 9x6E or 9x7.5E
C/13/33	1kg Hi-Wing/Glider	8-10cells, 3S LiPo	3.89 to 1	APC 10x 5E or 10x6 folding prop
C/13/33	700g Heli or 550g 3D Heli	8-12cells, 3-4S LiPo	Direct	APC 9x6SF or 10x4.7SF

Application on Actual Model

Airplane Models	Motor	Battery	Ratio	Prop Size
GWS Warbirds 400-500g	C/13/28	9.6-12V NiMH or 3S Lipo	3 to 1	APC 9x6SF or 8x8E
	C/13/33	9.6-12V NiMH or 3S Lipo	3.89 to 1	10x7SF or 9x7.5SF
GWS Estarter, Beaver, Big stick	C/13/24	8.4-9.6V NiMH or 2S LiPo	3 to 1	GWS 9x6, 10x5D or APC 9x6SF, 10x4.7SF
Ultrafly PC-9, Cessna 182	C/13/28	9.6V-12V NiMH or 3S Lipo	3 to 1	APC 9x6SF or 8x8E
Ultrafly Bae Hawk, F-16, SU-27	C/13/28	3S LiPo or 12V NiMH	1.9 to 1	APC 6x5.5E
	C/13/33	3S Lipo or 12V NiMH	2.38 to 1	APC 7x5E
Ultrafly Extra 300S, Ultimate	C/13/28	12V NiMH or 3S LiPo	3 to 1	APC 9x6SF
350-500g Heli	C/13/28	3-4S LiPo	N/A	
450-580g Heli	C/13/33	3-4S Lipo	N/A	
VIP, Switch blade, Sokol	C/13/24	8.4-9.6V NiMH	Direct	4.75x4.75, 5x5

Cautions:

Speed Control: You must use a brushless, sensorless speed control.

Cooling: You must provide sufficient cooling air to avoid exceeding the 120°C limit. Overheating will damage the magnets and windings, and is not covered under warranty.

Over current: Please use a current meter to control the battery cell count and the propeller size. When changing propeller size or battery type, you must measure the current. You must limit current to the specifications above, or less, to avoid damage to the motor. Reduce prop size or battery cell count to reduce current.

Max input watt: The structural design of every motor will limit its heat dissipation. Watt input is proportional to heat generated. The maximum watt input for C series is 200 watts. Do not exceed this limit or you may burn out the motor.

Rotation: Switch any two of the three wires between the speed controller and motor to reverse motor direction. NEVER reverse polarity from battery to speed controller.

Limited Warranty:

Ultrafly brushless motors have a one-year, limited warranty from the date of purchase. All motors are guaranteed to be free from manufacturing defects for one year. The warranty does not cover over-current, over-temperature, or crash damage. You must properly cool the motor and keep the current and input wattage within specifications. Improper use of the motor can be determined in service and will not be covered in the warranty.

All warranty issues shall be handled by your dealer first. If necessary, you may also contact us for warranty issues. Send mail to service@ultraflymodel.com or contact the distributor in your country.

Distributor List in all countries:

North and South America Area: Great Planes Model Distributors TEL: (217) 398-6300

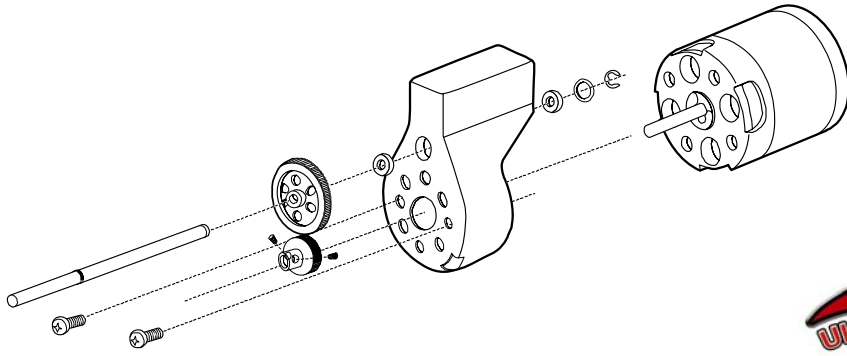
United Kingdom: CML Distribution. TEL: 1527-575349

Northern Europe: Minicars Distribution AB. TEL: 18 60 65 72

Australia & New Zealand: O'Reilly Model Products. TEL: 08-8351-0544

Korea: Sung Kwang RC. TEL: 31-719-6371

Japan: Aircraft Japan TEL: 050-3360-9285



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