

Ultrafly Frio Series

Brushless, Sensorless Motors



The Cool Motor you need for Park Flyers and 3D

FRIO is a new generation economy brushless motor for RC models. Its innovative cooling design is far superior to other motors! Unlike some economy motor manufacturers that use lower quality stator, wire and bearing materials to produce a cheaper product, Ultrafly uses a unique process to deliver a high-quality product with lower production costs. The expensive CNC aluminum parts have been replaced with a newly engineered light-weight material produced by high-precision molding. Ultrafly still uses the highest quality bearings, high-temperature magnets and wire. The FRIO motor delivers the unsurpassed quality you expect from Ultrafly. Now there are four different KV's including a 950, 1050, 1200 and 1450 available for any model application.

Specification

Shaft diameter: 3.17mm, 1/8inch

Shaft Length: 63mm

Motor Diameter: 30.3mm

Motor Length: 63mm

Motor Weight: 60.5g (2.1oz)

Stator thickness: 10mm

Distance from mounting holes: 38mm

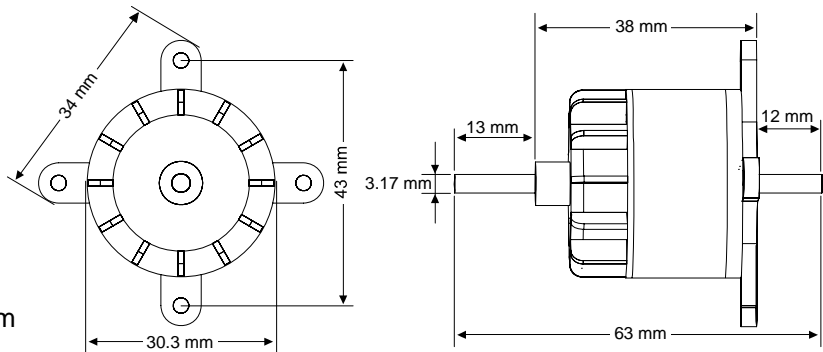
Mounting screw: M3x6mm

Maximum Input Power: 150watt

Maximum RPM: 16,000

Maximum Operating Temperature: 100 ° C

Magnet: Neodymium (150 ° C temperature tolerance)



Application reference

Airplane	AUW	Motor	KV	Battery	Prop size
Hi-Wing	650-900g	FRIO-10	1050	3S or 10 cell	9x6SF
	650-900g	FRIO-12	1200	8 cell	9x6SF
	<650g	FRIO-1	1200	8 cell	8x6SF
	<650g	FRIO-10	1050	3S or 10 cell	9x4.7SF
Sport	<650g	FRIO-10	1050	3S or 10 cell	9x6SF
	<650g	FRIO-12	1200	3S or 10 cell	8x6SF
	<500g	FRIO-12	1200	8 cell	8x8SF
	<500g	FRIO-10	1050	3S or 10 cell	9x4.7SF
	<500g	FRIO-9	950	3S or 10cell	9x6SF
3D	<320g	FRIO-9	950	3S	9X4.7, 10X4.7
	<350g	FRIO-10	1050	3S	9x4.7, 10x4.7

	<350g	FRIO-12	1200	2S	8x3.8, 9x4.7
Speedy, Jet	560-650g	FRIO-15	1450	3S or 10 cell	7x5
	<580g	FRIO-15	1450	3S or 10 cell	6x5.5

Cautions:

Speed Controller: You must use a brushless, sensorless speed controller like Apollo-12, Apollo-25 or Athena-18, Athena-28.

Cooling: You must provide proper cooling to avoid exceeding the 100-degree-celcius limit. Overheating will damage the magnets and windings, and is not covered under warranty. Proper cooling is necessary when you are trying to use it in bigger power (>120 watt) application. In poor air flow applications like Helicopters or boats, you may have to use the proper airflow redirection device to cool the motor or you may result in an overheating situation to the motor.

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 first. You must control the current within limits to avoid damage to the motor. Reducing prop size or battery cell count may reduce current.

Max input watt: For each motor, its structural design will limit its heat dissipation. Watt input is proportional to heat generated. The maximum watt input for FRIO series is 150 watts. Do not exceed this limit or you may burn out the motor easily.

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

Limited Warranty:

Ultrafly brushless motors have a one-year, limited warranty from 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. The customer 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: Hobbico Inc. TEL: 217-398-0007

United Kingdom: CML Distribution. TEL: 1527-575349

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

Europe: JSB Marketing & Vertrieb. TEL: 49 4121 46199 60

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

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



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