MK3638_V2

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HolgerB
MikroKopter.de

Inhaltsverzeichnis

1 Features

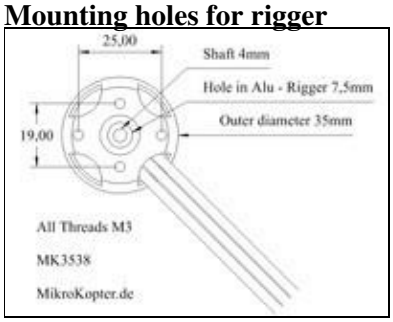
This motor has long wires (52cm), a short shaft and a small clipring. So it can be mounted directly on the aluminium arm.

2 Technical data

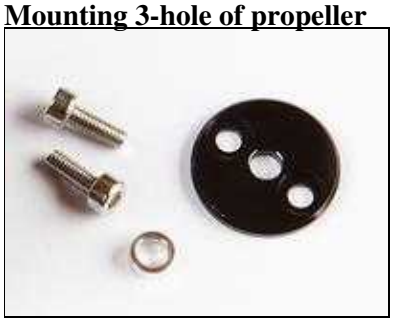
Voltage Lithium:	3-6
Current:	max 20A
Current max. (60 Sek.):	25 A
RPM/V:	770 Rpm/V
Propellers:	10" - 14"
Efficiency:	must still be measured
Electrical power:	max 350 W
Thrust max.:	max 2200 g
Weight (only motor)	100g
Weight incl. cable and adapter	125g
Dimensions:	h=38 d=35 mm
Shaft diameter:	4 mm

3 Mounting plan

Mounting holes for rigger

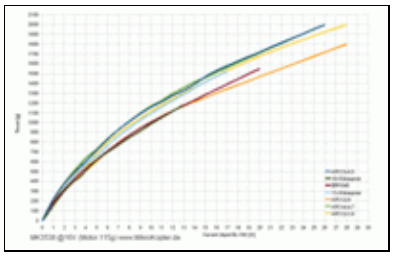


Mounting 3-hole of propeller

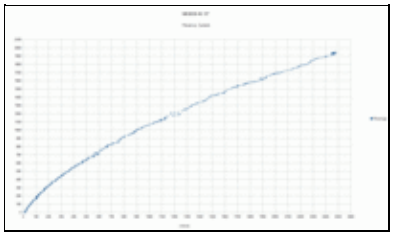


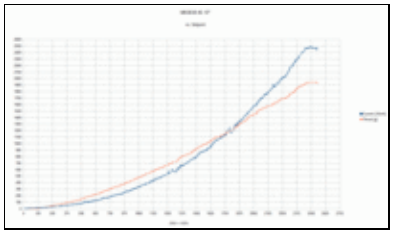
Mounting 1-hole of propeller

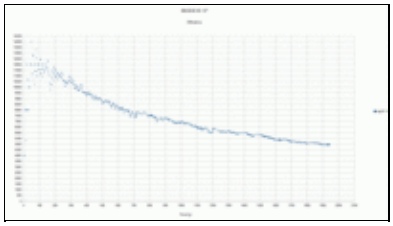
4 Thrust over current



4.1 MK3638 16V (4S) 12" Carbon

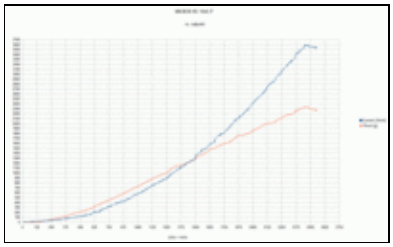


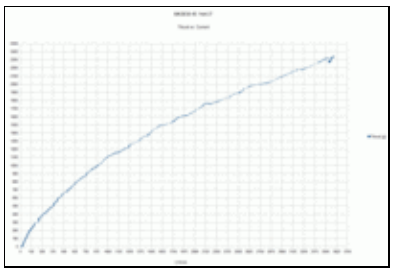




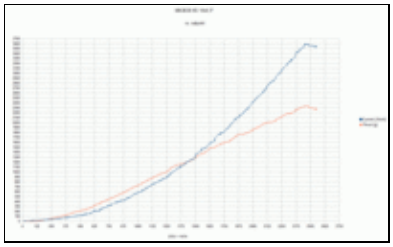
- This Prop
- This Motor

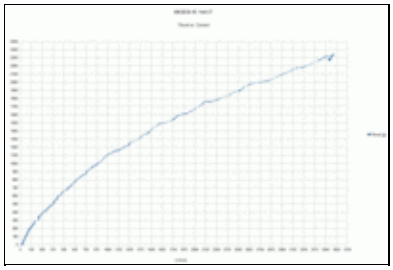
4.2 MK3638 4S 14" Carbon



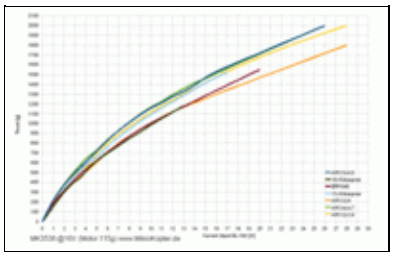


4.3 MK3638 4S 15" Carbon

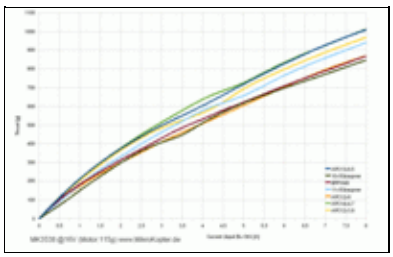




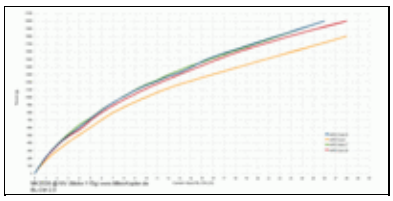
4.4 Different props



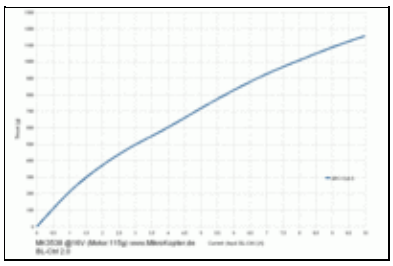
Same curve in higher resolution:



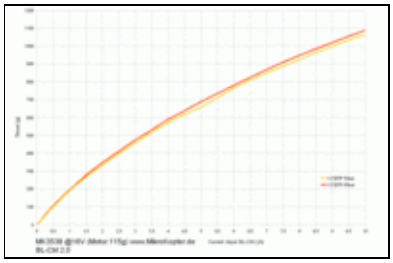
4.5 APC Propellers



4.5.1 13x6,5 APC



4.5.2 EPP-CF (chopped fiber)



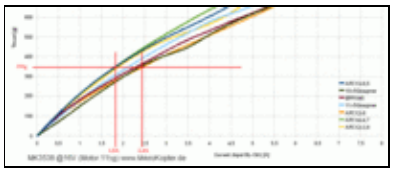
5 How to read the curves

With this curves it is easy to estimate the needed current and even estimate the flight-time.

You can read the needed current for each needed thrust

5.1 Example

The total weight of a MikroKopter (4 Rotors) is 1400g -> so each motor needs a thrust of 350g for hovering (1400g / 4 = 350g)



Current needed for 350g with the 13x6,5 APC - Propeller? -> 1,8A

Current needed for 350g with the 12x8 APC - Propeller? -> 2,4A

The total current for all four motors would be 7,2A (4 * 1,8A) or 9,6A (4 * 2,4A)

5.2 Flight time

You can estimate the flight time with this formular:

Time = 54 * Lipo / Current

(54 because we estimate 10% losses -> 60 * 0,9)

In case we would have a 3300 Lipo (3,3Ah), the Flight time for the 13x6,5 would be:

Time = 54 * 3,3 / 7,2 = 24,7 min

The same for the 12x8 Prop:

Time = 54 * 3,3 / 9,6 = 18,5 min

That is a different of 33% in flight time!

See also: FlugZeit

6 Rotation direction

6.1 Clockwise (seen from above)

Connection:

- A = gray
- B = blue
- C = black

6.2 Counter-clockwise (seen from above)

Connection:

- A = blue
- B = gray
- C = black

- KategorieMotoren

KategorieMotoren