

# **MK3638\_V2**

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MikroKopter.de

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# 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.

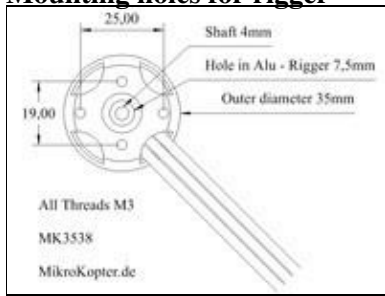


## 2 Technical data

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



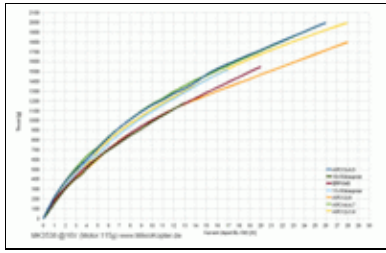
## Mounting 3-hole of propeller



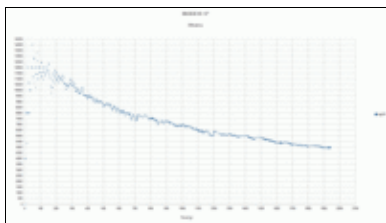
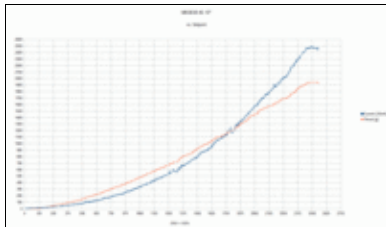
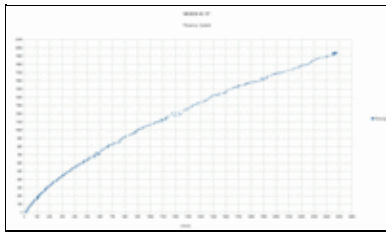
## Mounting 1-hole of propeller



## 4 Thrust over current

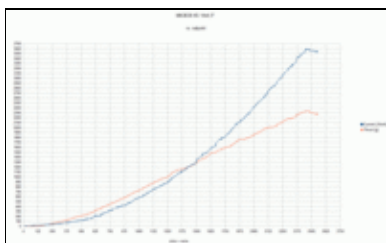


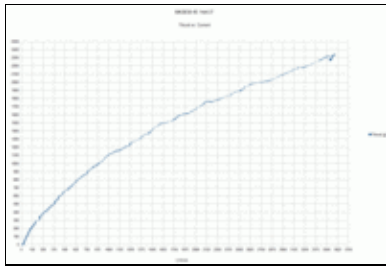
### 4.1 MK3638 16V (4S) 12" Carbon



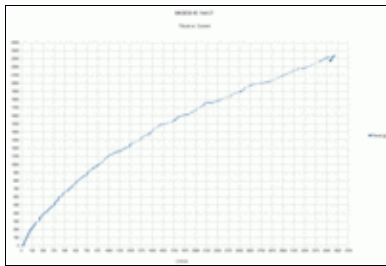
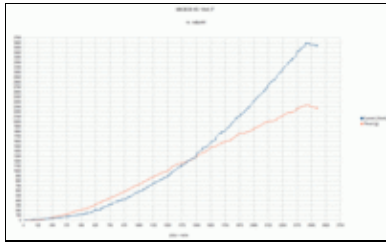
- This [Prop](#)
- This [Motor](#)

### 4.2 MK3638 4S 14" Carbon

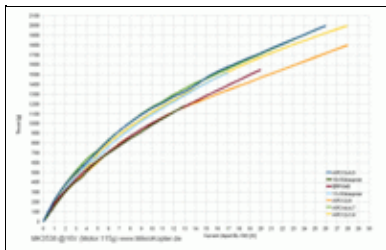




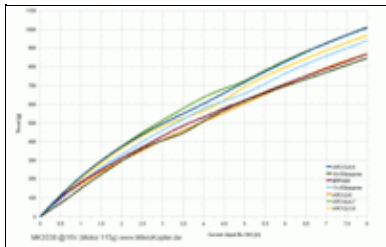
### 4.3 MK3638 4S 15" Carbon



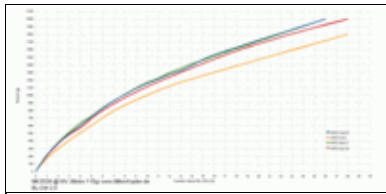
### 4.4 Different props



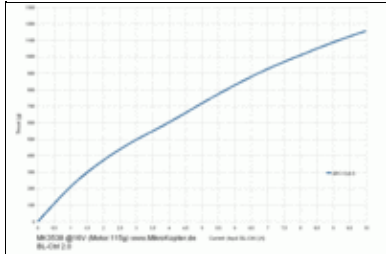
Same curve in higher resolution:



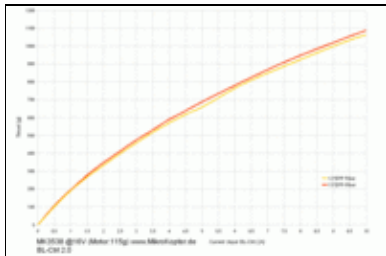
### 4.5 APC Propellers



### 4.5.1 13x6,5 APC



### 4.5.2 EPP-CF (chopped fiber)





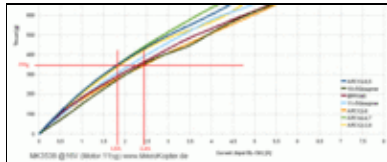
## 5 How to read the curves

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:

$$\text{Time} = 54 * \text{Lipo} / \text{Current}$$

(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:

$$\text{Time} = 54 * 3,3 / 7,2 = 24,7 \text{ min}$$

The same for the 12x8 Prop:

$$\text{Time} = 54 * 3,3 / 9,6 = 18,5 \text{ min}$$

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

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- [KategorieMotoren](#)
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[KategorieMotoren](#)