

# **en/MK-OktoXL-Plug-n-Play**

18

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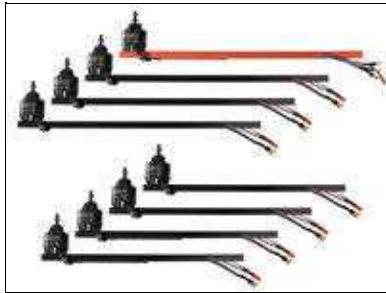
# 1 Info

For the construction of your new *MK EASY Okto V3* you only need a cross- and a flathead screwdriver. Solderings are not required. All components can be bolted and / or plugged.

Please read this page **before** you start to assemble your copter!

This is an electronic flight instrument. A careful and accurate building assures you a flawless function and much joy with your new MikroKopter.

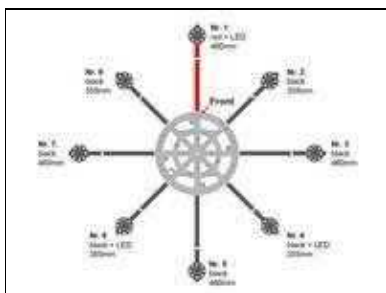
## 2 Step 1 - The arms

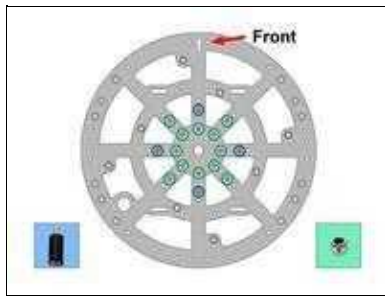


The eight riggers can be mounted in the pre-assembled Center Plate.

What is needed:

- 1x rigger 460mm - red with LED
- 3x rigger 460mm - black
- 2x rigger 355mm - black with LED
- 2x rigger 355mm - black
- 16x screw M3x16 (metal)
- 12x self locking nut M3 (metal)
- 4x dampener M3x15
- 12x screw M3x16 black (plastic)
- 12x Hex nut M3 black (plastic)





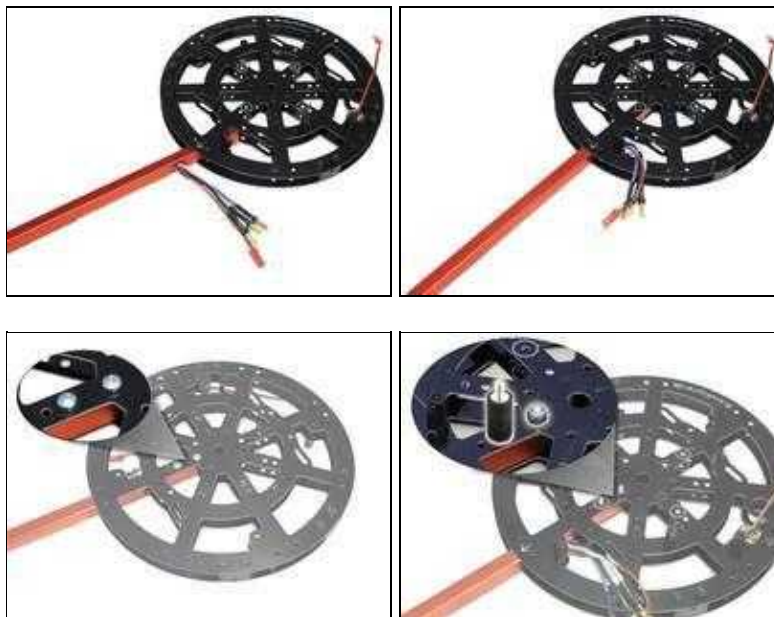
On the first image you can see how to mount the single arms into the Centerplate (please note - the motors and the labeling of the centerplate points upwards). Please note the arrangement of the boom in the first image.

Use two metal screws (M3x16) to fix the riggers. In the second picture you can see which holes are used.

**Important:** Insert the metal screws from the **bottom** of the Centerplate.

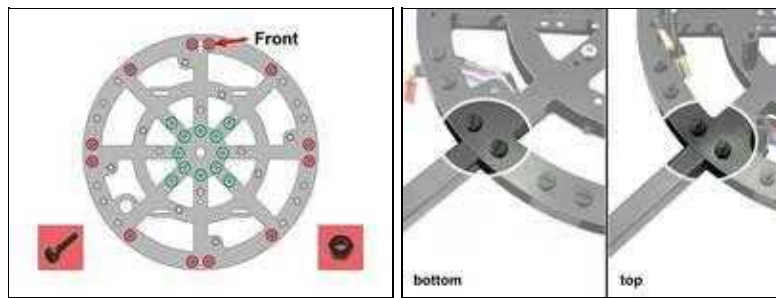
At the top you fix 4 screws with a self locking metal nut (M3).

On the 4 points where you see the circle (blue in the picture) on the top, you use a dampener to fix the screws (M3x15).



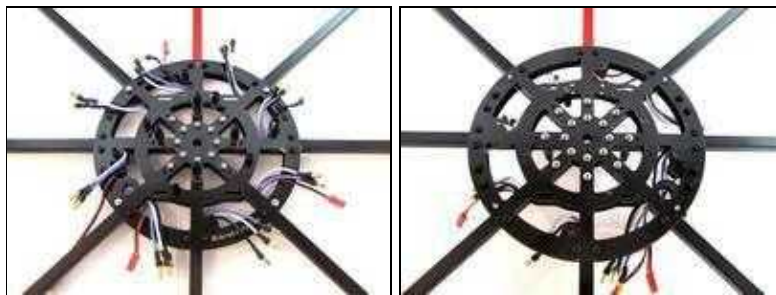
Please take care that you will not hurt or cut the cables.

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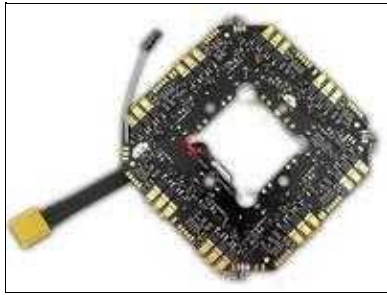
At the edge of centerplate, the long riggers can be fixed with 2 plastic screws and nuts. The short riggers, each with a single plastic screws / nuts. Through the free holes later the 4 metal screws are inserted. The battery holder is attached to the 4 metal screws.

**Important:** Insert the plastic screws from the **bottom** of the Centerplate (see pictures).



When all eight riggers inserted and screwed the frame should look like this.

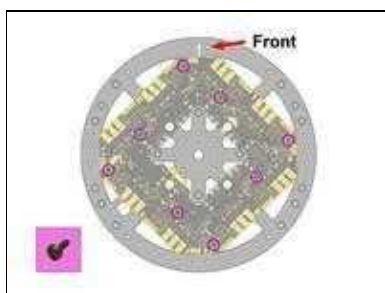
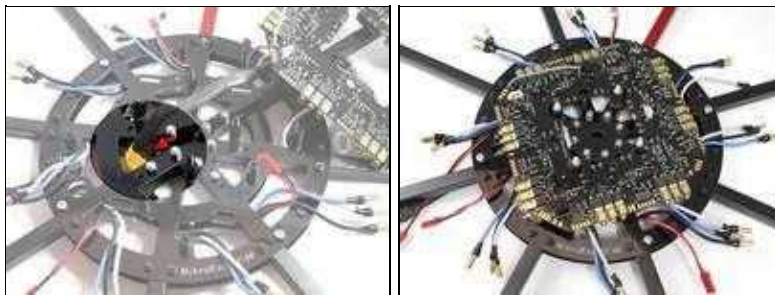
## 3 Step 2 - Mounting BL-distributor



In the next step the BL-distributor is mounted on the frame.

What is needed:

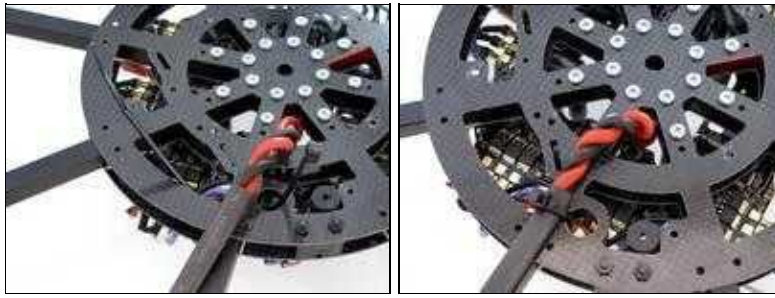
- 1x BL-distributor
- 8x screw M3x8 black (plastic)
- 1x cable ties 3,5mm x 110mm (long)



The LiPo cable is guided through the recess (beside the buzzer) as you can see in the picture.

**Important:** The arrow of the PCB is pointing to the red rigger #1.

Fix the BL-distributor with the 8 plastic screws on the frame.



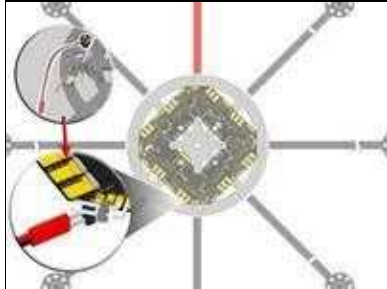
After the BL-distributor is attached, the LiPo connecting cable can be fixed with cable ties to the frame.

**Important:** As you can see in the pictures, the LiPo cable must be twisted. This prevents compass error!

## 4 Step 3 - Connection to the BL-distributo

In the next step we can connect the buzzer, the LED's and the motors with the BL-distributor.

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### Buzzer

Connect the buzzer with the lateral contact at the BL-distribution. Take care about the direction (see picture).

The buzzer will give no sound if it is plugged in the wrong direction.

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### LED

Connect the LED cables at the BL-distribution. Take care about the direction (see picture)

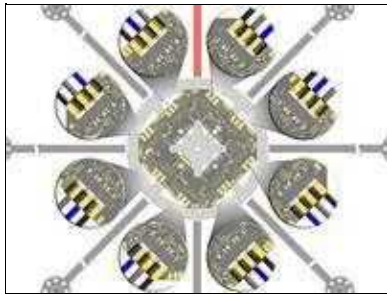
A wrong connected LED will not work.

Info:

After you connect the LiPo the LEDs on the short black riggers are ON.

The LEDs on the red (front) rigger are connected to the switching output "EXT1 (L)" of the FlightCtrl. So this LEDs are also ON, but if there is e.g. a battery warning the LEDs will flash fast.

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## Motor

The direction of rotation of the motor is determined by the plug-order of three cables. On the BL-distribution board, the plug-in sequence (Color) is printed:

- 1,3,5,7 => A=gray, B=blue, C=black (left rotating propeller)
- 2,4,6,8 => A=blue, B=gray, C=black (right rotating propeller)

(Declaration of propeller rotation direction: see below under [propeller](#).)

**TIP:** If the propeller rotation direction is wrong, change only 2 of the 3 cables to change the rotation direction.

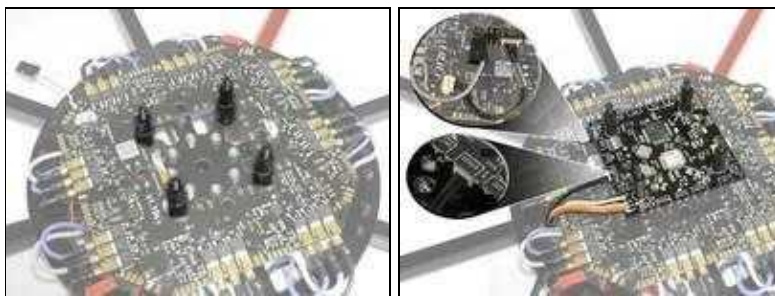
## 5 Step 4 - mounting FlightCtrl + MKGPS



Now the FlightCtrl and MKGPS can be mounted.

What is needed:

- 8x spacers M3x15 schwarz (plastic)
- 4x hex nut M3 black (plastic)
- 2x 5pol Molex cable
- 1x 4pol Molex cable



### FlightCtrl

On each dampener install first plastic spacers M3x15. On this spacers we mount the FlightCtrl and fix it with a plastic spacers M3x15.

**Important:** The arrow of the FlightCtrl is pointing to the red arm #1.

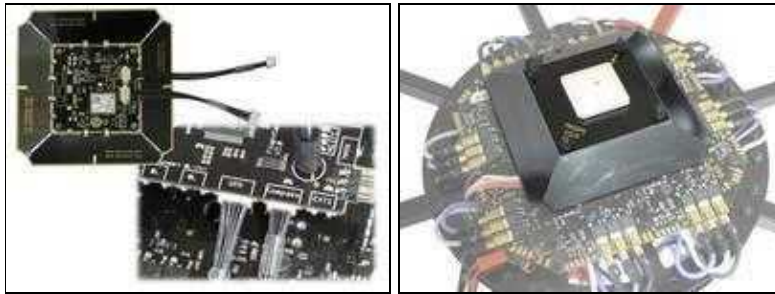
Both cables of the FlightCtrl for the receiver are guided through the recess of the Center Plate (see picture).

After the FlightCtrl is fixed we can connect it with the 5pol molex cable with the BL-distribution. The gray cable of the BL-distribution must be connected now with the switching output (L) of the FlightCtrl (upper left pin - see picture).

Connect the small **Tiny Servo Adapter** with the molex connection *SERVO* on the FlightCtrl. The adapter is also guided through the recess of the Center Plate (see picture).

On the *Tiny Servo Adapter* you can connect later e.g. a camera mount (Nick + Roll)

More informations about the FlightCtrl you can find here: [FlightCtrl V3.0](#)



## MKGPS

Connect the MKGPS now with a

- 5pol Molex cabel - to the Master GPS-Port
- 4pol Molex cabel - to the Master Compass-Port

Connect then the other side of the molex cables with the GPS and Compass connections on the FlightCtrl.

If this is done you can place the MKGPS on top of the plastic spacers and fix it wit 4 plastic nuts.

**Important:** The arrow and the LED of the MKGPS are pointing to the red arm #1.

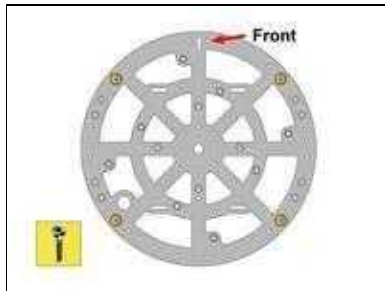
## 6 Step 5 - mounting LiPo-holder

The LiPo-holder is a safe place for the LiPo's under the copter.

In the already assembled LiPo-holder you can place 1x LiPo.

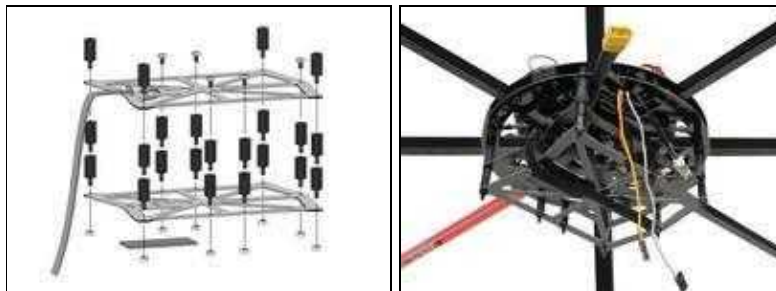
What is needed:

- 4x screw M3x16 (metal)
- 



At the 4 marked locations (see picture) insert the 4 metal screws from above through the mounting holes of the Center Plate.

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Now you can place the LiPo-holder under the Centerplate and fix it with the 4 metal screws.

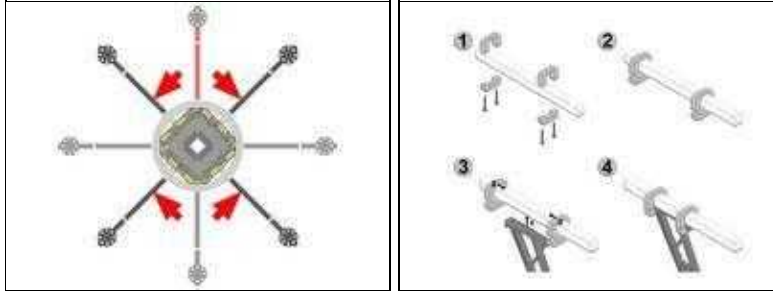
**Important:** The side with the Velcro fastener toward the left side - there where the LiPo cable is.

## 7 Step 6 - mounting landing gear

The landing gear is now attached to the 4 short riggers.

What is needed:

- 4x landing gear "MK [HiLander-26](#)"
- 



The 4 "MK [HiLander-26](#)" are attached to the 4 short riggers.

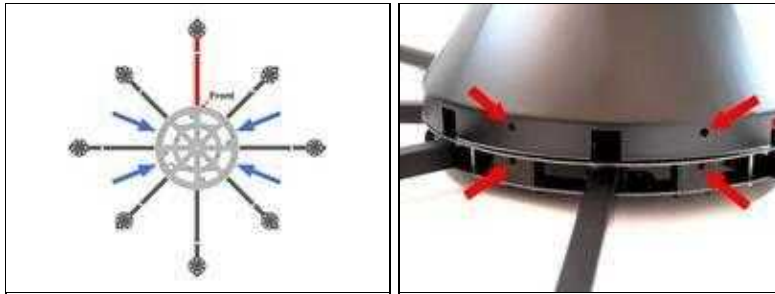
The assembly is described in the second diagram.

## 8 Step 7 - mounting cover

To protect the electronics, the hood is mounted.

What is needed:

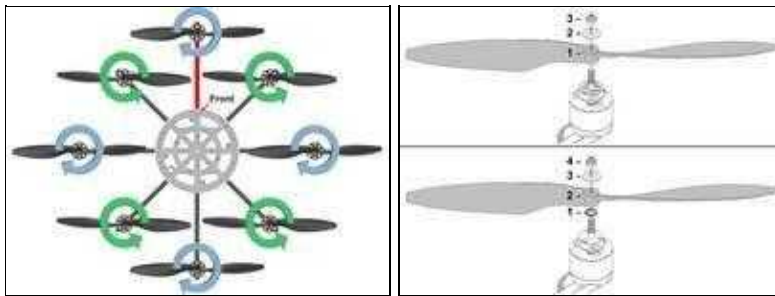
- 1x cover
  - 4x tapping screw
- 



The cover is placed on top of the frame. The holes for the tapping screws must point to the left and right side.

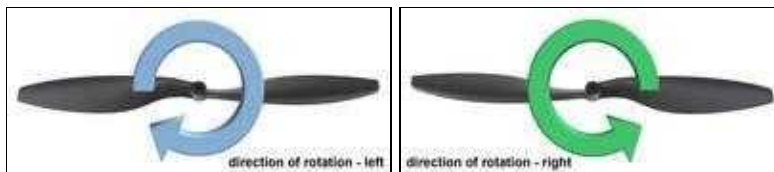
Fix now the cover with the tapping screws on the frame.

## 9 Step 8 - mounting propeller



Finally, the propellers are screwed. Here please take care of the direction of rotation..

Use on the long riggers / motor the **left turning Propeller**,  
and on the short riggers / motor the **right turning Propeller**.



Here you can see the direction of rotation of the propeller.

## 10 Step 9 - Ready

Now that everything has been mounted, your copter should look like this here.

Congratulations. 😊

The assembling of your Easy copter is done.

We continue now with the setting and he first set up your new MikroKopter.

- 





# 11 First commissioning

After your MikroKopter is assembled you can download the latest Software for your copter here:

- [Software-Download](#)
- [how to update](#)
- [Setup](#)

# 12 Safety

A Copter can also be dangerous. The confidence in dealing with the copter comes first, so read carefully:

- [SafetyFirst](#)
- [LiPo](#)