en/Powerboard-HexaXL

2

HolgerB
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This page as an **PDF-Document**? Click on that Symbol and wait a little moment... --->
HexaXL-Powerboard

- deutsch
- français

Attention: The XL powerboards are designed for the **BL-Ctrl2.0**! Do **not** use BL-Ctrl1.2 on it.

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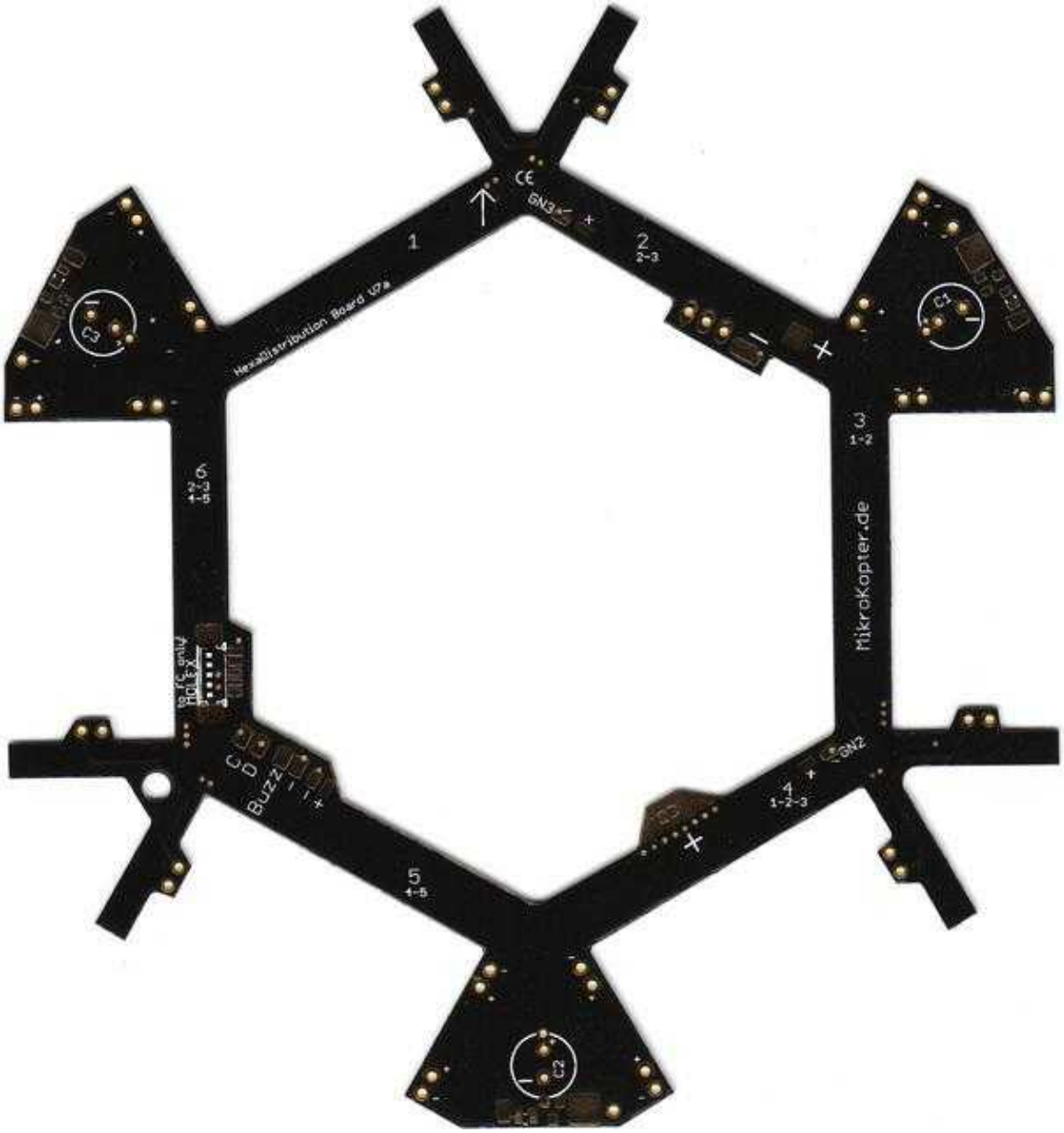

HexaDistribution Board V2a
MikroKopter.de
Buzz
GN3
GN2
C1
C2
C3
1
2
2-3
3
1-2
4
1-2-3
5
4-5
6
2-3
4-5

Info

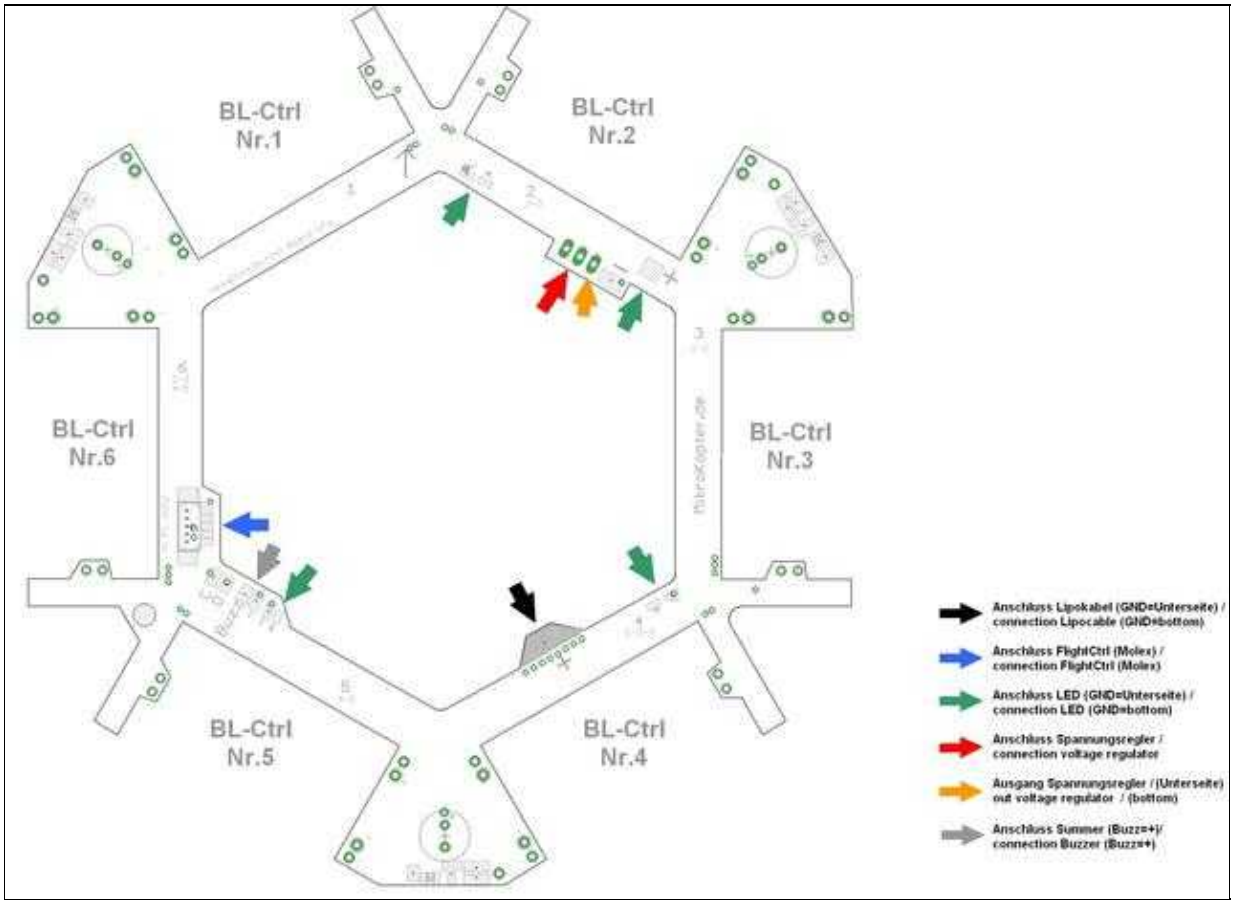
At this current distribution of the BL-Ctrl2.0 overlapping be soldered to the power distribution board. This provides better heat dissipation is possible.
Since the PCB during soldering and the heat dissipates very quickly, you need a soldering iron with enough power (~ 80W). A completely clean soldering is a must.

HexaXL Power-Distribution

The HexaXL Power distributor provides the BL controller with power and connecting the I2C bus for communication.
The BL controllers are mounted in the recesses of the distribution board and connected by wire bonds.
⚠ The top of the distribution board is marked with "+".

Arrangement of the BL controller

The BL-controllers are arranged as shown here in the distribution board (clockwise BL-Ctrl Nr. 1-2-3-4-5-6).
⚠ **The processors and the solder connections for the motor have to show up at all controllers.**



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If you use a 5S/6S Lipo on this Power-Distribution and you've got sporadic I2C errors, you can use on C1,C2,C3 a Elko with 330µF/25V. Otherwise a placement is not required!

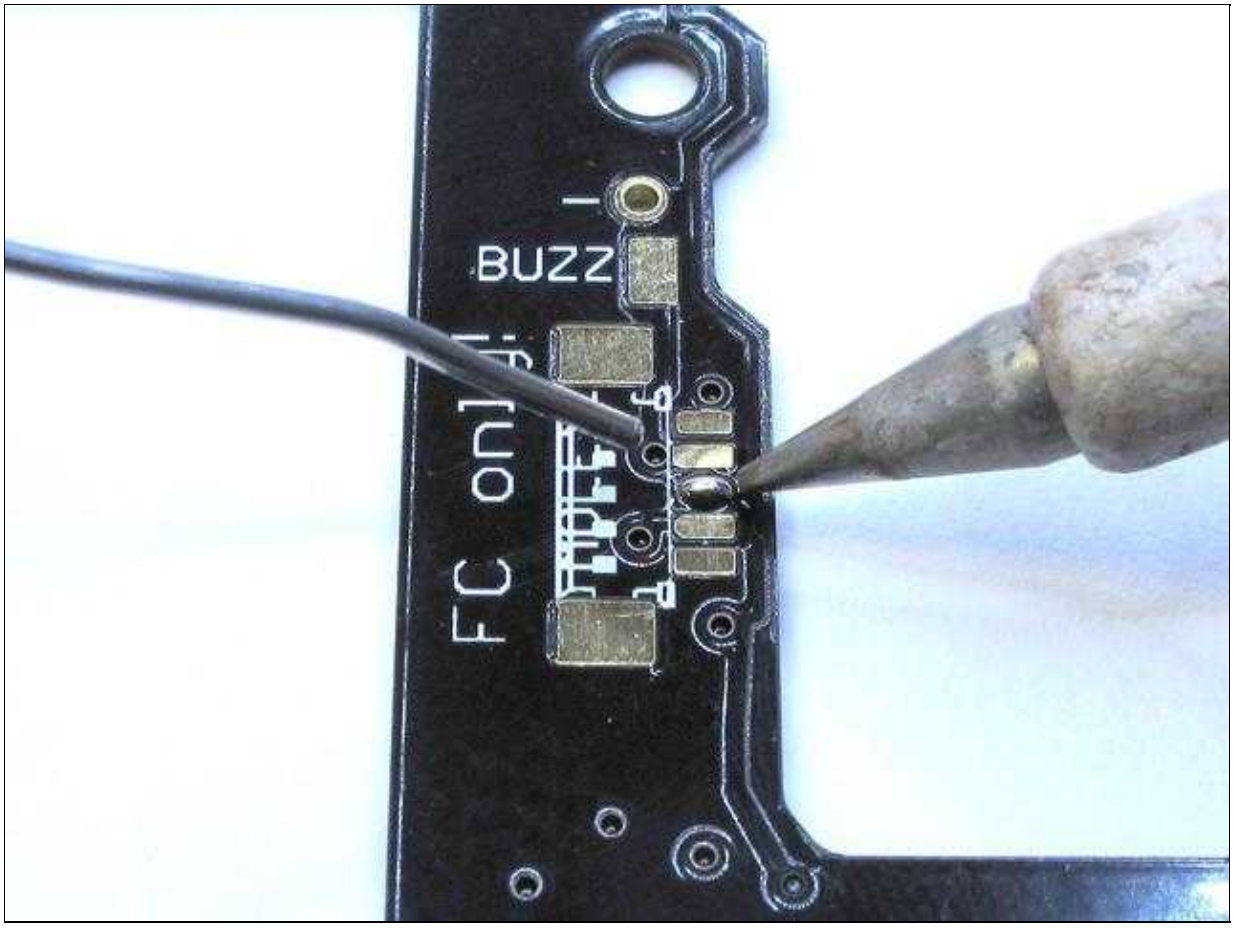
Assembly of the Molex connector

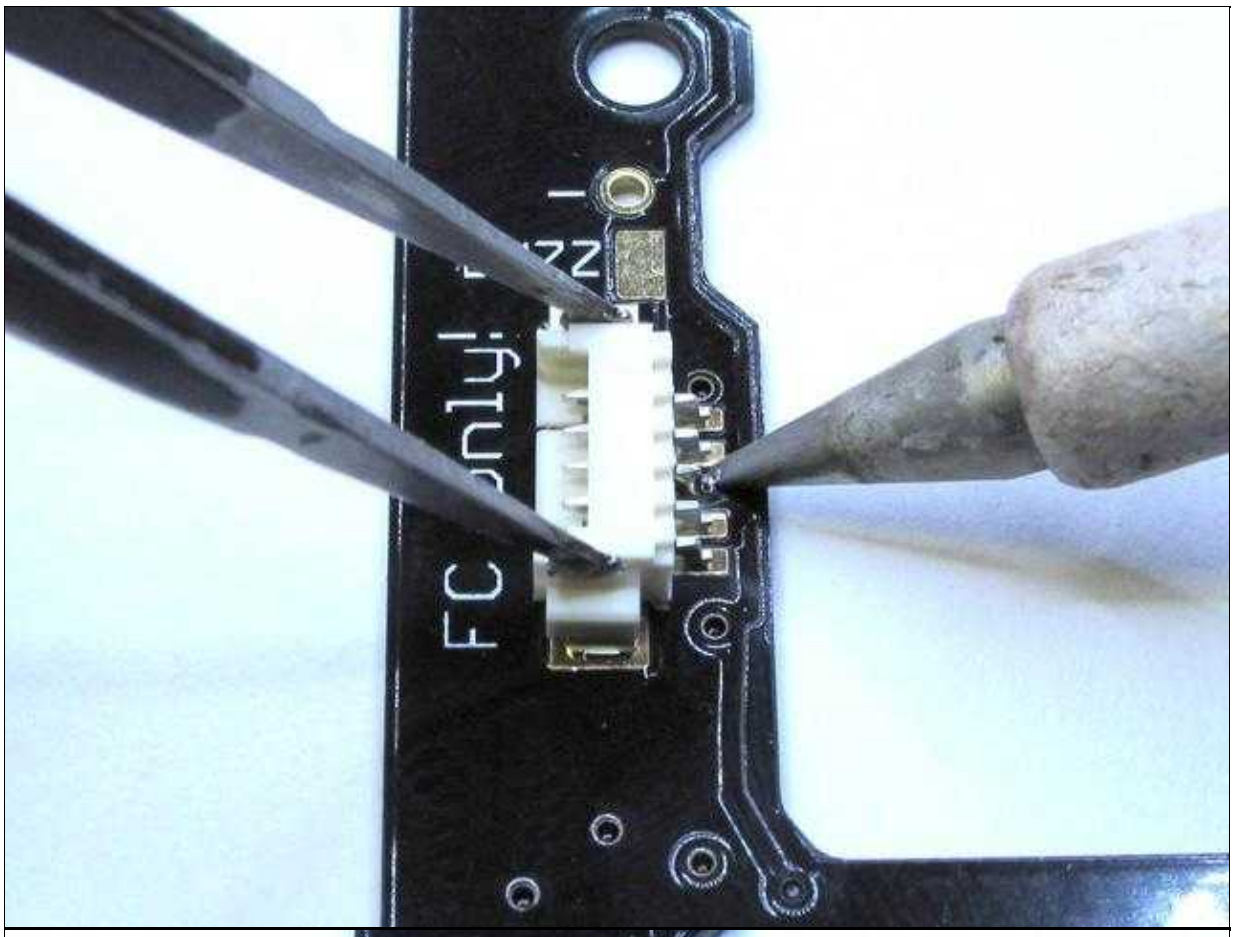
For this purpose you should use a fine tip. The first one is a solder pad on the distribution board and solder then Molexbuchse fixed thereto. This is to cater to the remaining contacts are soldered.

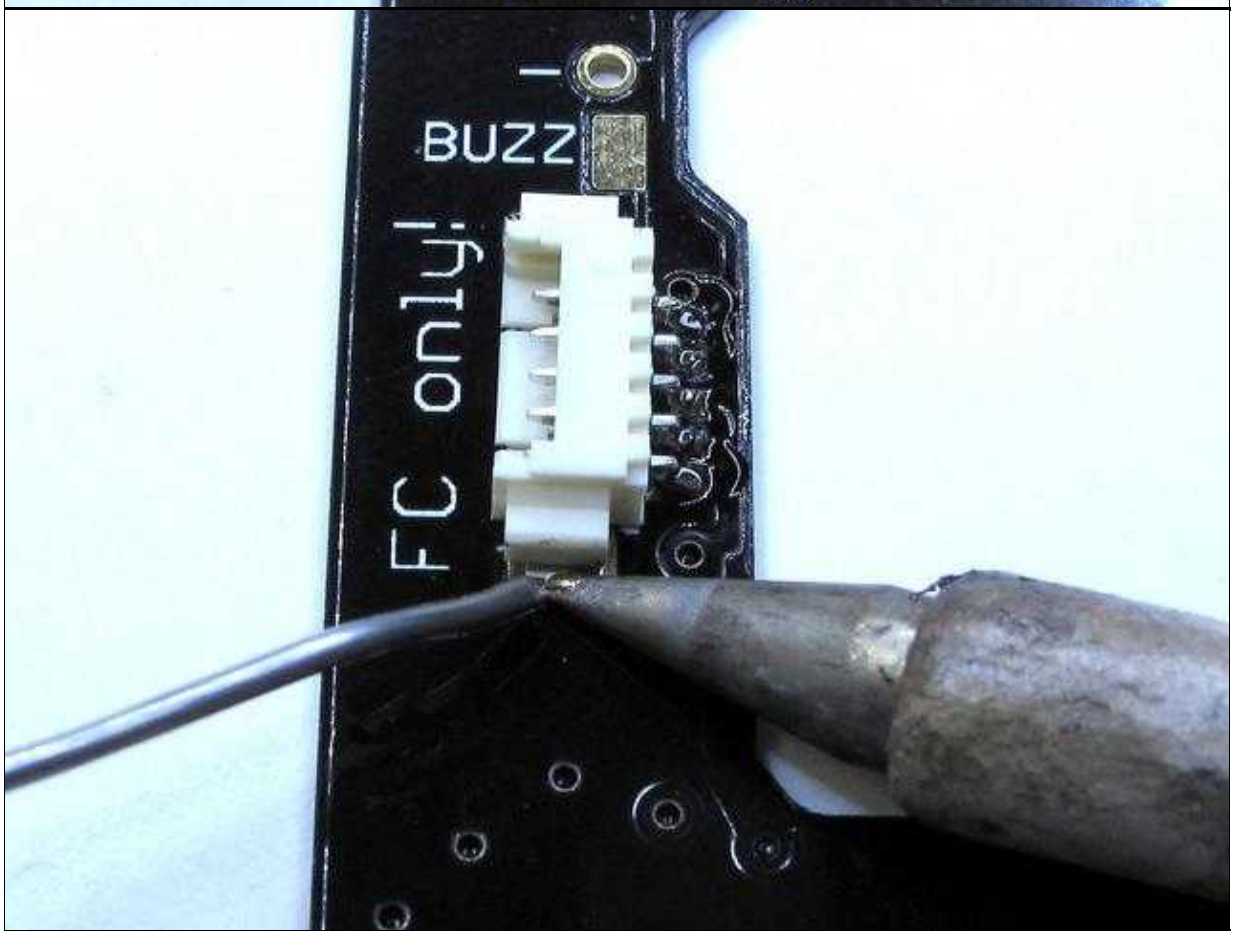
The contacts may have no connection with each other!

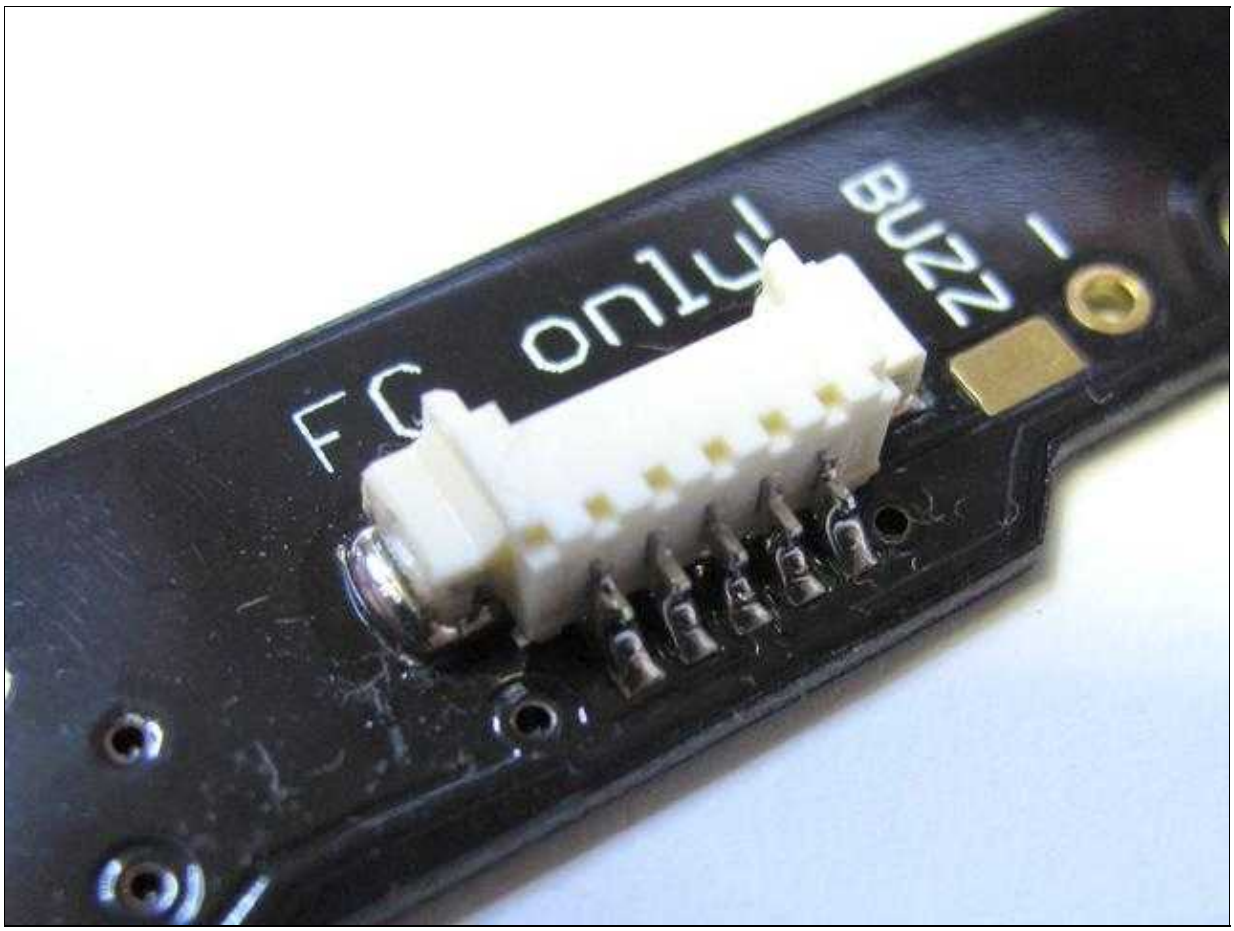
- **The FlightCtrl is connected over the Molex socket with power, I2C-bus and the Buzzer.**

Tip: Excess solder can be removed perfectly with solder wick. If the mounting of the Molex socket fails, the PCB can be gently heated from the bottom with a heat gun and the socket be released.




FC only!

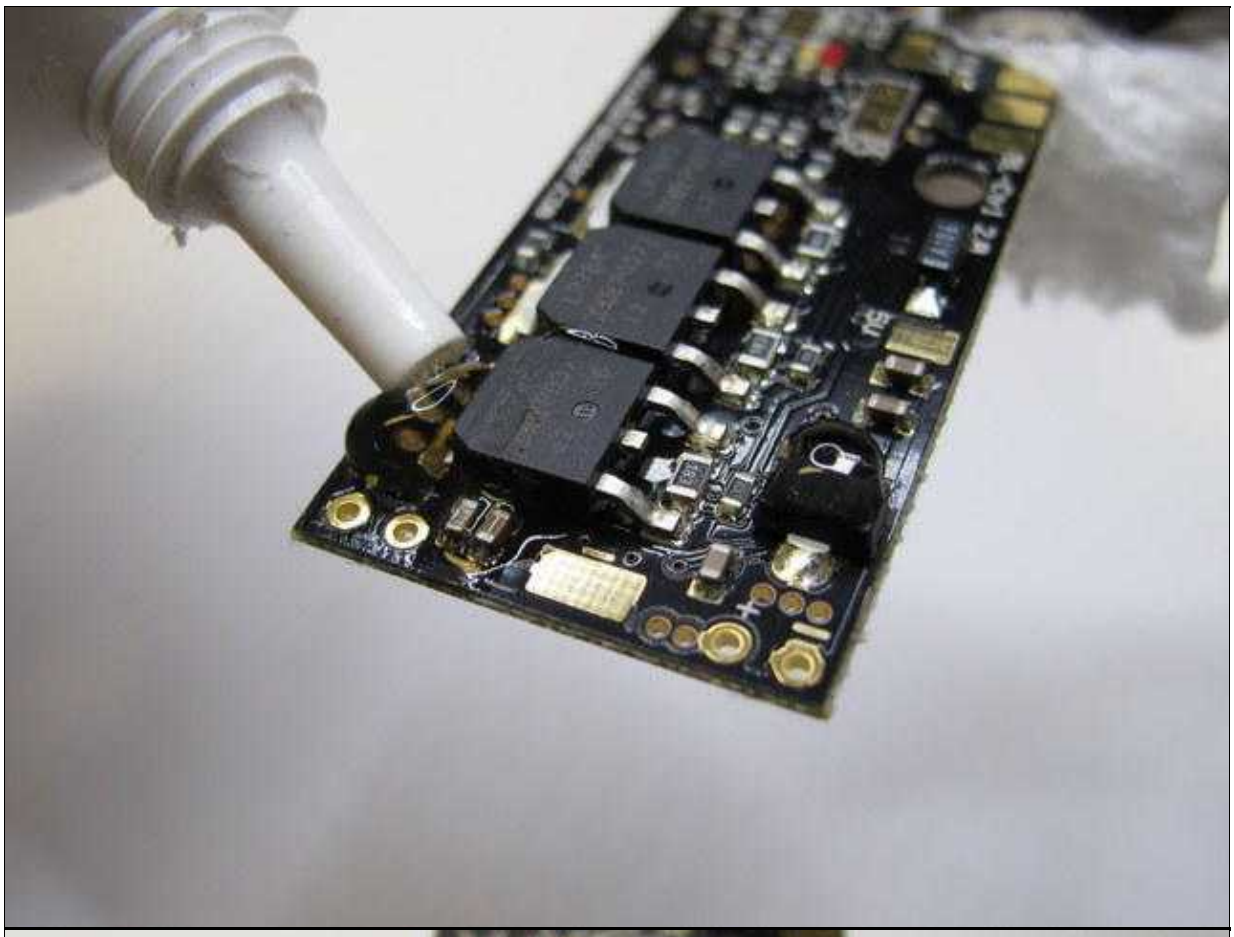

BUZZ
FC only!

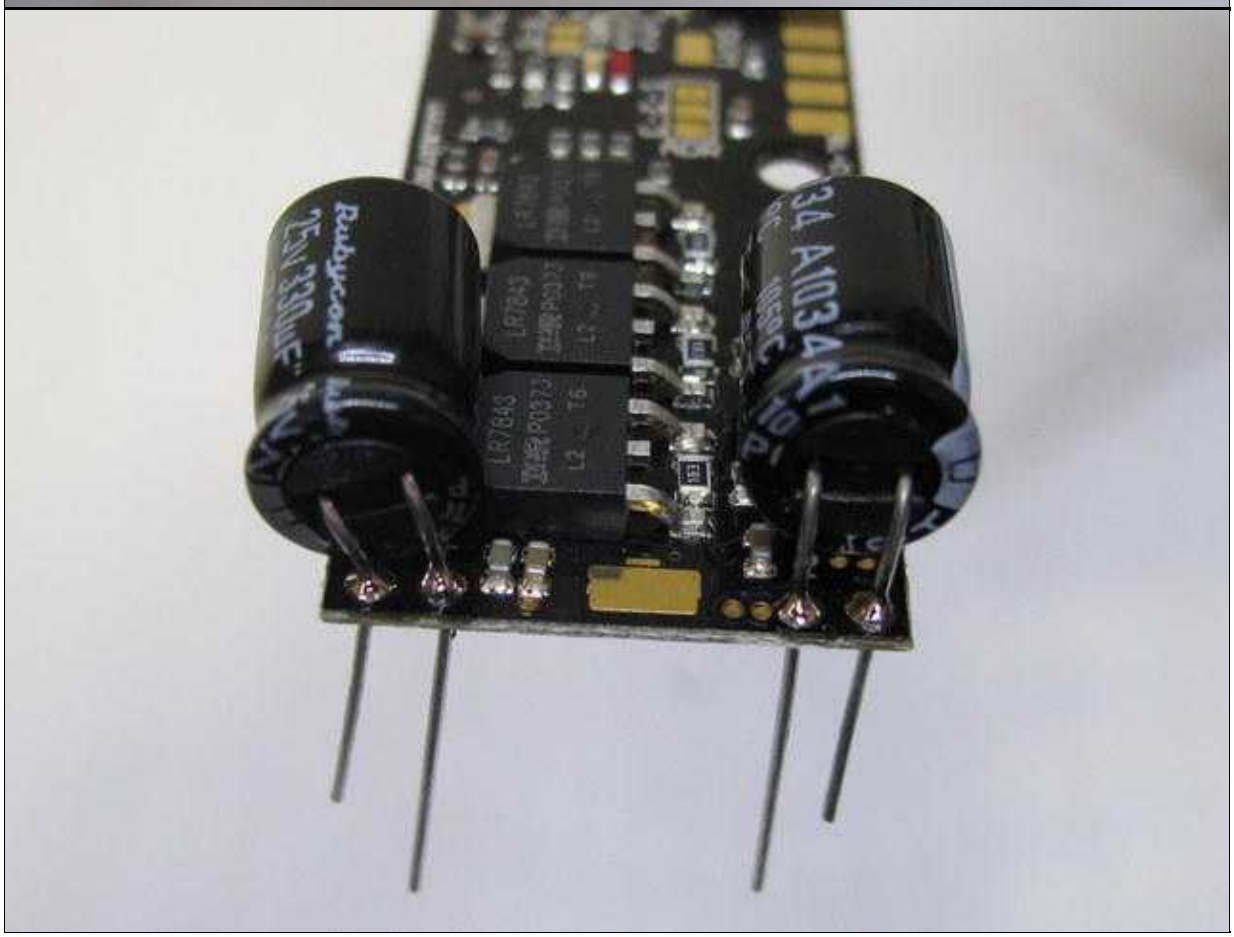


soldering the Capacitors on the BL-Ctrl2.0

All elkos can be mounted on the bottom on this current distribution.
The two elkos with the correct polarity to be first glued to the underside of the BL-Ctrl2.0, then soldered from the bottom.
> The glue is made to ensure that the capacitors do not slip through vibrations in the air.

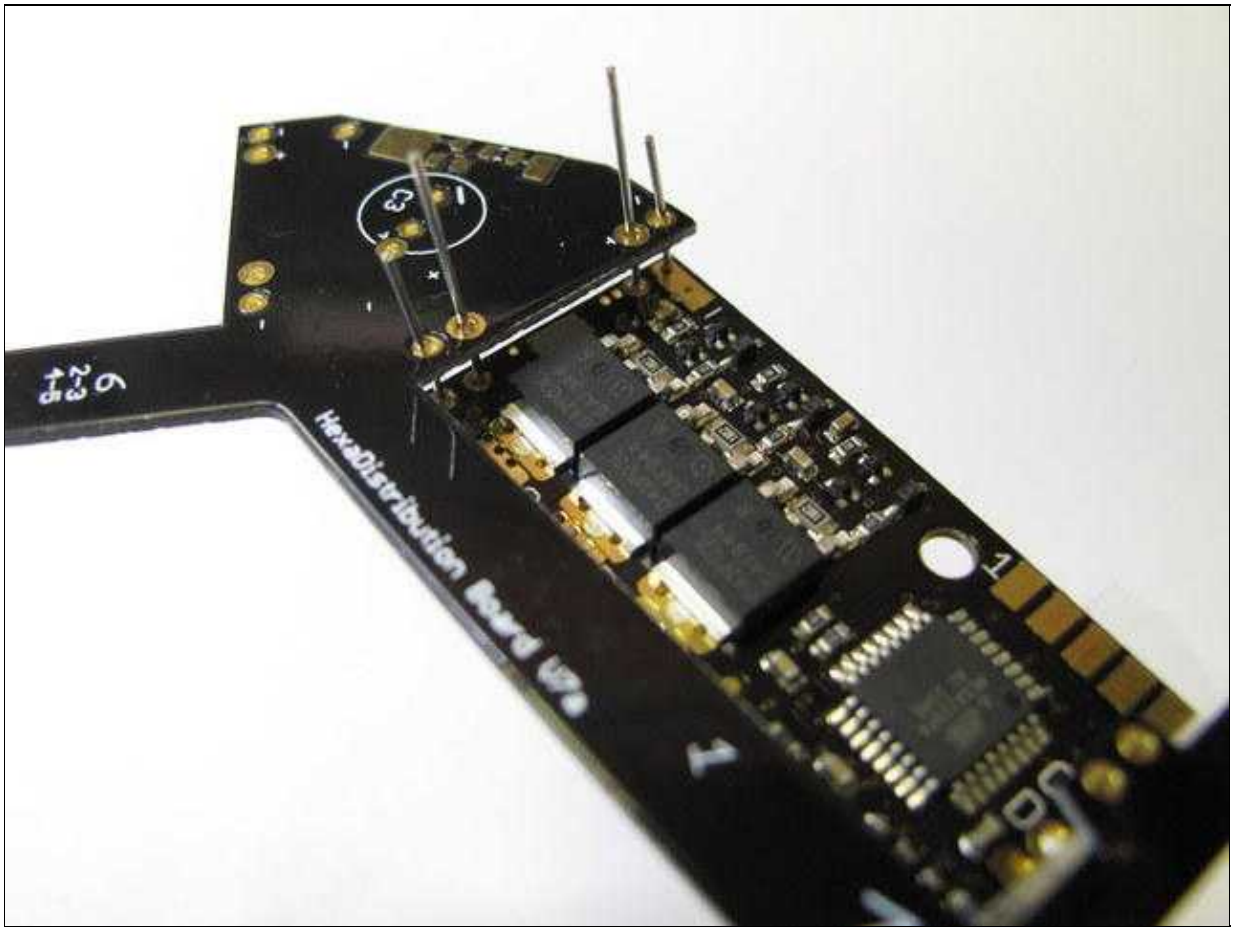
+ -
Elko




Rubycon
25V 330uF
LR7843
LR7843

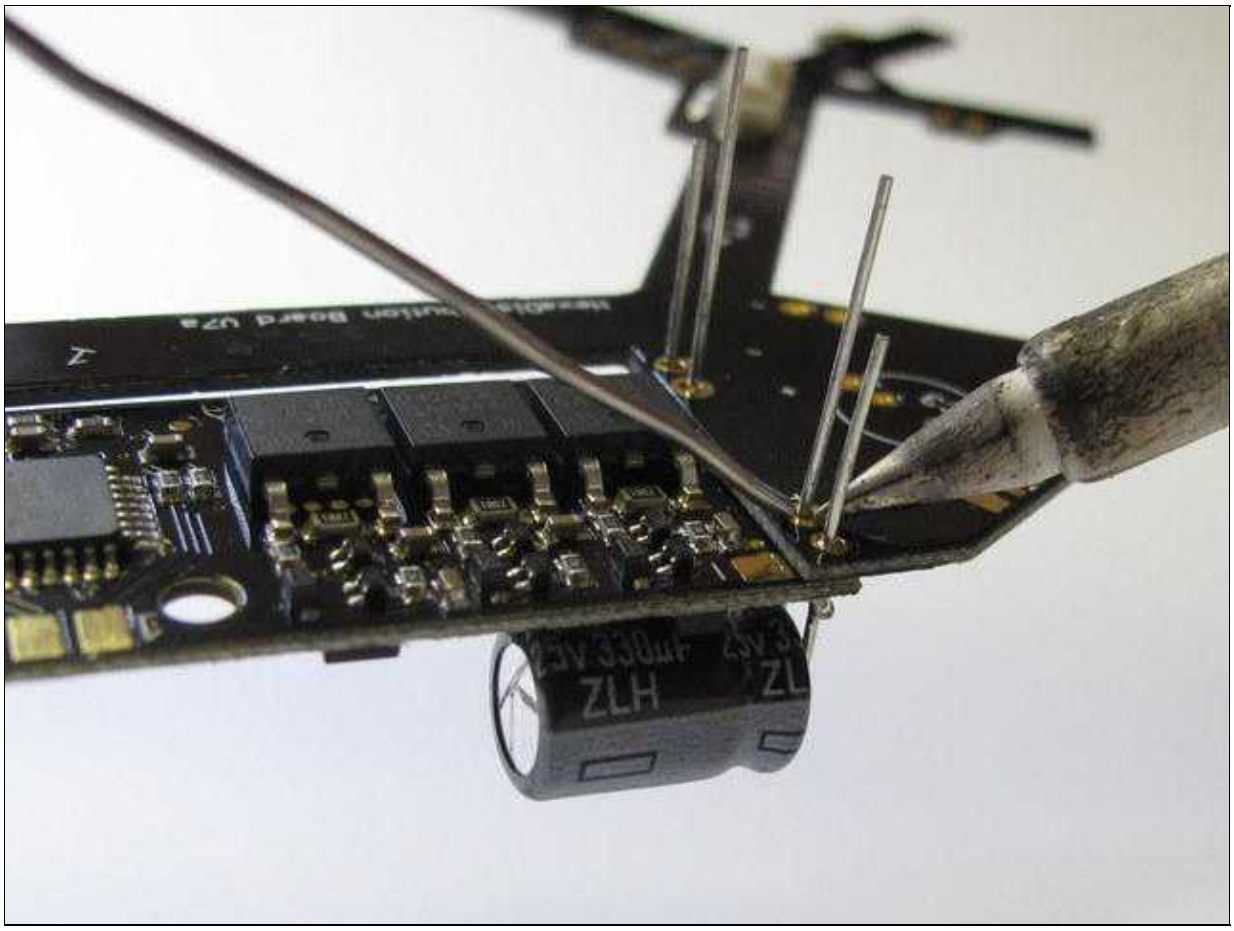
soldering the BL-Ctrl2.0 on the Power Distribution

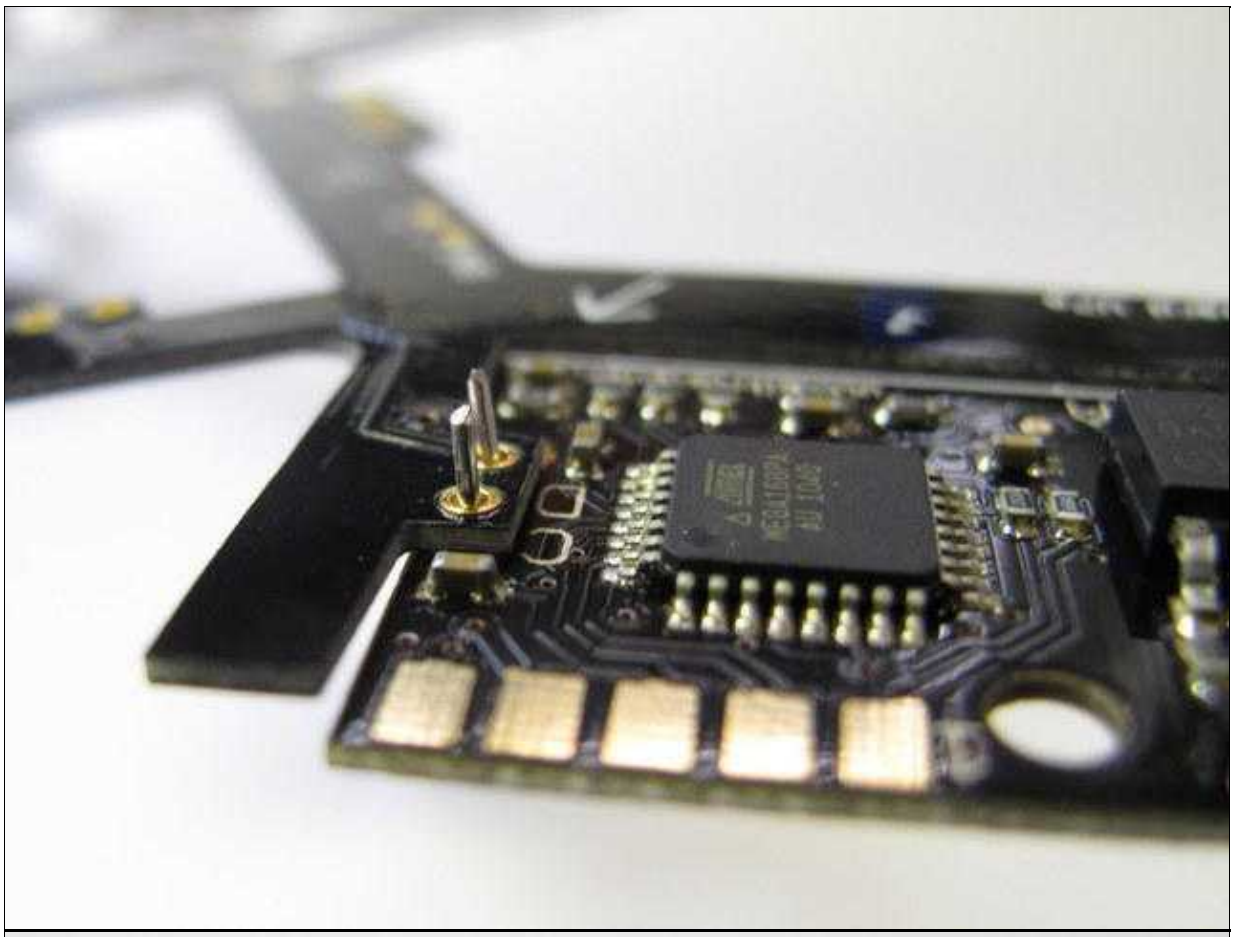
Are the elkos on the BL-Ctrl2.0 soldered, the BL-Ctrl2.0 be inserted from the bottom of the current distributor in the connecting holes of the elkos.

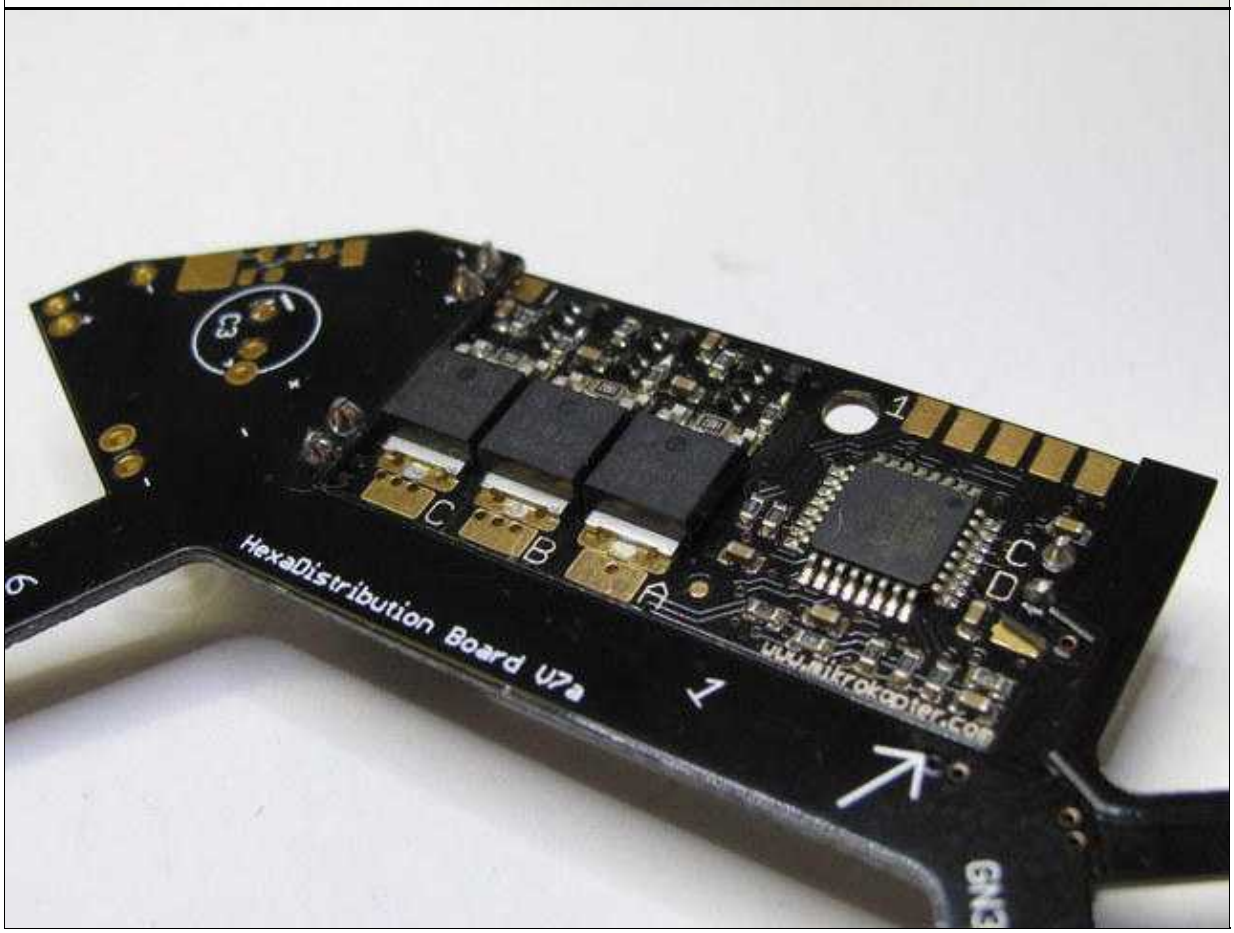


When soldering the capacitors and the I2C bus, take care that the BL-Ctrl2.0 applied directly to the power distributor.
This achieves the greatest possible heat dissipation.

The board can be very hot during soldering



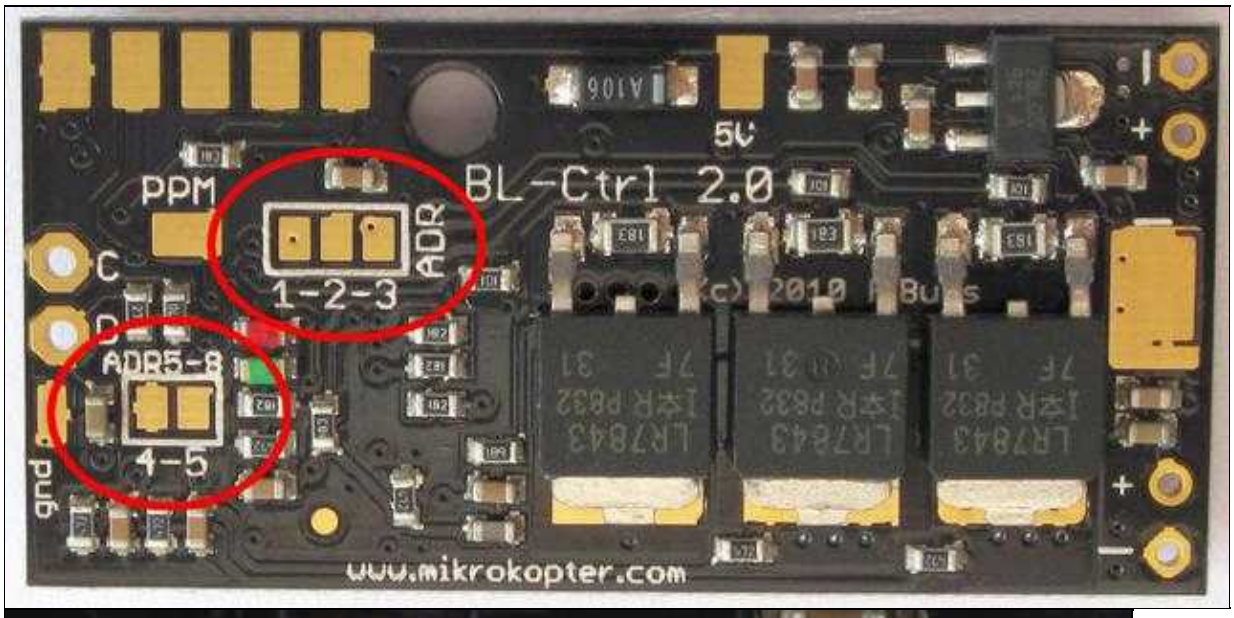


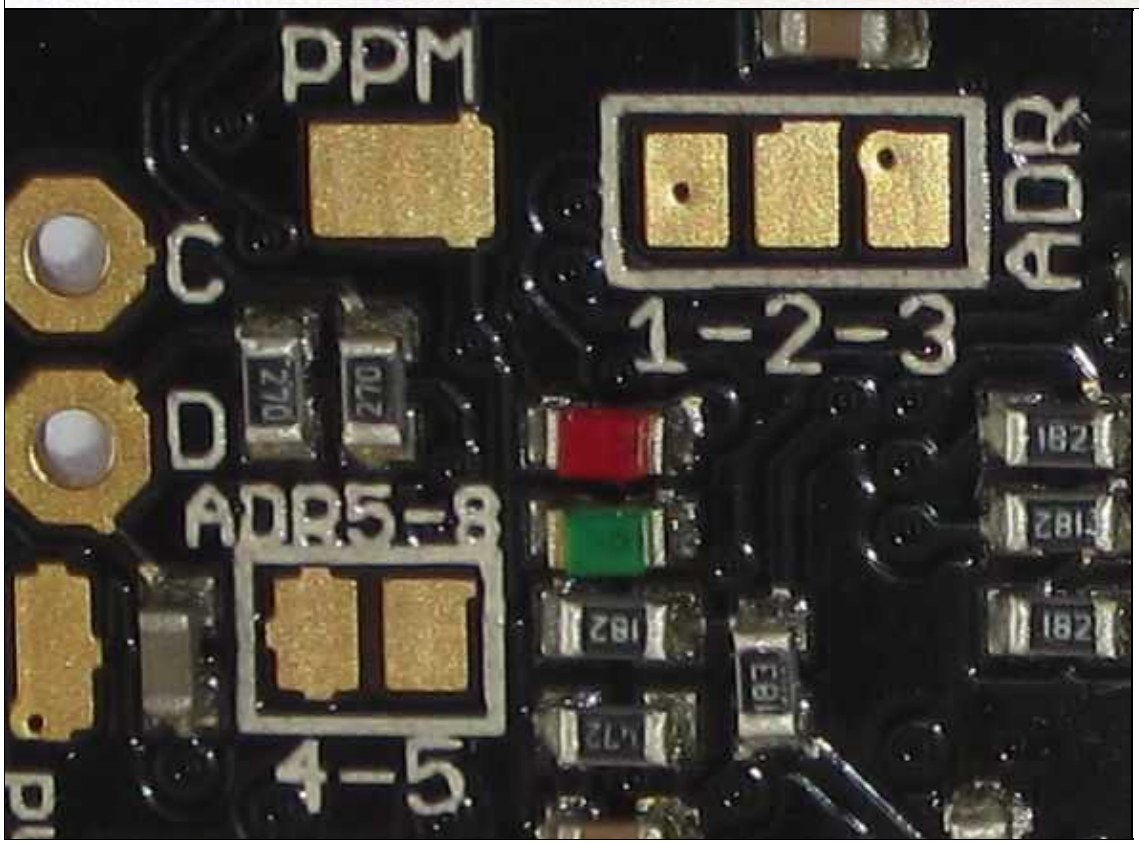

HexaDistribution Board V7a
www.mikrokopter.com
C
B
A
C
D
1
6

Address selection

Each BL-Ctrl requires now a unique address. Therefore, the BL controllers assign addresses.
A Quadrokopter get the addresses 1-4, a HexaKopter the addresses 1-6 and a Oktokopter the addresses 1-8.
On the power distributor each address is already printed.

On BL-Ctrl V2.0 the motor address is set on the board using jumpers (use solder).





Where:

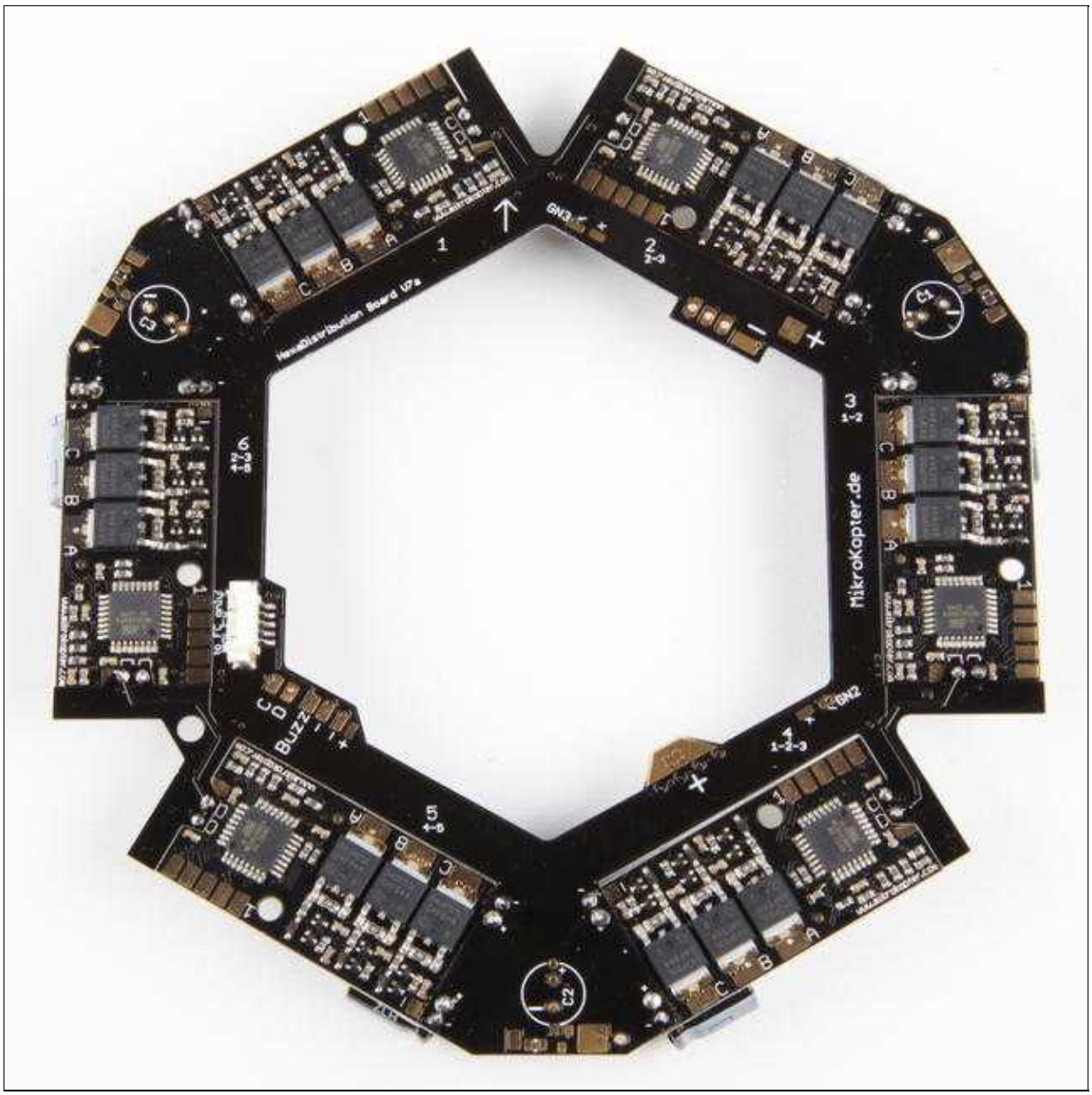
Adress (Motor)	1-2	2-3	4-5
1	open	open	open
2	open	closed	open
3	closed	open	open
4	closed	closed	open
5	open	open	closed
6	open	closed	closed
7	closed	open	closed
8	closed	closed	closed

More information about the BL-Ctrl2.0 can be found here: BL-Ctrl2.0

Powerboard

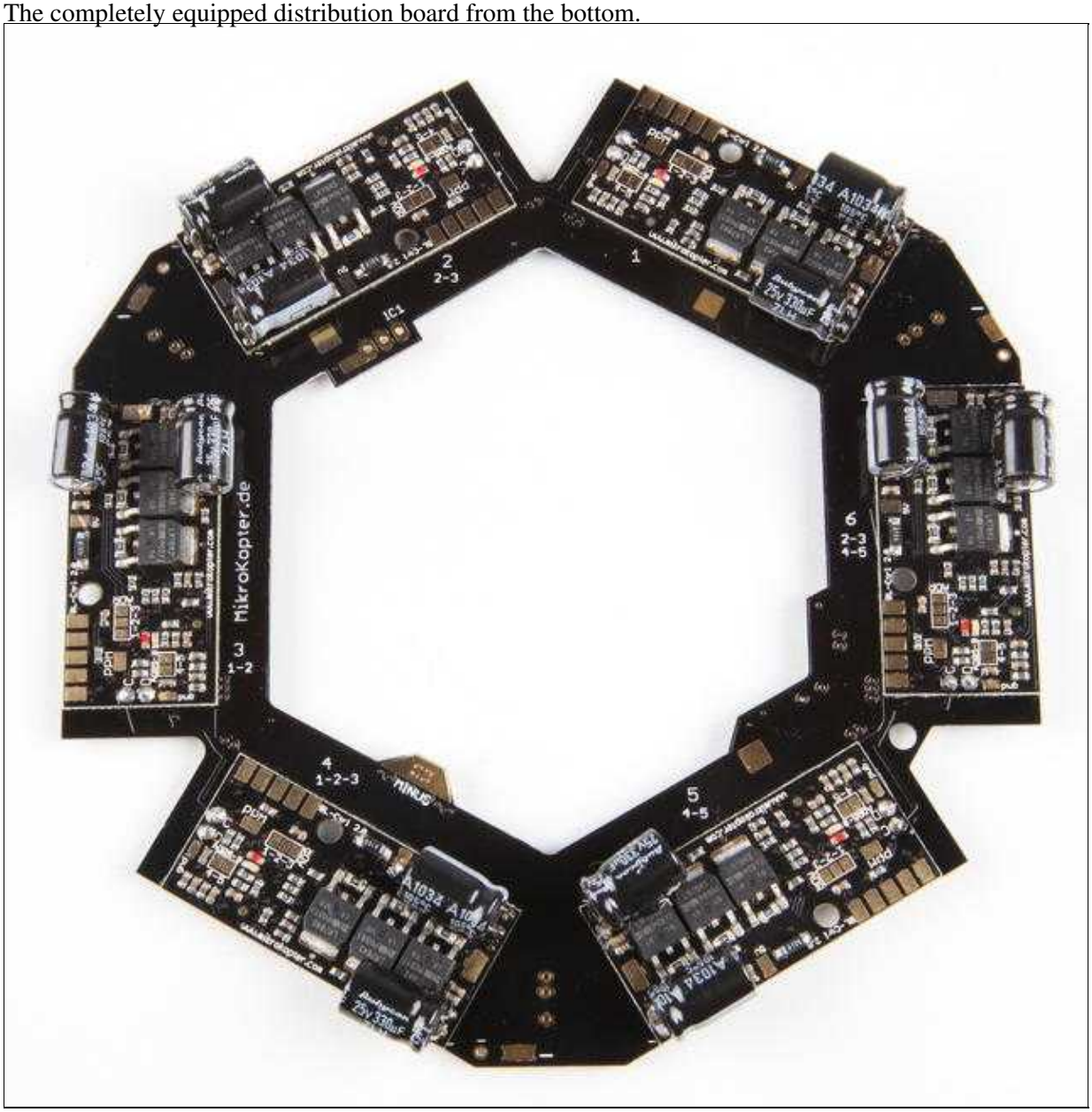
Power Distributor - Top

The completely equipped distribution board from the top.


MikroKopter.de
Buzz

Power Distributor - Bottom

The completely equipped distribution board from the bottom.



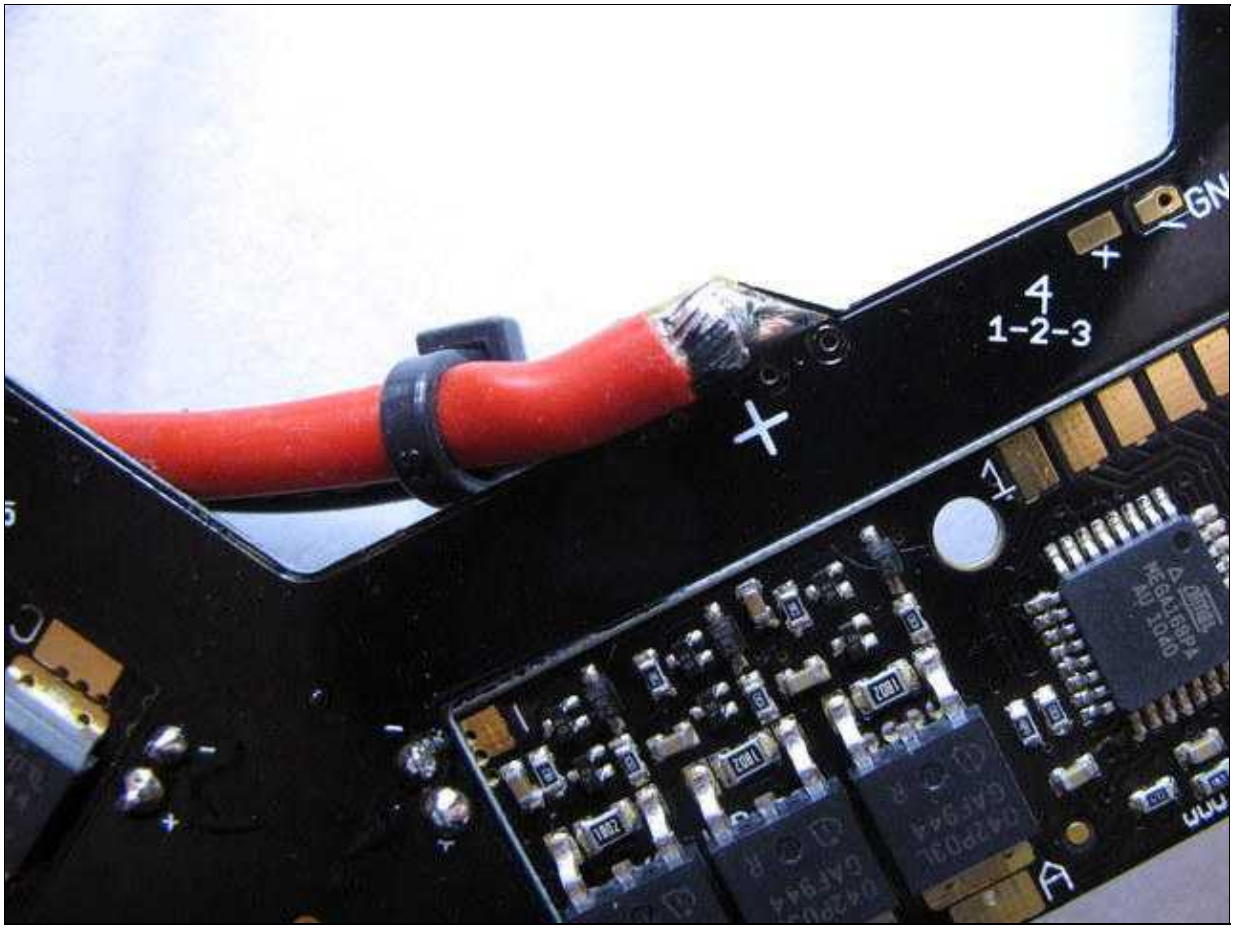
Supply

Connect the batterie cable

On the large "+" and "-" solder pads connect the cable for the Lipo. With a cable tie the cable can be fixed.

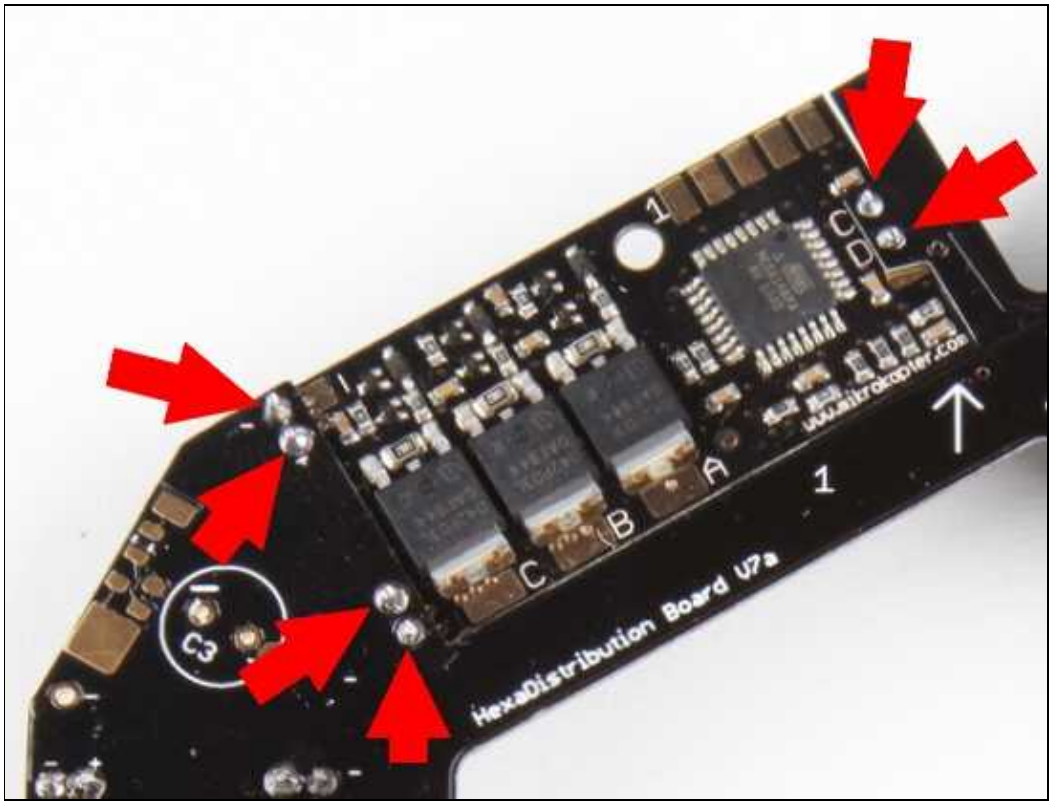
- Plus = red
- Minus = black

do not mix plus and minus here!



Check for short circuit

The contacts (red arrows) are measured with a multimeter. You may not contact or short circuit with each other or have to plus or minus.

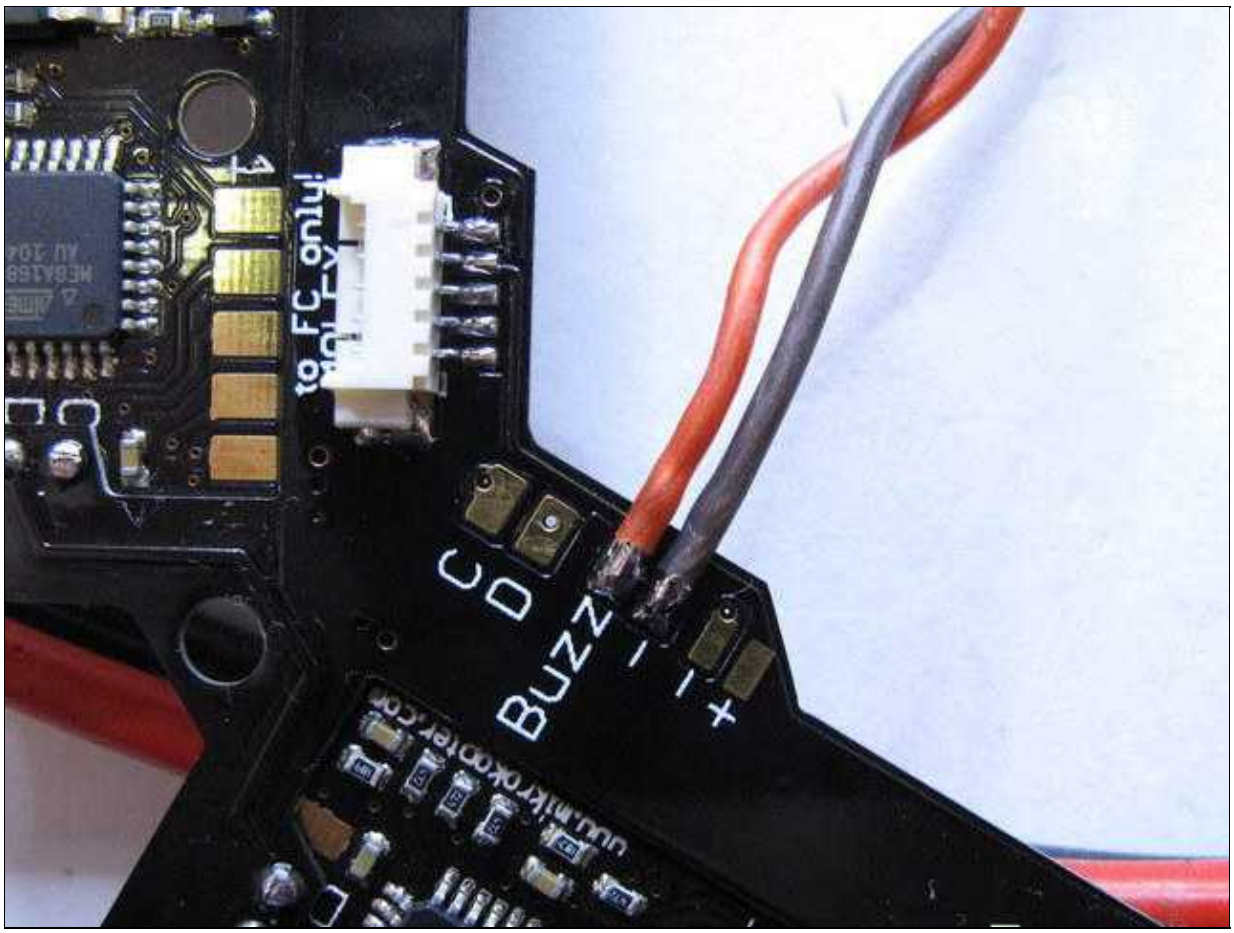


Connect the Buzzer

You can mount the buzzer on a rigger or with a Buzzer Adapter board.
If you use a MK3Mag and the buzzer would be to close to the compass, the compass readings could be disturbed!

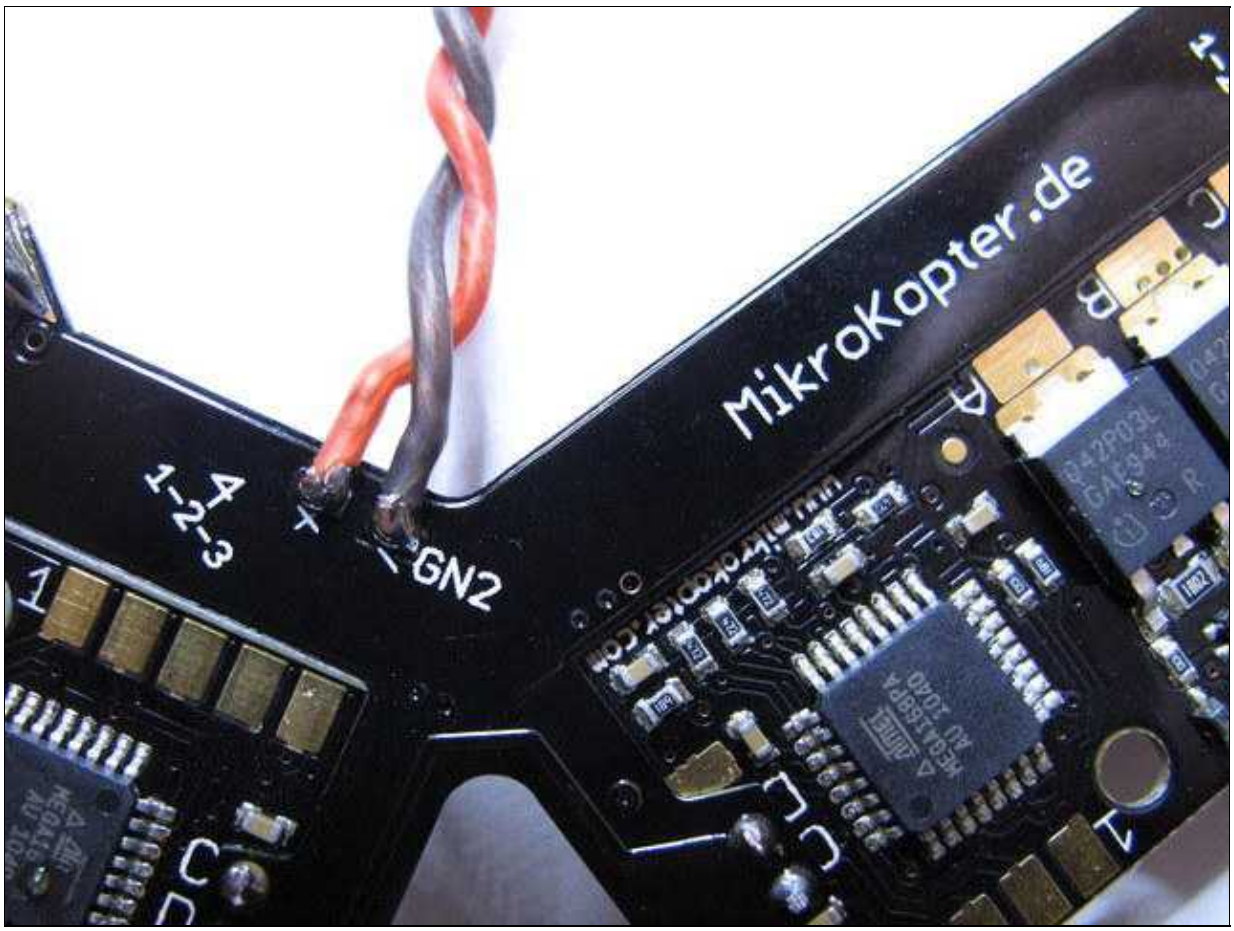
Solder the Buzzer on the "Buzz"-Pad (+) and "-"-Pad.

- buzzer plus = red cable = "Buzz"
- buzzer GND = black cable = "-" = "minus"



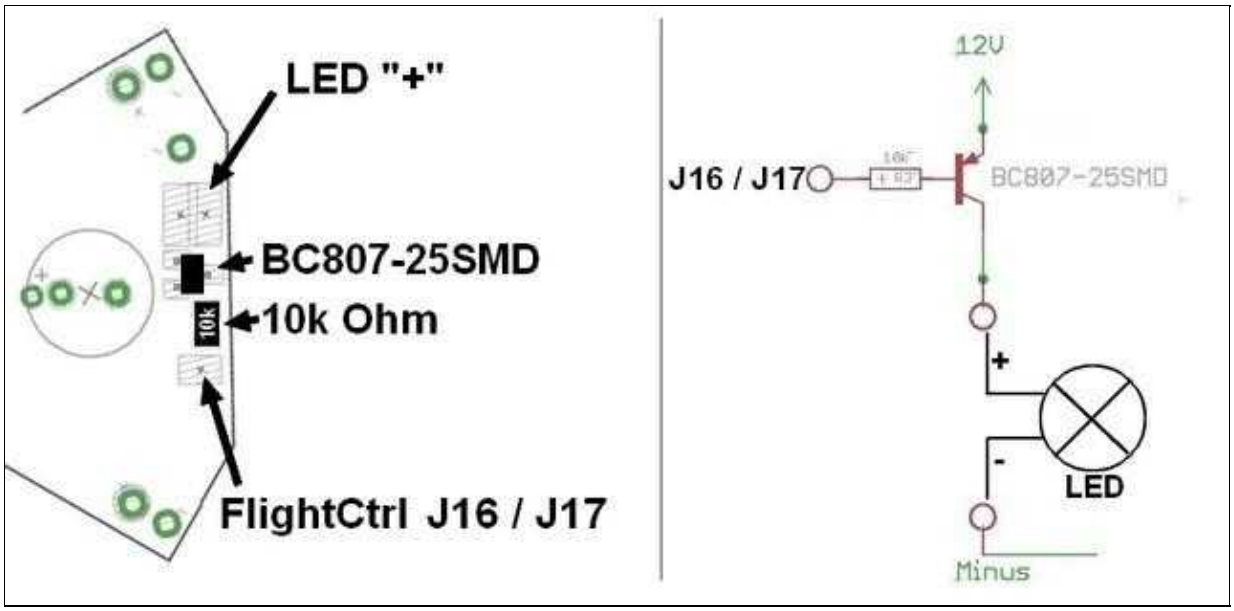
Lighting

You can connecting the lighting (LED) directly to one of the three internal "+" and "-" pad.



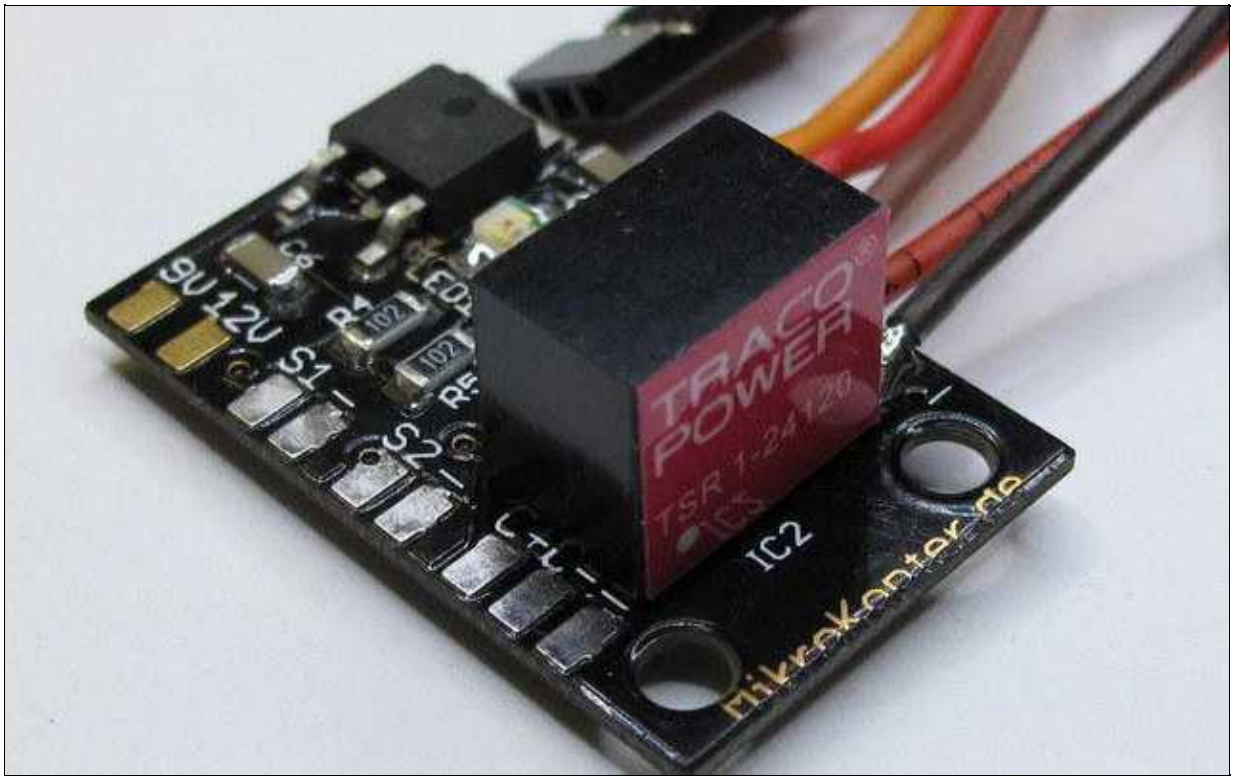
Lighting shiftable (1)

If you want to make its lighting switchable or implement a flashing pattern on the FlightCtrl, a small circuit are soldered to the power distribution.
There are three areas on the powerboard available. The circuit consisting of a 10K Ohm resistor and a BC807 transistor.
The input of the circuit is then placed on one of the outputs of FlightCtrl (J16/J17) and the "+" cable of the LEDs to the output of the circuit.



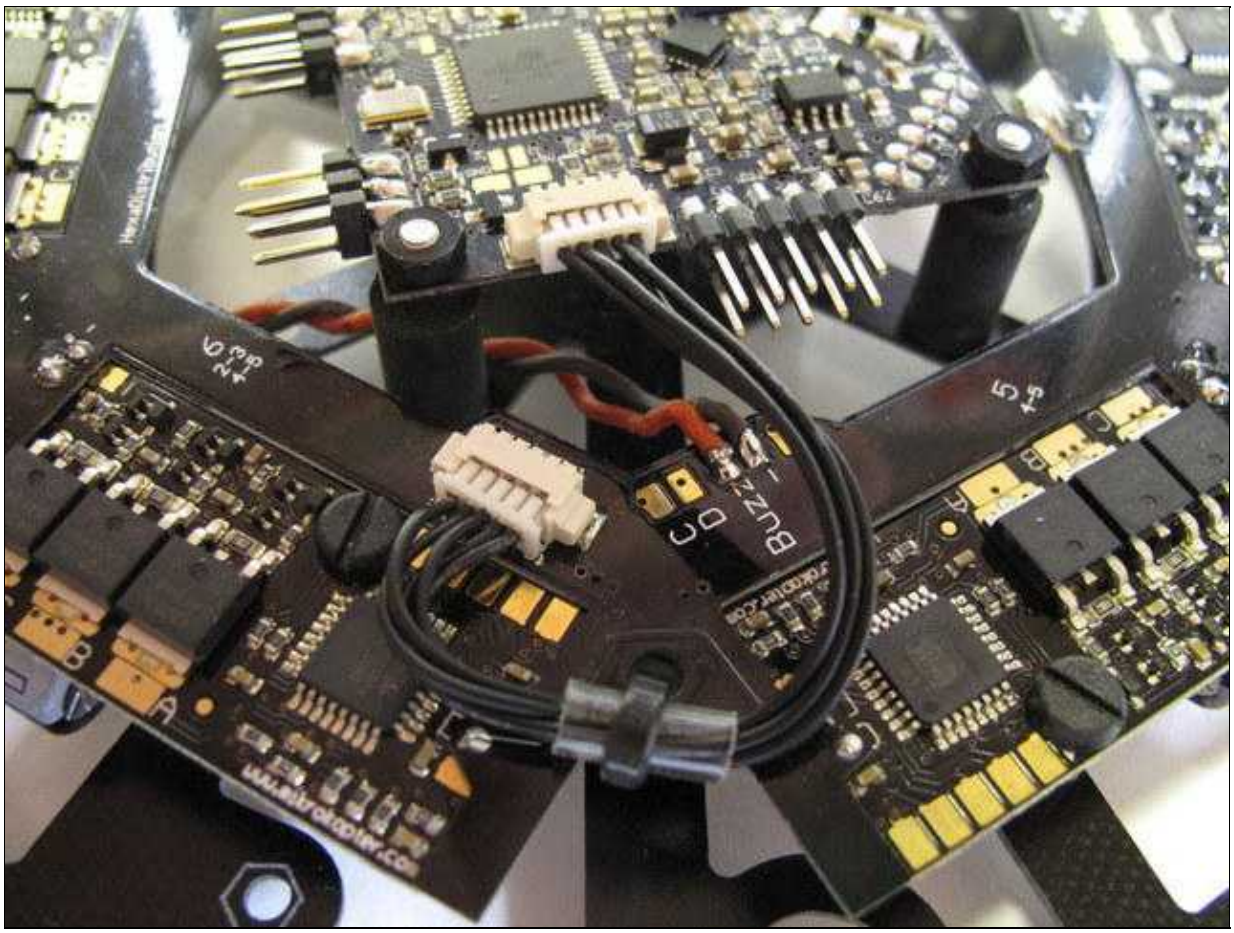
Lighting shiftable (2)

Also you can use the optional ExtensionPCB for this purpose. The connection is described here:: ExtensionPCB



connect the FC

The FlightCtrl2.1 can connected later with the Molex-cable.



The printed arrow on the FlightCtrl must show to the on the rigger No.1 (red rigger) !