

en/FlightCtrl_ME_2_5

18

LotharF
MikroKopter.de

Inhaltsverzeichnis

<u>1 Flight Ctrl V2.5</u>	1/12
<u>2 Connections</u>	2/12
<u>2.1 connections Top</u>	2/12
<u>2.2 connections Bottom</u>	2/12
<u>2.3 Connecting Molex</u>	3/12
<u>3 Connection Diagram</u>	4/12
<u>3.1 Connection Serial Port (SV1)</u>	4/12
<u>3.2 Connection SV2</u>	4/12
<u>3.3 Connection SV3</u>	5/12
<u>3.4 Connection SV4</u>	5/12
<u>4 Receiver Connections</u>	6/12
<u>4.1 Standard PPM receiver</u>	6/12
<u>4.2 Spektrum Satellit receiver</u>	6/12
<u>4.3 Jeti receiver</u>	7/12
<u>4.4 HoTT receiver</u>	7/12
<u>4.5 Futaba S.Bus receiver</u>	8/12
<u>5 Circuit diagram</u>	9/12
<u>6 Other</u>	10/12
<u>7 Settings</u>	11/12
<u>8 Specifications</u>	12/12

1 Flight Ctrl V2.5

The !Flight-Ctrl V2.5 is now equipped with a new pressure sensor and a more powerful ACC sensor. Now we have a significantly better height control and flights are possible up to 5000mtr.

The [FlightCtrl](#) V2.5 is shipped with:

- already assembled cables for:
- a PPM Sum signal receiver
- and a Telemetry connection
- already installed with the latest software
- fully tested for functionality

INFO:

You can use the FlightCtrl V2.5 only with the MikroKopter Software since Version V2.00d !

TIPP:

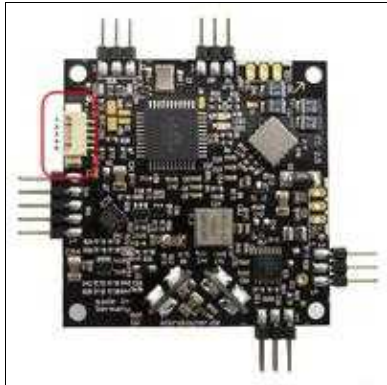
Below you can download a finished setting for the FlightCtrl where all functions are already set.

New thing on the FlightCtrl V2.5:

- new Air pressure sensor (with light / wind protection)
- new ACC-Sensor
- better altitude control
- less sensitive to vibrations (all Axis)
- Altitude sensor work now up to 5000m
- LEDs on the switching outputs
- Voltage up to 7S (30V)
- Protection resistors to the servo outputs
- 400uF for better voltage regulation on the power supply
- Note: Not compatible with older firmware versions!

2 Connections

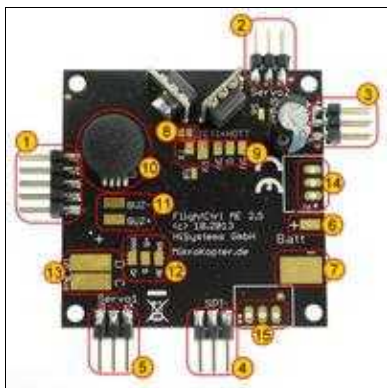
2.1 connections Top



Molex connector:

1. GND (FC und Summer)
2. + Buzzer
3. I2C Bus (D)
4. I2C Bus (C)
5. +12V (battery voltage)

2.2 connections Bottom



1. 10-pol connection strip (for MK-USB or to connect NaviCtrl)
2. 6-pol connection strip (Servo2 / Servo3)
3. 6-pol connection strip (Servo4 / Servo5)
4. 6-pol connection strip (SPI to NaviCtrl)
5. 6-pol connection strip (Servo1 / switching outputs Out1/Out2)
6. Connection Lipo (Plus) (not needed if you use the Molex connection)
7. Connection Lipo (Minus) (not needed if you use the Molex connection)
8. JETI+HOTT - Solder bridge. To send the telemetry data to a HoTT or Jeti transmitter. (Factory default)
9. Solder pads Tx, Rx, 3V, G (GND), 5V (See "Receiver Connections")
10. Air pressure sensor (with light / wind protection)
11. Connection Buzzer (BUZ-/BUZ+) (not needed if you use the Molex connection)
12. Connection PPM Sum signal receiver (GN=brown, +5=red, PPM=orange)
13. I2C connection (D/C) for BL-Ctrl (not needed if you use the Molex connection)
14. DC/DC converter 5V Recom (supply FlightCtrl) (Factory default)
15. DC/DC converter 5V Recom (supply Servos) (Factory default)

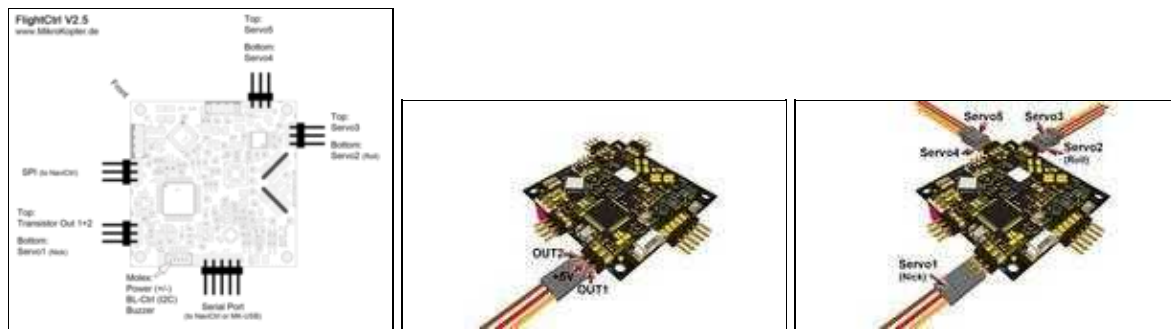
2.3 Connecting Molex



[suitable Molex connector for "XL" power distributor in the shop](#)
[suitable Molex cable for "XL" power distributor in the shop](#)

INFO: MK is switched on by connecting in the Lipo.

3 Connection Diagram



3.1 Connection Serial Port (SV1)

.

3.2 Connection SV2

Top row (outputs OUT1/OUT2)

Pin1: 100mA switching output NPN Open Collector e.g. for Shuttercable. Programmable in [KopterTool](#) with OUT1.

Pin3: +5 Volt

Pin5: 100mA switching output NPN Open Collector e.g. for LEDs. Programmable in [KopterTool](#) with OUT2.

Bottom row: Nick servo output

Pin2: Servo1 output (for Nick-Servo camera mount) ([Setting KopterTool](#))

Pin4: +5 Volt

Pin6: GND / Minus

Note: The servo outputs are activated only after the gyros are calibrated (Throttle up + yaw left).

3.3 Connection SV3

Top row (Servo 3)

Pin1: Servo3 output

Pin3: +5 Volt

Pin5: GND / Minus

Bottom row: Roll servo output

Pin2: Servo2 output ([Setting KopterTool](#))

Pin4: +5 Volt

Pin6: GND / Minus

3.4 Connection SV4

Top row (Servo 5)

Pin1: Servo5 output

Pin3: +5 Volt

Pin5: GND / Minus

Bottom row (Servo 4)

Pin2: Servo5 output

Pin4: +5 Volt

Pin6: GND / Minus

4 Receiver Connections

Please be sure that the correct receiver is set in the settings under "Channels".

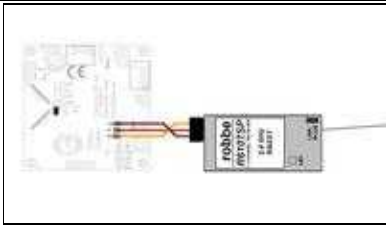
4.1 Standard PPM receiver

z.B.

- [DSL4TOP](#) (35/40MHz)
- [R6107SP](#) Futaba 2,4GHz

Connection:

PPM - Sum signal		
<i>Pad</i>	Function	cable collar
GN	GND/Minus	black or brown
+5	Plus 5V	red
PPM	data line	orange

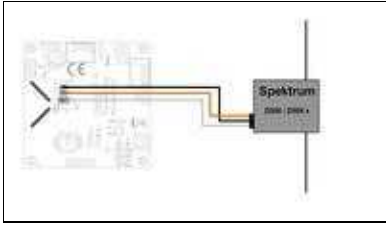


To enlarge - click the image

4.2 Spektrum Satellit receiver

Connection:

Connection to 2nd serial interface		
<i>Pad</i>	Function	cable collar
G	GND/Minus	black
3V	Plus 3V	orange
RX	data line	gray



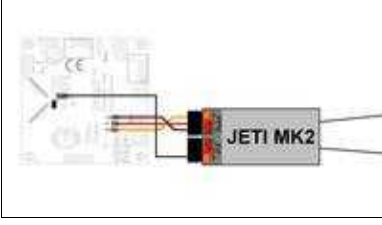
To enlarge - click the image

Siehe auch: [Spektrum](#)

4.3 Jeti receiver

Connection:

PPM - Sum signal + Telemetry connection		
<i>Pad</i>	Function	cable collar
GN	GND/Minus	black or brown
+5	Plus 5V	Rot
PPM	data line	orange
RX	Telemetry connection	arbitrarily
JET	Solder bridge for Telemetry	-



To enlarge - click the image

See also: [JetiDuplex](#)

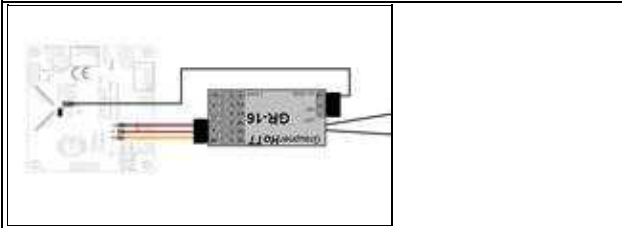
4.4 HoTT receiver

The HoTT receiver is also connected to the PPM and the RX pad. To send the telemetry data to the transmitter, the solder bride "JETI+HoTT" have to be closed.

More information how to connect, set and use a HoTT Transmitter/receiver can be found here: [HoTT](#)

Connection:

PPM - Summensignal + Telemetrieanschluss		
<i>Pad</i>	Funktion	cable collar
GN	GND/Minus	black or brown
+5	Plus 5V	red
PPM	Datenleitung	orange
RX	Telemetrieanschluss	arbitrarily
JET	Solder bridge for Telemetry	-



To enlarge - click the image

4.5 Futaba S.Bus receiver

You can connect a S.Bus receiver with a Signal-Inverter on the FlightCtrl.

Here you can order the needed inverter: [Shoplink](#)

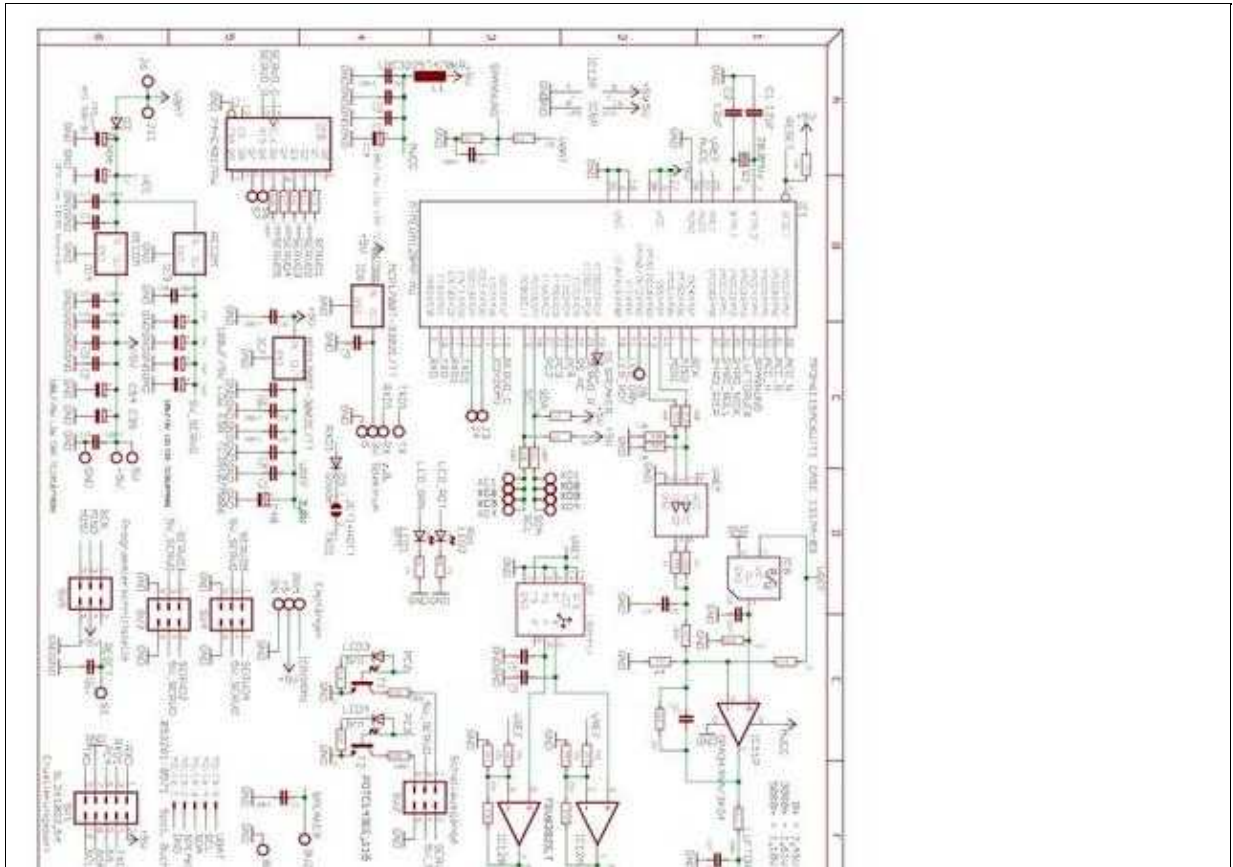
⚠ Please set the receiver to **"normal" mode** (The LED of the receiver will be short red if you power up the receiver), **do not** set to "High-Speed" (Receiver LED is Green/Red (or orange) if you power up the receiver)

Connection:

Connection to 2nd serial interface		
<i>Pad</i>	Funktion	cable collar
5V	Plus 5V	red
G	GND/Minus	black or Brown
RX	Datenleitung	orange

To enlarge - click the image

5 Circuit diagram



⚠ The use of the [MikroKopter](#) software is only allowed on original hardware.

6 Other

- The Bootloader of the FC2.5 is not for free.
- If you have damage the Atmega you can buy a new one include bootloader here: [here](#)
- Please do not use a ISP programmer to upgrade the FlightCtrl. This can clear the Bootloader.

7 Settings

Here you can download the latest SW Version and a setting for the [FlightCtrl](#) where all is set: [Download](#).

Here you can see the channel setting:

.

(To enlarge -> click on image)

8 Specifications

- 3S-6S
 - 2 adjustable outputs with LED indicator on FlightCtrl
 - 5 Servo output
 - Connections for Set Navigation
 - Altitude sensor (up to 5000m)
-

- [KategorieMK-Baugruppe/de](#)