

Aplikace ZYX-M

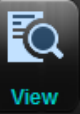
Po připojení dronu s jednotkou ZYX-M k počítači s nainstalovaným programem ZYX-M Assistant je nutné provést naprogramování jednotky.

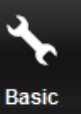
Doporučené naprogramování pro základní sestavu včetně gimbalu.


1. View - Stručný přehled nastavení

ZYX-M Assistant

语言 (Language)

View

Basic

Advanced

Tool

Info

COM4

Write Flash

Disconnect

Mounting

MC Orientation: Forward

MC X(cm): 0 GPS X(cm): 0

MC Y(cm): -6 GPS Y(cm): 5

MC Z(cm): -3 GPS Z(cm): -12

Aircraft

Model Type: Quad-rotor X

RC

Receiver Type: SBUS

Basic Gain

Pitch: 35

Roll: 35

Yaw: 92

Vertical: 30

Channel Monitor

Aileron L R 0

Elevator F B 0

Throttle D U 0

Rudder L R 0

Mode -100

Channel Mapping

Attitude Gain

Pitch: 25

Roll: 25

Vertical: 30

Motor

Motor Idle Speed: Lower

F/S

FailSafe Methods: Go-Home

Go-Home Heading: Backwards

IOC

Intelligent Orientation Control: OFF

Voltage

Current Voltage(V): 11.29

First Level Protection: 11

Second Level Protection: 10.5


Parameters uploaded OK


Connected


2a Basic - Aircraft – volba rozložení motorů a test. Před testem VŽDY sejměte vrtule. Pokud to nebudete dělat, vrtule vás poraní – otázkou je jen kdy k tomu dojde.


ZYX-M Assistant


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Disconnect

Aircraft

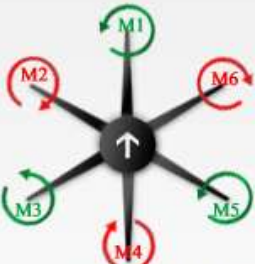
Mounting

Receiver




Gain




CH Mapping




Hexa-rotor I



1. Motor Test is used to check the rotation direction of motors and the connections between ESCs and main controller.
2. Make sure the mounting direction of the propeller and the rotation direction of the motor are the same.







Motor Test

Parameters uploaded OK

Connected

2b Basic – Mounting – souřadnice pozic hlavní jednotky a sondy GPS

ZYX-M Assistant语言 (Language)COM4Write FlashDisconnect

View**Basic****Advanced****Tool****Info**

Aircraft**Mounting****Receiver****Gain****CH Mapping**

Main Controller and GPS Mount


Please prepare the mounting of Main Controller and GPS according to this page:

1. Ensure that all the components have mounted on the aircraft, such as the battery, gimbal and camera.
2. Balance the components to make the c.g. of the aircraft on the center plate.

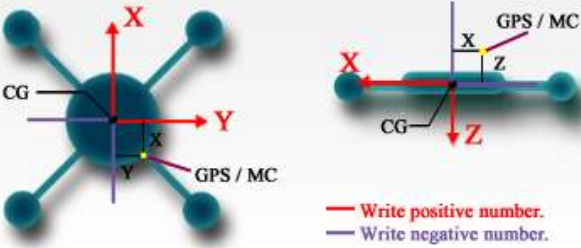
Main Controller

1. It should mount to somewhere near the c.g. of the aircraft with tiniest vibrations.
2. The side with Arrow marks should face to sky and parallel to the aircraft body.
3. If the c.g. changes, please re-configure.

Main Controller Orientation



Mounting Location



— Write positive number.
— Write negative number.


MC X	0cm
MC Y	-6cm
MC Z	-3cm
GPS X	0cm
GPS Y	5cm
GPS Z	-12cm


Parameters uploaded OKConnected


2c Basic Receiver – volba typu přijímače


ZYX-M Assistant


语言 (Language)

 View

 Basic

 Advanced

 Tool

 Info

COM4

Write Flash

Disconnect

Aircraft

Mounting

Receiver

Gain

CH Mapping

Tx/ Receiver Channel Settings

Before setup, please make sure connections between Tx and receiver are correct.

Recommended Tx
PCM or 2.4GHz with at least 7 channels.

Tx Settings

1. Set to AERO Model Type.
2. Set all curves (pitch, throttle, expo, rates, etc) as default. Set the endpoints of all channels to default values (100%) and all trims and sub-trims to zero.

Attention!
Please power cycle flight controller and re-configure all the settings when Tx or Receiver Settings have been changed.

Receiver Type

SBUS

Cut Off Type

☐ Immediately

☒ Intelligent

Control Mode Switch

Att.

FailSafe

Att.

FailSafe

GPS Vel.

Rev.

Parameters uploaded OK

Connected

2d Basic Gain – nastavení základních zisků

ZYX-M Assistant

语言 (Language)

COM4

Write Flash

Disconnect

View

Basic

Advanced

Tool

Info

Aircraft

Mounting

Receiver

Gain

CH Mapping

Gain Adjustment

Due to differences of various aircrafts, electron speed regulators, motors and propellers, you should adjust the gains of aircrafts to achieve better flight experience.

Tips

- Pitch, roll, pitch attitude, and roll attitude gains of hexa-rotors are higher than those of quad-rotors.
- If the components of the aircraft are not compatible, adjusting gains cannot achieve a satisfactory result.

Basic

Pitch

35

Roll

35

Yaw

92

Vertical

30

Attitude

Pitch

25

Roll

25

Vertical

50

Advanced

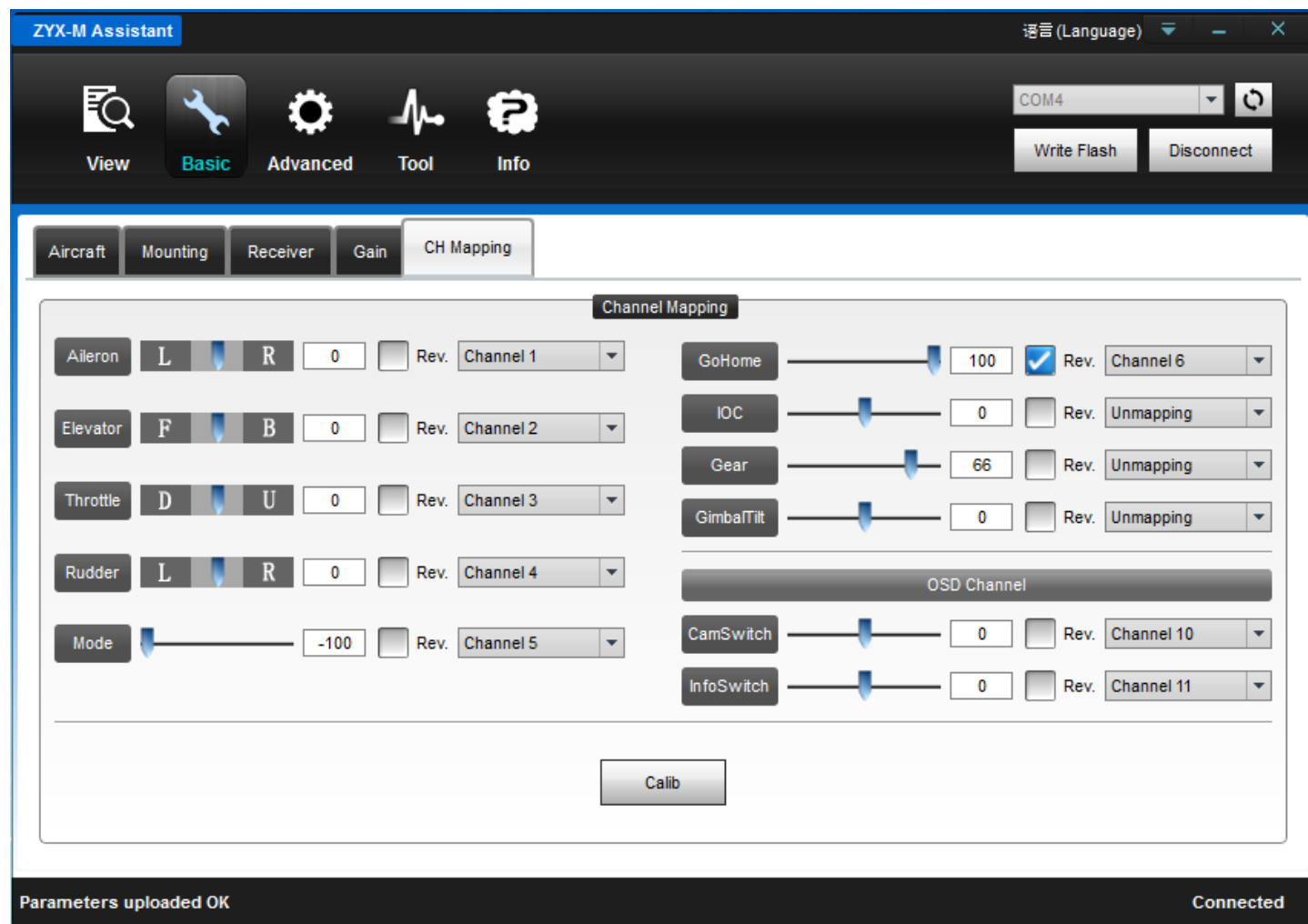
Heading Lock Ability

30

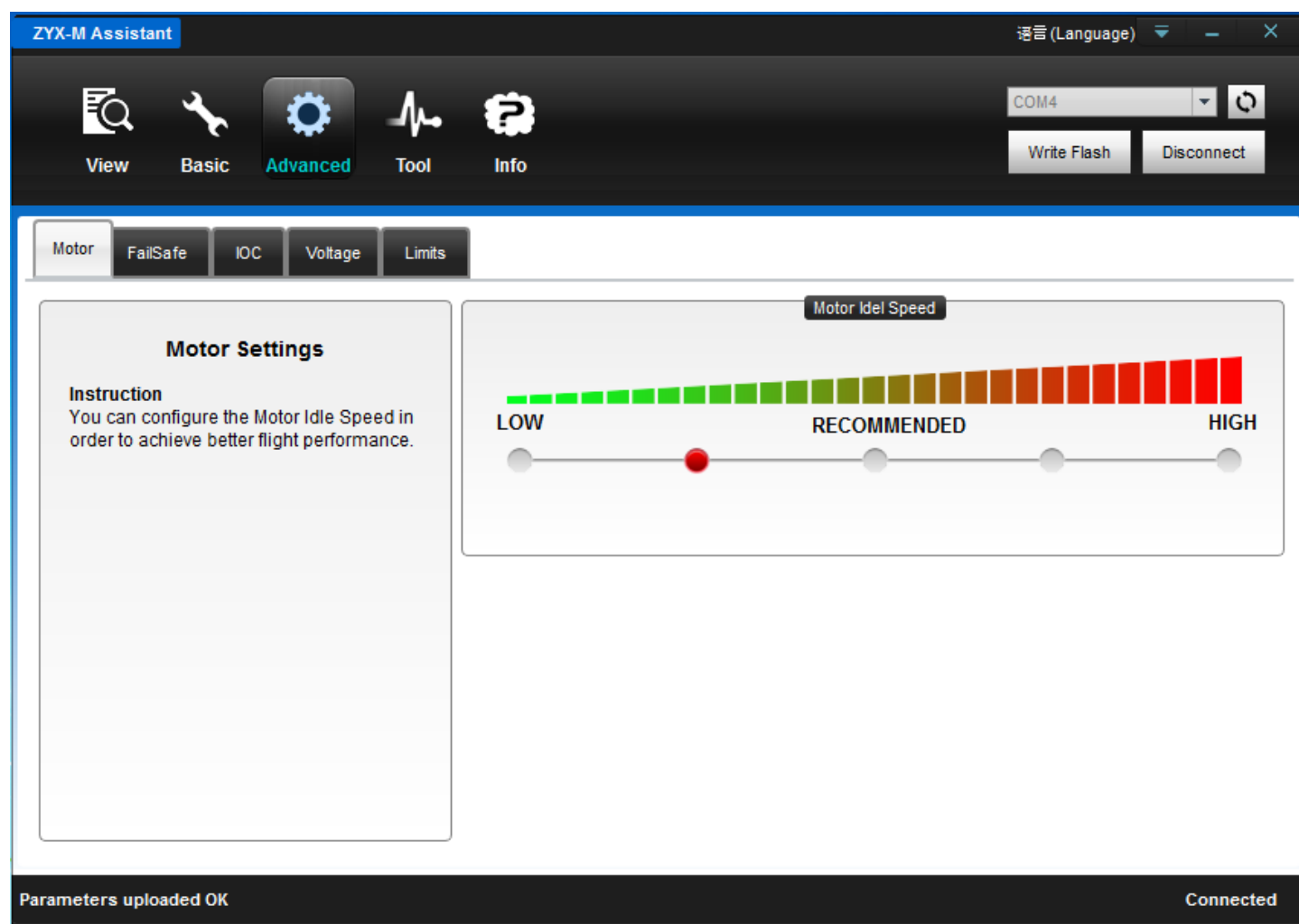
Parameters uploaded OK

Connected

2e Basic CH Mapping – mapování dalších použitých kanálů: mode, dále např. ovládání gimbalu, sklopného podvozku, OSD atd.



3a – Advanced Motor – nastavení volnoběžných otáček



3b Advanced FailSafe – způsob automatického návratu

ZYX-M Assistant

语言 (Language)

View

Basic

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Tool

Info

COM4

Write Flash

Disconnect

Motor

FailSafe

IOC

Voltage

Limits

Failsafe Settings

Instruction
Failsafe protects the aircraft from falling when no R/C signal could be detected. Flight control system supports the multi-rotors to hover or fly back to the home point and land.

Home point
When 6 or more GPS Satellite have been found before taking off and the motor has been turned on for the first time, the position will be recorded as home point. If GPS Module has not been positioned before taking off, as at least 6 GPS Satellite have been found, that position will be marked as home point.

Failsafe Methods

☐ Hover

☒ Alt Go-Home

Go-Home Alt

20m

Go-Home Heading

☐ Towards

☒ Backwards

One Key Go-Home

☒ Rev.

Start

Standby

Parameters uploaded OK

Connected

3c Advanced IOC – je možno nastavit

- CL: směr letu vpřed je shodný s nosem dronu
- HL: dron se řídí pákami, bez ohledu na natočení kolem svislé osy
- POI: dron může letět po kružnici kolem stanoveného bodu

ZYX-M Assistant

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Basic

Advanced

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Info

COM4

Write Flash

Disconnect

Motor

FailSafe

IOC

Voltage

Limits

You can adjust the forward direction during IOC flight, which contains:

- Course Lock (CL): the forward direction of aircraft is as same as the recorded nose direction. It does not change until re-record or quit from CL.
- Home Lock (HL): the forward direction is as same as the direction from home point to the aircraft. You can control the aircraft to fly away or towards the home point. The forward direction has nothing to do with the nose direction of aircraft.
- Point of Interested (POI): the forward direction is as same as the direction from interested point to the aircraft. After the interested point has been recorded, you can control the aircraft to fly around the point. The nose direction of aircraft always points to the interested point.

Intelligent Orientation Control

☐ IOC Enable

OFF

Course Lock

Home Lock

☐ Rev.


Parameters uploaded OK


Connected


3d Advanced Voltage – nastavení velikosti napětí a činnosti dronu po poklesu napětí na danou mez


ZYX-M Assistant


语言 (Language)

View

Basic

Advanced

Tool

Info

COM4

Write Flash

Disconnect

Motor

FailSafe

IOC

Voltage

Limits

Low-voltage Alert

Instruction

We design two levels of low voltage protection to avoid accidents. We strongly recommend you to turn on this function in the assistant software.

When the voltage is too low, low voltage protection works to protect your aircraft from falling down.

Voltage


Current Voltage(V) 11.26V

Recommend Settings

Calibration Voltage 12.36V


Calibration

First Level Protection

No Load 11.00V

Safeguard: ☒ LED Warning ☐ LED Warning and GoHome Landing

Second Level Protection

No Load 10.50V

Safeguard: ☐ LED Warning ☒ LED Warning and Decending


Parameters uploaded OK


Connected


3e Advanced Limits – omezení prostoru, ve kterém může dron letět


ZYX-M Assistant


语言 (Language)

View

Basic

Advanced

Tool

Info

COM4

Write Flash

Disconnect

Motor

FailSafe

IOC

Voltage

Limits

Flight Limits

- According to the airspace control regulations of ICAO and countries, drones should fly within the stipulated airspace.
- For safety considerations, ZYX-M enables Flight Limits functions by default to help users to fly safely and legally, including Altitude Limit, Distance Limit and Forbidden Area Limit.
- The aircraft will be influenced by Altitude Limit, Distance Limit and Forbidden Area Limit together.

Altitude Limit

Max Altitude120m

Distance Limit

Max Radius300m

Forbidden Area Limit

☒ ON☐ OFF

Parameters uploaded OK

Connected

4 Tool – kalibrace senzorů (jen pokud dojde k porušení kalibrace)

ZYX-M Assistant

语言(Language)

View

Basic

Advanced

Tool

Info

COM4

Write Flash

Disconnect

Sensors Calibration

- When the flight controller is stationary and the module value of gyroscope is over 0.2, you should calibrate the gyro. Procedures: keep the flight controller stationary. Click "Calibrate Gyroscope", until the status bar shows OK.
- When the flight controller is stationary and the module value of accelerometer is over 10.0 or less than 9.6, you should calibrate the accelerometer. Procedures: remove the flight controller from aircraft, and click "Calibrate Accelerometer". Put the main controller on a level table and make sure all the six sides have been placed in turns for 2 seconds, until the status bar shows OK.

Write Flash

- Please Click "Write Flash", when all the parameters have been modified

Gyroscope(degree/s)

X 0.0 Y 0.0 Z 0.0 Mod 0.0

Accelerometer(m/s²)

X -0.1 Y -0.2 Z -9.9 Mod 9.9

Attitude(degree)

Pitch 0.2 Roll 0.3 Heading 136.0

Altitude(m)

-0.0

Export Parameters

Import Parameters

Restore Default Settings

Calibrate Accelerometer

Calibrate Gyroscope


Parameters uploaded OK


Connected


5 Info – informace o aktuální verzi firmware


ZYX-M Assistant


语言 (Language)

View

Basic

Advanced

Tool

Info

COM4

Write Flash

Disconnect

Firmware Upgrading

Firmware Upgrading

1. Make sure the Internet is available. Connect USB Module to the computer, refresh COM port and choose the right COM port.
2. Connect Flight Controller and GPS Module through USB Module. Power on the Flight Controller, click "GPS Module Upgrade", and then click "Flight Controller Upgrade". Click Upgrade in the popping-up window and wait for upgrading progress.
3. If the Internet is NOT available or the online upgrade is not OK, please upgrade the firmware offline.(NOT Suggested).

Attention!

- After upgrading, please calibrate Gyro and Accelerometer. Otherwise, motors cannot be turned on.
- After upgrading Flight Controller

Device

Device Type: ZYX-M

Firmware

GPS Module Upgrade 1.20

Flight Controller Upgrade 1.40

Off-line Upgrade:

Open Firmware

Start Upgrade

Software Info

Software Version: V1.50

Update Online

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Parameters uploaded OK

Connected