ConfigTool

ConfigTool is a command line tool designed to optimize multiple drones firmware installation and initial configuration.

Requirements :

- Windows operation system.
- Pixhawk based autopilot. (Pixhawk, Dropix or Pixhawk2.1)
- Firmware for autopilot (*.px4)
- Parameters file (*.param).

Usage:

ConfigTool.exe [-f firmware_file] [-p param_file] [-a] [-c] [-i id] [-udp port] [-h]
>   -f - path to firmware file
>   -p - path to parameters file
>   -a - do accel calibration
>   -c - do compass(es) calibration
>   -i - UAV id to be set
>   -baud - baud rate for the com port
>   -udp - set UDP port to establish UDP connection rather then serial
>   -h - Show this help
Example : ConfigTool.exe -f firmware.px4 -p 1.param -i 101
>   Will upload firmware.px4, set parameters from 1.param and set UAV identificator to 101
Example : ConfigTool.exe -c -a
>   Will start accelerometers and complass calibration process.

Firmware update

ConfigTool.exe –f myfirmware.px4

Connect autopilot with workstation via USB cable.
Tool will detect corresponding com port and will start firmware update process.
If previous firmware differ from current version, you'll be asked to input new vehicle identity.

Enter UAV identity 2-255 (any other value to abort) :

It will reboot autopilot and exit once completed.

Setting UAV identity

ConfigTool.exe –i 101

If previously UAV had a different identity you'll be prompted to confirm rewriting.
ATTENTION! The UAV identificator will be CHANGED from 2 to 101. Yes[y]/No[n]:y
Setting UAV identificator to 101...Done.

Writing parameters

ConfigTool.exe –p myparamfile.param

Parameters will be read from *myparamfile.param* and saved into autopilot.

Accelerometer calibration

ConfigTool.exe –a

Follow the text tips:

Starting accel calibration.
Place vehicle level and press any key.
 Place vehicle on its LEFT side and press any key.
 Place vehicle on its RIGHT side and press any key.
 Place vehicle nose DOWN and press any key.
 Place vehicle nose UP and press any key.
 Place vehicle on its BACK and press any key.
 Accel calibration complete

Compass calibration

ConfigTool.exe –c

If the only one compass installed, then the output will be similar to:

Starting compass calibration.
Rotate the vehicle...
Compass:0 progress:0%
Compass:0 progress:0%
Compass:0 progress:5%
Compass:0 progress:15%
Compass:0 progress:22%
Compass:0 progress:32%
Compass:0 progress:48%
Compass:0 progress:75%
Compass:0 progress:88%
Compass:0 progress:98%
Compass:0 progress:99%
Compass:0 x:-76,2 y:69,3 z:-218,9 fit:9,8 MAG_CAL_SUCCESS
Compass calibration complete.
Rebooting…

All at once

All operation above can executed with a single line:

ConfigTool.exe –f myfirmware.px4 –p myparams.param –i 100 –c –a

Logging

Result of all completed operation are saved into csv file under log directory.