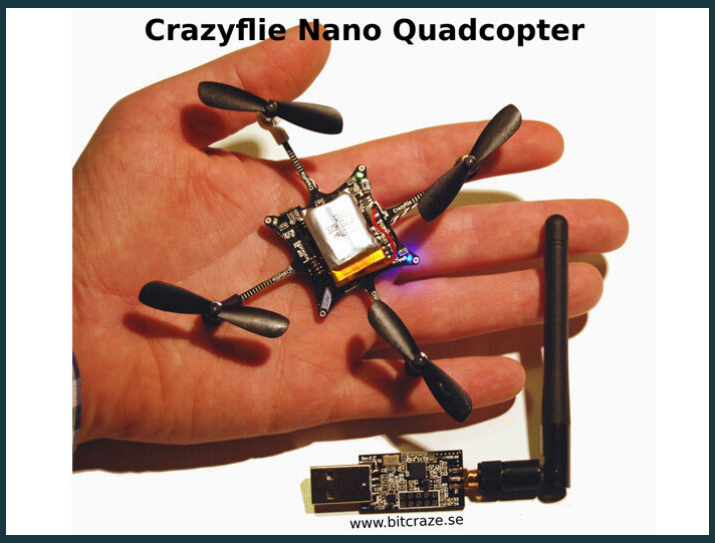
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INDUSTRIAL PRODUCT DATASHEET

Crazyflie Nano Quadcopter Kit 10-DOF with Crazyradio (BC-CFK-02-B)

The Crazyflie Nano Quadcopter Kit 10-DOF is an open-source, 19g nano quadcopter development platform with extra sensors and a Crazyradio 2.4 GHz USB dongle for wireless control and telemetry.

SKU	UPDATED	PRICE
110990033	2024-08-09 02:11:27	$143.00(Excl. VAT)



Overview



The Crazyflie Nano Quadcopter Kit 10-DOF (BC-CFK-02-B) is an open-source, 19-gram nano quadcopter development platform with a 9 cm motor-to-motor distance, designed for flexible hacking and indoor flight. This version includes additional 3-axis magnetometer (HMC5883L) and high-precision altimeter (MS5611-01BA03) sensors for potential heading and altitude control, though firmware support is not yet available.

Key Features

This is old version Crazyflie, you can consider upgrated product **Crazyflie 2.0 DIY** Kit as substitute product.

Ever wanted a development kit that flies? Well now you can! The Crazyflie is an open source nano quadcopter kit designed for flexible development and hacking. It's among the smallest in the world, weighing only 19 grams and measuring 9 cm motor to motor.

The development platform is open source so schematics and firmware/host source code is available at the Bitcraze website as well as a Wiki with design information and details on how to set up the development environment and get started. It's designed with development in mind and has an expansion header that enables developers to expand the platform as well as good software development support. Due to it's small size it's perfect for developing new software and can easily be flown inside. It can lift a payload of up to 5 - 10 g.

This is the 10 DOF version of Crazyflie that integrate extra sensors for altitude and heading measurement. There is yet no firmware support for these sensors but they have the potential to enable heading and altitude control. If you want to develop a new algorithm or if you want to be able to use some advanced algorithm that might be created for these sensor you should definitely consider the 10-DOF version.

A 2.4 GHz radio chip from Nordic Semiconductors is used for receiving commands and sending telemetry data back to the host computer. The communication with the host is made possible by using the Crazyradio 2.4 GHz USB radio dongle. The Crazyradio can be connected to a PC (with support for Windows and Linux) but also to other hosts that support USB Host or OTG like Android phones. Mac OSX currently has beta support handled by the community.

The Crazyflie Quadcopter is shipped pre-programmed but can easily be wirelessly updated via a radio bootloader from a host PC, so no JTAG is required for reprogramming. For advanced development and debugging there's also an accessible JTAG interface.

This kit requires soldering skills and is not for beginners. It is not a toy and should be handled with care.

Crazyflie Features

- · Small and lightweight, around 19g and about 90mm motor to motor
- · Flight time up to 7 minutes with standard 170mAh Li-Po battery
- · Standard micro-USB connector for charging which takes ~20min for the stock 170mAh Li-Po battery
- · On-board low-energy radio@1mW based on the nRF24L01+ chip. Up to 80m range (environment dependent) when using the Crazyradio USB dongle
- · Radio bootloader which enabled wireless update of the firmware
- · Powerful 32 bit MCU: STM32F103CB @ 72 MHz (128kb flash, 20kb RAM)
- · 3-axis high-performance MEMs gyros with 3-axis accelerometer: Invensense MPU-6050
- · 3-axis magnetometer HMC5883L (compass)
- · High precision altimeter MS5611-01BA03
- · Expansion header 2×10 pins 1.27mm (0.05") pitch including power, I2C/UART, SPI/ADC. Header also contains ARM Cortex 10-pin JTAG (header not included)
- · 4-layer low noise PCB design with separate voltage regulators for digital and analog supply

Crazyradio Features

- · 2.4GHz radio communication
- · 0dBm output power (1mW)
- · 125 radio channels
- · 2Mbps, 1Mbps and 250Kps communication data-rate
- · Sends and receives data packets of up to 32 bytes
- · Automatically handles addresses and packet ACK
- · Hardware support for PPM input (no software support yet)
- · Can be powered with up to 16V via header
- · Tested up to ~80m range at 250Kbps

Kit Includes

- · 1 x Crazyflie control board
- · 1 x Crazyradio
- · 1 x Duck antenna 2 dBi
- · 5 x Motor mounts
- · 5 x Coreless DC motors
- · 5 x CW propeller
- · 5 x CCW propeller
- · 1 x LiPo battery
- · 1 x 2*5 pins 1.27mm (0.05") pitch header.

What is not included but needed for flying

- · A standard micro-USB cable for charging
- · A PC compatible joystick
- · A PC

Needed for Assembly

- · A soldering iron
- · Solder

Resources

- · **Assembly instructions**
- · **Crazyflie Wiki**
- · **Crazyradio Wiki**
- · **Forum**

- · Bitcraze

Support

- If you have any further question for technical support, please contact **support(at)bitcraze.se**.

Disclaimer

- Each part of the Crazyflie Nano Quadcopter Kit is tested before it leaves the factory, but please keep in mind that the kit is still experimental, unproven hardware. This hardware is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

Compliance & Logistics

HSCODE	9023009000

Resource Links

- https://www.seeedstudio.com/Crazyflie-Nano-Quadcopter-Kit-10-DOF-with-Crazyradio-BC-CFK-02--p-1365.html

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