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HOW TO BUY AND FLY A QUADCOPTER DRONE

A SMALL GUIDE AND FLIGHT SCHOOL

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1. Ready-to-fly quadcopters

Figure 1: RTF- quadcopter.

At the beginning of the development of quadcopters in the early 2000s one had to buy all the components separately. At that time there were only a few complete systems. So you had to assemble the systems by yourself – control electronics, brushless controllers, motors, propellers and frame. Then you had to download the appropriate software for the system. In those days, this kind of construction

required a good level of technical knowledge about the function of each component.

But the ongoing development of the electronics in recent years means that quadcopters are today mainly purchased by users as complete systems and RTF (‘ready to fly’). So today, for the pure fun of flying it is no longer absolutely necessary to understand the technology of these fascinating systems to the finest detail. And that’s good because in this way quadcopter systems can be made accessible to many model pilots.

Often there are model pilots from other sectors, e.g. aircraft, helicopter, car or ship model builders, who simply buy and fly such aircraft out of curiosity. Or there are complete newbies who have never previously come into contact with flight models.

The ‘ready to fly’ market goes hand in hand with a substantial price reduction. In the early years of development it was still necessary to pay about the same price for a quadcopter as for a large model helicopter, making many people think twice about whether they really want to start this hobby. Today, however, one sees quadcopters in all sizes and price ranges on the market. They start with the toy quadcopters, which are small and, despite their low price, often surprisingly robust, and finish with big quadcopters with several kilograms of weight and a payload to transport cameras for photo flight.

In this model division, a similar trend can be observed as with helicopter and airplane models. The smaller and cheaper systems are often built as ‘ready to fly’, while larger systems are often available as kits, with the possibility of software downloading and the installation of extensions, e.g. photo flight or GPS systems.

1.1 Indoors - outdoors

Figures 1 and 2 show RTF quadcopters which you can buy for a relatively small amount of money and which promise good fun flight already after a few minutes. You just need to take the quadcopter out of the box and charge the battery, and you’re ready. The size comparison with a credit card shows that even quite small miniature quadcopters can be built. The question of whether such systems can be operated both indoors and outdoors then arises. The situation is similar with model helicopters. In both cases, the smaller systems are more suitable for indoors, because of their small size. They often have too small a thrust to be used outdoors. This causes problems with the wind influences. They will sometimes be completely blown away. As soon as the systems are slightly larger than the smallest format, you can go outside on windless days and risk some test flights. From a propeller size of about 4 inches (about 10 cm) the produced thrust is quite suitable for use outdoors and the quadcopter is also able to withstand light wind influence. Then it is also really interesting for outdoor flights undertaken with built-in cameras.