Multipurpose modular drone with adjustable arms

The invention concerns the structural design of a modular drone so as to realize several configurations differing each other for the number of arms, motors, rotors, ability to be amphibious and to cover a pay-load. This is made possible by providing a universal support structure on which a plurality of adjustable "all-in-one" arms can be assembled in order to have a single versatile product useful for many purposes and functions.

IPC Codes

Keywords

- Modular drones
- All-in-one arms
- Multi-configurations
- Remote control
- Structural kit

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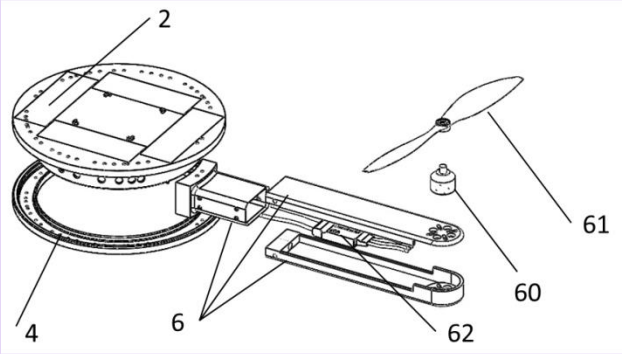


Description

The invention regards the design of a customized drone together with both a relative method of realization and a kit ready to use.

The novelty regards the modular features of a crown (see n°4) and of a circular plate (see n°2), coupled each other to form a track, allowing the coupling of different numbers of arms (from 3 up to 8).

Another novelty concerns the telescopic all-in-one structure of each arm (see n°6),. It is conceived as an adjustable box body, connected to the track, with at least one motor (see n°60), one rotor (see n°61) and one speed controller (see n°62) inside.

Moreover, in case of an amphibious configuration, an arm can include also an inflating means able to obtain an inflatable module.

Two additional elements can be also assembled to the crown/plate structure: a couple of covers to protect a potential pay-load, and a pairs of legs to ensure stability during landing.

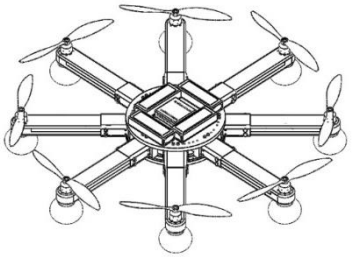
The control unit and some batteries, properly fixed over the main structure, allow the drone functioning.

Applications

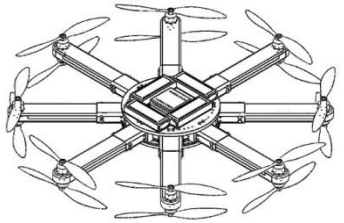
- Photogrammetry
- Areas Inspection and Mapping
- Sensors Handling
- Topography
- Military and aided operations
- Wireless communication support
- Recreational activity and hobby modelling

Advantages

- Modular function-specific drone
- Easy-of-use and low-cost kit
- All-in-one telescopic arms
- Higher stability during landing (also on water)
- Interchangeable pay-load



Amphibious Drone
(8 arms, each one with 1 motor, 1 rotor and 1 inflatable module)



Double-Rotors Drone
(8 arms, each one with 2 motors and 2 rotors)