SCCS

THE SURVEY EQUIPMENT COMPANY

G4 EAGLE

Product overview and performance features

MULTIROTOR by service-drone.de GmbH

Building professional multi-copter systems, marketing them internationally and offering them as an out-of-the-box solution was the idea of Graduate Engineer Oliver Knittel and Volker Rosenblatt. At a very early stage the founders of the company service-drone.de GmbH realised the enormous potential of flying UAV robots and focused on developing integrated and scalable system solutions for media, industry, defense, security and geodesy in particular. Service-drone was therefore one of the world's first providers of complete "ready-to-fly" systems, including user training, maintenance and service.

Since then the company has been growing rapidly. In the first business year of 2011, the team – which was still small – generated a turnover of €1 million. In 2012, the turnover was doubled, and the pre-tax profits even quadrupled. In 2013, major investments were made in the development of the acquired brand name of MULTIROTOR and our own MULTIROTOR G4 flying hardware and software: A worthwhile investment that from then on made our products freely scalable for any application and which was awarded with the 2014 ARTIE Innovation Award 2014.

Today MULTIROTOR is one of the leading manufacturers of advanced UAV systems. In the field of geodesy the MULTIROTOR G4 has become one of the most popular geo-copters, with more than 100 units sold within a period of just one year – with the figure increasing rapidly!

Why MULTIROTOR

Our systems are perfectly synchronized and have been developed for professional use and challenging tasks. Customers have a direct influence on our products and profit from our reliable service, consulting and training. Multirotor meets all requirements demanded today of operating safety and impresses with high quality service, which clearly marks us off from all competing products and makes Multirotor the market leader. The advanced flight electronics, for instance, keep our drones in the air even despite adverse weather conditions. Our customers receive a personalized and immediately usable product package.

Proven technology

This is the reason why demanding customers choose our products. Years of hard- and software development have had an influence on the newest generation of MULTIROTOR Flight-Control. After over 400 tested drones, our development department can offer a device concept, unique and superior to the rest of the market. Its intelligent functions, its security and intuitive operation makes the drone today's most efficient camera drone. Since the introduction of our MULTIROTOR G4 Technology, our customers have approved our products 100% oper ating safety - without e xception!

Made in Germany

Our flight electronic, developed and produced in Germany, is a result of our customers' high demand and not least because of our developers' high ambition to build the perfect multicopter. Berlin offers our distribution and administration department perfect conditions. In our location in Buchholz near Hamburg 20 highly qualified specialists currently produce our products.

MULTIROTOR G4 Eagle

Multifunctional, scalable for every application, hundredfold approved, redundant reliable and very easy handling.

- ✓ **Optimal for photography, movie, surveying, solar and technical applications**
- ✓ **Ideal platform for intervention, logistic etc.**
- ✓ **High wind stability up to 10 meter per second**
- ✓ **Autonomic flight-control with 2 km and 500 waypoints possible**
- ✓ **Fully redundant design for approved operation in Austria (optional)**
- ✓ **Most-sold product since 2010**

The model MULTIROTOR Eagle is our bestseller. A real allrounder! Our company has more than 300 content customers who use this product.

In this fourth generation now, the convincing features of the series before have been improved again. The MULTIROTOR G4 Eagle is equipped with MULTIROTOR Flight-Control, which offers an unmatched flight and image stability. The 32-bit-dual-processing-board incorporated in MULTIROTOR Flight-Control enables a processing power 10 times higher. Included are the most recent hardware components and a referenced GPS system. 512 times per second the system corrects the flight attitude and guarantees the safest drone flight of all times.

Furthermore, the G4 Eagle offers an exact camera work and flexibility for every application. As perfect standard systems, the most important videocameras Canon 5D Mark III and SONY HDR-PJ810 are integrable. An optional full integration with a 12x zoom, operated with a remote control, is available for the SONY HDR-PJ810. The LUMIX GH4, SONY ALPHA 7RII and SONY FDR-AX100E are also available for this system for surveying. When it comes to the maintenance of solar plants, the integration of the Optris PI LightWeight 640 IR has proven to be an ideal and affordable option. Other special cameras and sensor technology for further applications can easily be integrated; for instance, for applications in the agricultural sector.

With a minimized take-off weight and even more effective engines, the newest generation scores with the optional doubling of the battery power. An ideal package for long surveying flights and all other applications with obligatory long flight duration.

Together with the new transmitter, Jeti DC-16, of the exclusive MULTIROTOR edition offers a working device without competition, a state-of-the-art system. And of course: ready to fly. Including the no-panic function: The drone flies on its own. With no control impulses the Eagle stays in the air, on the same height level and in the same position. Numerous helpful and useful extras of the extra equipment pool can be combined with this unrivaled micro drone. Individual training of applicants and maintenance contracts, which conserve the value, and software updates are available options.

ARTIE Innovation Award 2014

Scope of supply and services

- MULTIROTOR G4 Eagle UAV 'ready to fly'
- MULTIROTOR flight-control – Winner Innovation Price 2014
- Software licence Multicontrol including registration
- Technical range 2,000 meter min.
- Autopilot with 250 meter flight radius, position hold, coming home, automatic treble control
- Gyro-stabilised camera mount (2 axes) with 90° pan
- Light and unbreakable full carbon frame
- Light and unbreakable carbon landing stage
- Oval dome black
- Two-way data telemetry with language assistance
- Jeti dc-16 portable transmitter 'MULTIROTOR edition' including battery and charger
- Live view video transmitter
- Live view antenna upgrade (TX/RX)
- Diversity live view receiver and 7" monitor including battery
- High performance flight battery (2 units)
- LiPo battery tester
- 2x Battery charger
- Manual MULTIROTOR and safety briefing
- Technical device documentation incl. system-check and signature from the responsible aircraft engineer

Technical Data

Alti tude control 512 ti mes per second	Yes
Automati c height control 24-bit barometric	Yes
Autonomous fl ight max. 500 waypoints	Optional
Autostart / autolanding assistant	Optional
Batt ery redundancy	Yes
Canti lever beam plug system	Optional
Camera suspension	Optional
Digital opti on port (for future applicati ons)	Yes
Digital RC transmitter pilot	Jeti dc-16
Dimensions	Ø 88 cm, H 49 cm
Drive redundancy	Yes
Emergency landing	Yes
Device hull insurance Europe	Optional
Flight Control MULTIROTOR G4 Dual 32 bit	Yes
Flight Control redundancy	Optional
Flight data log	128 Hz
Flight training and flight practice certificate	Optional
GPS flight assistant (position Hold, Coming Home)	Yes
Inspection (12 months, 25 flight lines, 350 starts)	Optional
L1 GPS	Yes
Live-View 5.8 GHz Diversity	Optional
Max. airspeed	50 - 60 km/h
Max. Flight time (ideal)	15 - 20 min
Max. Take-off weight (ideal)	5,000 - 6,000 g
Pack size Stecksystem	(45x32x49 cm)
Payload (incl. camera suspension and flight battery)	1,500 - 2,500 g
Servo connectors	6
Wind stable till	10 m/s