

/// Safety data sheet.

<http://wiki.ascotec.de/x/WYBJ>



/// The AscTec Firefly for automatic flight experiments.

Ascending Technologies – manufacturer and innovator of micro UAVs.

With more than 1000 multicopters sold worldwide, the company is highly experienced. You are kindly invited to profit from the expertise of the long-standing technology leader in unmanned aerial vehicles (UAV).

The AscTec Firefly is the most advanced UAV of the AscTec Research Line.

High quality standards are held during the production process, to ensure our products are reliable and safe. Our customers are registered to a database, allowing us to provide them with the newest software and hardware updates.

Date & version: 01.05.2015 – V4.0

Product designation: AscTec Firefly

Producer: Ascending Technologies GmbH

Address:

Ascending Technologies GmbH
Konrad-Zuse-Bogen 4 /// 82152 Krailling
Germany

/// Summary

This safety data sheet contains all relevant information about the flight system to apply for a take-off permission.

Table of content:

Technical data & safety functions.

Contact:

T +49 89 89556079-0
F +49 89 89556079-19
team@ascotec.de /// www.ascotec.de

Technical data & safety functions

Flight system

Type	Hexacopter
Size	605 x 665 x 165 mm
Engines	6 electrical, brushless (sensorless) motors with 100W maximum power each
Rotor diameter	8" (~20 cm)
Number of rotors	6
Rotor weight	~6g
Empty weight	~650g
Min. take-off weight	~1000g
Max. take-off weight	~1600g
Flight time	12–14 min. ¹
Max. range	1 km ²
Tolerable wind speed	10 m/s ^{1,3}
Max. payload	~600g

~ Max. airspeed

Manual mode	15 m/s
GPS mode	3 m/s
Max. climb rate:	8 m/s
Max. thrust:	36 N

Wireless communication

2.4 GHz XBee link	10–63mW (optional)
WiFi	(optional)

LiPo battery types [mAh]

PP5000, 3 Cells	5000
PP4900, 3 Cells	4900

Former & available payload options

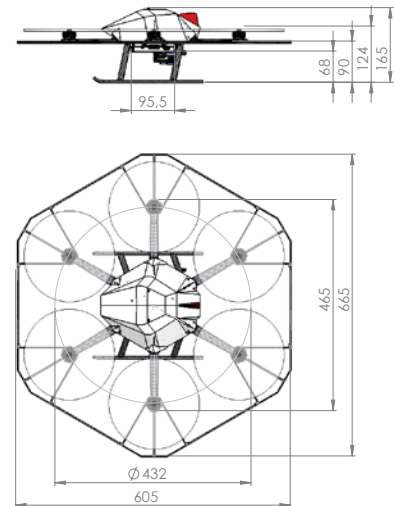
- AscTec Mastermind**
+ Camera Mount Option 1 or 2
- AscTec Atomboard**
+ Camera Mount Option 1, 2 or 4
+ Laser Scanner Mount
BlueFOX 1/3" CMOS Camera
VI-Sensor (www.skybotix.com)
30m Laser Scanner Hokuyo UTM-30LX
20m Laser Scanner Hokuyo UST-20LX
10m Laser Scanner Hokuyo UST-10LX
4 m Laser Scanner Hokuyo URG-04LX
Propeller Protection (small/large)

Certification

CE, RoHS

Safety functions

- ▼ **Redundancy:** The redundant propulsion system enables a controlled flight even with only 5 functioning motors and actively compensates for failure. In worst case the system would start to sink automatically.
- ▼ **Telemetry in realtime:** All necessary system information such as GPS position, height, velocity, battery load, link and GPS quality for instance is displayed live.
- ▼ **Sensor output check:** All important sensor values and system parameters are checked automatically before each flight. If a value is critical, it will be identified and



interrupt the launching procedure automatically.

- ▼ **3 Emergency modes:** The pilot can choose one of three emergency modes to determine the automatic landing in case of link loss: "Direct landing", "Comehome straight" (at its current height) or "Comehome high" (at max. mission height). As soon as the link is reestablished you may take control again and continue the flight.

¹Incl. payload (~600g) /// ²Recommended: Line of sight (~150m) /// ³GPS mode /// This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.