



ORCA - the all-rounder

TECHNICAL SPECIFICATIONS

**Proportion with rotor blades
(length x width x height):**
117.5 cm x 99 cm x 49 cm

**Proportion in hinged position
(length x width x height):**
59 cm x 56.5 cm x 49 cm

Weight (incl. battery):
7.5 kg

Battery:
Lithium Ion Battery packs

Max. flight duration*:
up to 35 min.

Max. airspeed*:
up to 50 km/h (adjustable)

operable temperature range:
-12 °C bis +40 °C

Wind stability*:
up to 5 Bft

IP-code:
IP54; protected against dust in harmful quantities; comprehensive protection against contact and splashing water from all directions

THOLEG's ORCA is suitable for professionals within the authorities and organization with security tasks, for the challenges in the science and research sector and wherever reliable bird's-eye view data is useful. Its fully redundant construction makes it almost fail-safe. The controller, batteries, battery control, motors and rotors are protected against possible failures up to a take-off weight of 9.6 kg. With precise electronics, special requirements can be easily met in terms of payload and control.

ORCA's standard equipment:

- Foldable motor arms for space-saving transport
- 1 quick-change adapter for an uncomplicated change of payload
- 2 disengagement systems (up to 600 g each individually; up to 3 kg of joint depositing)
- flight-safe lighting system according to SERA regulations (Standardised European Rules of the Air, No. 3215)
- fully encrypted HD long range transmission transfers video, USB, data and telemetry
- autonomous flights possible, swarmable, flights VLOS (= Visual Line Of Sight) and BVLOS (= Beyond Visual Line Of Sight) possible
- 2 Lithium Ion Battery packs for a fail-safe power supply
- Dual computer charger with touchscreen
- 2- or 3-axis gimbal with camera
- transportation case (aluminium case oder rigid plastic case)

THOLEG - Civil Protection Systems


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Transportation case with an inlays adjusted for the drone and additional equipment.

Long range transmission:
e.g. HereLink

*Facts and figures on maximum ranges, flight duration, wind resistance and speeds were tested under controlled conditions. In daily use, this data can vary, depending on the wind and weather conditions as well as geographical features. On request, maximum speeds can be adjusted/throttled



ORCA - ADDITIONAL EQUIPMENT

CAMERA SYSTEMS



Workswell Wiris Security - Thermal and RGB camera, high resolution, 30x optical zoom, IR camera resolution: 800 x 600 px



Workswell Wiris Pro - Thermal and RGB camera, high resolution, 10x optical zoom, IR camera resolution: 640 x 512 px

Other camera systems available.

LANDING PLATFORM



for safe landing/takeoff; proportions: 120 x 120 cm, foldable (59 x 59 cm), stable, waterproofed, customisable

OPTIONAL PAYLOADS

Thermal-, video- / inspection cameras

Designed for the use with UAVs these cameras fulfill most demanding tasks in the fields of archaeology, forestry, agriculture, firefighting operations, field research, wildlife surveys as well as industrial inspections.

Systems for gas detection and analysis

With special infrared cameras, gases can be displayed according to the principle of infrared thermography. This is how leaks and gas concentrations are detected.

Multispectral sensors

Multispectral sensors are used to monitor plants, to analyse soil conditions or pest infestation in agriculture and forestry.

Lidar systems

The sensors for creating 3D point clouds are suitable for 3D recordings of buildings, landscapes, corridors, for area mapping, for volume calculations (e.g. mining industry), for monitoring environmental changes, for profile analysis (landscapes, archaeology)

Scientific applications

For example, magnetometers, near-infrared sensors, and hyperspectral sensors (to measure the earth's magnetic field or radioactivity) can be integrated; for area mapping and the analysis of organic substances

SPECIAL EQUIPMENT

LED floodlight for area lighting:

The ORCA can be equipped with permanently installed floodlights or with a camera-guided search spot. Electrical power: 1 kWh

Optical Flow

A downward-pointing optical sensor enables precise flights in daylight, even without GPS reception (e.g. indoors).

Team-Mode

Allows copter and camera to be controlled independently via another remote control.

Tempered electronics:

Electronic components can be tempered in order to avoid condensation or overheating.

Ground station:

analog or digital, with fully encrypted network

Collision protection:

through integrated ADS-B technology