

# Technical Details

Wingcopter 198 Delivery Variant  
Version 04-2021



## Hardware

### Drone type

electric tilt-rotor vertical take-off and landing (eVTOL)

### Dimensions

65 x 198 x 152 cm [H x W x L]

### Weight

10 kg empty // incl. Triple Drop delivery System  
20 kg with batteries  
25 kg max. take-off weight

### Payload

5 kg max. weight

### Propulsion

8x rotors for redundancy during multicopter flight  
4x of which tiltable for redundancy during fixed-wing flight

### Drone battery

2x Li-Ion battery // 814 Wh each  
incl. LED status indicator and carrying handle  
incl. smart battery with management and protection system

### Avionics

2x flight controllers  
6x IMUs  
2x barometers  
2x dual-antenna GNSS systems  
2x rainproof airspeed sensors

### Awareness systems

1x set of navigation lights  
1x horizontal awareness system // forward and upward-facing  
1x vertical awareness system // downward-facing  
1x LiDAR ground altimeter // downward-facing  
1x elevation and airspace database

### Awareness radios

1x ADS-B In  
1x FLARM in and out  
1x remote ID // compliant to FAR Part 89

### Connectivity

1x cellular telemetry // 3G, 4G and 5G  
1x satellite telemetry // Iridium

## Operation

### Multicopter mode

#### Flight speed

0 m/s min. speed  
5 m/s default cruise speed  
14 m/s max. cruise speed

#### Climb speed

3 m/s climb rate  
3 m/s descent rate

#### Max. flight time

15 min

#### Max. altitude

3000 m AMSL

#### Auto-landing accuracy

3 m

### Fixed-wing mode

14 m/s min. speed  
28 m/s default cruise speed  
40 m/s max. cruise speed

3 m/s climb rate  
3 m/s descent rate

90 min

5000 m AMSL

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### Flight modes

automatic mission, return-to-home, manual go-to function, emergency procedures

### Wind resistance

15 m/s average wind  
20 m/s gusts

### Operating temperature

0 - 45° celsius

### Weather limits

suitable for operation in coastal and offshore climate, no operation during heavy rain, icing conditions, hail and thunderstorms



## Range Estimation

Payload	5 kg	4 kg	3 kg	2 kg	1 kg	0 kg
Direct one-way flight	75 km	80 km	85 km	90 km	95km	110 km
	40 min	45 min	50 min	55 min	60 min	70 min
Flight with 1x slow drop or 1x intermediate landing	65 km	70 km	75 km	80 km	85 km	95 km
	35 min	40 min	45 min	50 min	55 min	60 min

Considering ideal conditions (no wind, sea level altitude, 15°C air temperature) and ideal operation (ideal cruise speed, 20% battery reserve, standard payload form factor)

## Triple Drop Delivery System

	3 Packages	2 Packages	1 Package
<b>Package dimensions limit [H x W x L]</b>	(3x) 22 x 40 x 19 cm	(2x) 22 x 40 x 25 cm	(1x) 22 x 40 x 65 cm
<b>Volume [liters]</b>	(3x) 17 l	(2x) 22 l	(1x) 57 l
<b>Winch application</b>	front, center & back	front & back	center

### Winch limits

3 kg front winch limit  
5 kg center winch limit  
2 kg back winch limit

### Loading

on ground

### Delivery

on ground or slow drop

### Package mounting

quick connect adapter  
package protection using heat shrink foil



## Ground Station

### Hardware

dedicated control station hardware  
build in 32inch 4K display  
keyboard & mouse

### Software

dedicated secure operating system  
Wingcopter Control Station 2.0  
access to Wingcopter Cloud

### Key features

operator management and logging  
fleet and maintenance management  
elevation and airspace database  
1 to 10 operation

### Infrastructure required

internet access over LAN connection  
110/230V domestic power connection

## Ground Handling

### Ground handling vehicle

enables safe and ergonomic moving of the drone  
enables equipping of drone in ergonomic loading height  
doubles as storage and transport box

### Smart battery charger

charges empty drone battery in 90min

### Disclaimer

The respective current products offered by Wingcopter are defined in the latest W198 specification sheet, as made available by Wingcopter in each case. Only such information and technical data is legally binding which Wingcopter is explicitly assuring. Reference is made to the then applicable GTC. Please consult for the currently available product specification.