

Voliro T

TECHNICAL SPECIFICATION



voliro.com

VOLIRO 

Voliro T

Aircraft

Drone Type / Configuration	Multicopter / omnidirectional Tri-Copter
Weight (Batteries excluded)	3.7 kg
Max Takeoff Weight	6.0 kg
Max Payload	1.0 kg
Dimensions (L×B×H)	78 × 78 × 34 cm (without rotors, bumpers, and paload) 118 × 109 × 34 cm (rotor tip to payload tip) <i>(the drone can be handled through a 20" (50 cm) manhole by detaching the tail, payload, and bumpers)</i>
Camera System	4K 12MP inspector camera (horizontal FoV 80°) 4K 12MP pilot camera (horizontal FoV 140°) Frame rate: 30/60fps best GSD: 0.16 mm/px Video Formats: H.265 (.MP4) File storage: microSD card, 256GB
Downlink	Live video stream inspector camera: HD 50fps Live video stream pilot camera: HD 50fps Live payload data stream
Power LEDs	max. 17k lumen (adjustable through RC) Intelligent thermal throttling
Sensing System	Depth camera (VGA) 6 × LiDAR distance sensor 6 × vision based velocity sensor RTK GPS (multi-band, BeiDou, Galileo, GLONASS, GPS / QZSS) Redundant IMU, barometer, and magnetometer

Flight Capabilities, Operation & Environmental Limitations

Flight Time	16 min. (max. flight time, no payload) 10 - 14 min. (standard payload, standard mission)
Flight Modes	Manual Altitude Position Interaction Assistant
Emergency Flight Modes	Intelligent auto-descent / position-hold on signal lost
Navigation Assistance	Outdoor GPS based: position, velocity, attitude Indoor GPS denied: height, velocity, attitude
Interaction Accuracy	± 2 cm (normal environment conditions, trained pilot)
Max Horizontal Speed	3 m/s (in Position flight mode) 15 m/s (in Altitude and Manual flight mode)

Max Ascent / Descent Speed	3 m/s (in Position and Altitude flight mode) 10+ m/s (in Manual mode)
Wind Resistance	12 m/s (in free flight) 8 m/s (in Interaction flight mode) <i>(for precise interaction wind speed smaller than 6 m/s is recommended)</i>
Pitch Angle	± 90° <i>(Voliro T can be oriented to a surface of any orientation)</i>
Max Transmission Distance	> 300 m for all data links (direct VLOS) > 2 km for safety critical remote controller link
Temperature	-10 to +40 °C <i>(no continuous direct sunlight if the temperature is > 30 °C. If the temperature is < 5 °C flight time can be reduced)</i>
Service Ceiling	5000 m ASL
Assembly Time	< 5 min.

Battery & Charger

Battery Typ	LiPo (HardCase, UN3481)
Battery Configuration	2 × 6s batteries in parallel
Energy	99 Wh (a pair of batteries required)
Capacity	2 × 4500 mAh
Weight	1.3 kg (per battery pair)
Charging Cutoff Voltage	25.2 V
Min Voltage	21.6 V (no-load) <i>(battery might get damaged if the voltage is lower)</i>
Recommended Storage Voltage	22.2 - 22.8 V
Recommended Charging Current	< 9 A or 1C
Charging Temperature	10 - 30 °C
Charging Time	< 90 min
Smart Battery	No, batteries must be treated and cared for accordingly
Material safety data sheet (MSDS)	Available on request
<i>The Voliro T batteries are airline approved according to IATA TABLE 2.3.A. The batteries have to be carried in the cabin.</i>	
Charger Type	Dual AC/DC LiPo charger with balancing function
Charger Input Voltage AC	110-120 V AC / 220-240 V AC (manual switch), 50 / 60Hz 9 - 32 V DC
Peak output power	600 W

Remote Controller & Tablet

Pilot Tablet (included)	Samsung Galaxy Tab S6 Lite 26,31 cm / 10,4", 2000 × 1200 (WUXGA+), TFT 2,3 GHz, 1,7 GHz, Octa-Core
Tablet Charger	Through remote controller / data link, 12 V
Tablet Battery	7040 mAh
Inspector Tablet (included)	(identical to pilot tablet)
Remote Controller Mode	Mode 2 (throttle and yaw on the left stick)
Gimbal	Hall sensor M7 gimbal (Pinching and Thumbs compatible)
Remote Controller Battery	3600 mAh
Remote Controller Charger	Input 110 - 240 V AC, Output 12.8 V DC

RTK GPS Base

GPS Antenna	Integrated active antenna
Tripod	Rollei Compact Traveler Star S1, 38.5 - 125 cm
Battery	3000 mAh
Charger	Input 110 - 240 V AC, Output 12.8 V DC

Data Link

Video and Data Link	2.400 to 2.483 GHz ISM, EIRP < 100 mW 5.725 to 5.875 GHz ISM, EIRP < 25 mW (CE mode)
RC Link	2.4GHz ISM, EIRP < 100 mW
RTK Telemetry Link	LPD433 MHz (ITU Region 1, Malaysia) 915 MHz (ITU Region 2, Australia with limited bandwidth) EIRP < 10 mW
Remote ID broadcasting Link	WiFi 2.4 GHz

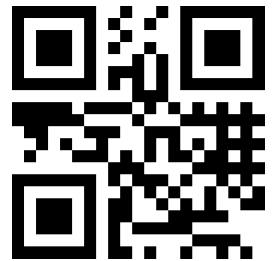
Transport Case

Drone Box	80×55×35 cm, 20 kg Contains: drone, RC, inspector tablet, RTK base IATA compliant for checked-in luggage
Payload Box	60×35×20 cm, 8-12 kg (depending on content) Contains: payload, up to 6 batteries IATA compliant for carry-on luggage
Charger and Assesoires Box	60×35×20 cm, 8 kg Contains: charger, spare parts, accessories IATA compliant for carry-on and checked-in luggage

All boxes are rugged, waterproof, crushproof, and dustproof Peli Cases

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All specifications are subject to change without notice.