

Hardware

Drone type	Tailsitter VTOL (Vertical take-off and landing)
Max. take-off weight	4.5 kg (9.9 lb)
Weight (empty)	3.7 kg (8.1 lb)
Max. payload weight	800 g (1.8 lb)
Wingspan	125 cm (4.1 ft)
Dimensions of WingtraOne	125 × 68 × 12 cm (without middlestand)
Dimensions of Pilot Box	57 × 37 × 20 cm, 8.6 kg (19 lb)
Battery capacity	98 Wh (a pair of batteries required)
Battery type	Li-ion, Smart battery technology, UN compliant
Radio link	8 km (5 mi), bi-directional antennas for optimal range
Onboard GPS	Double redundancy, using GPS, Glonass and ready for Galileo and Beidou
Dimensions of Travel Hardcase (optional)	143 × 80 × 20 cm, 16 kg (35 lb)

Software & Tablet

Flight planning & mission control Software	WingtraPilot
Tablet (supplied)	Android tablet; pre-installed; ready-to-fly. Interfaces to Telemetry module (data link for automated drone control) and manual back-up controller
Updates	free

Operation

Operational cruise speed	16 m/s (35.8 mph)
Climb speed cruise	6.0 m/s (13.4 mph)
Wind resistance	Up to 45 km/h (12 m/s, 28 mph) in cruise, up to 30 km/h (8 m/s, 18 mph) for landing
Maximum flight time	55 minutes
Min. space for take-off and landing	2 m × 2 m (6.6 ft × 6.6 ft)
Designed Temperature Range *	-20° C to +50° C (-4° F to 122° F)
Max. altitude (a.m.s.l.)	3000 m (9800 ft)
Weather	No precipitation, resists light rain
Ground Control Points required	No (with PPK option)
Descent speed cruise	4.0 m/s (8.9 mph)
Climb speed hover	6.0 m/s (13.4 mph)
Descent speed hover	1.0 m/s (2.2 mph)
Auto-Landing accuracy	< 5 m (< 16 ft)

Results

Coverage at 120m (400ft) **	320 Ha (790 ac)
Max. coverage ***	45 km ² (17 mi ²)
Minimal ground sampling distance ****	Down to 0.7 cm / pixel (0.3 inch/pixel)
Mapping accuracy with PPK (w/o GCPs)	Absolute accuracy (RMS): Horizontal: 1.3 cm (0.51 in); vertical: 2.3 cm (0.91 in) Relative accuracy: 0.003 % (horizontal)
Mapping accuracy w/o PPK (w/o GCPs)	Absolute accuracy (RMS): 3 - 5 m (9.8 - 16.4 ft) Relative accuracy: 0.15 % (horizontal)

Payloads

Payload flexibility	Yes, with a single USB-C connector
Power supply	by flight batteries (12 W)
Payload protection	Yes, fully integrated into WingtraOne and smooth vertical landing feature
Available Cameras	Sony RXIRII / 35 mm lens, full-frame sensor, 42 MP, RGB Sony QX1 20mm (optional 15 mm Voigtlander lens), APS-C sensor, 20 MP, RGB Micasense Rededge, 5.5 mm, 5 × 1.2 MP, Multi-spectral camera FLIR Duo Pro R640, 13 mm, 0.32 MP (thermal), 12 MP (visible), Thermal camera

* tested and warranted temperature range -10° C to 40° C (14° F to 104° F)

** 2.8 cm/pixel (1.1 in/pixel), WingtraOne QX1 +15 mm

*** max. reconstructable area, 2500 m (8200 ft) flight altitude, WingtraOne QX1 +15 mm

**** For WingtraOne RXIRII. For WingtraOne QX1 1.4 cm/px (0.6 in/px)

WingtraOne with RGB Cameras

	WingtraOne QX1 20mm	WingtraOne QX1 15mm	WingtraOne RX1
Description and optimal usecase	Professional entry bundle for mapping and hands-on surveyors	Sophisticated bundle for 3D reconstruction specialists	Best quality bundle for the high-resolution aficionado. For low GSD, ultra high precision, forest and mountain mapping
Overview			
Technical specifications	Sony QX1 / 20 mm lens, APS-C sensor, 20 MP, RGB	Sony QX1 / 15 mm Voigtländer lens, APS-C sensor, 20 MP, RGB	Sony RX1RII / 35 mm lens, Full-frame sensor, 42 MP, RGB
Main quality features	High image quality, flexible lens options	Ultra-high quality, Largest coverage at limited flight altitude, flexible lens options	Ultra-high quality, best coverage to GSD ratio, sub-cm GSD
Camera weight (incl. mount)	330 g (0.73 lb)	600 g (1.32 lb)	575 g (1.27 lb)
GSD range	1.4-53 cm/px 0.55-21.0 in/px	1.4-70 cm/px 0.55-28.0 in/px	0.7-31 cm/px 0.28-12.3 in/px
Coverage at lowest GSD*	150 ha (at 1.4 cm/px) at 66m flight altitude 370 acres (at 0.55 in/px) at 218 ft flight altitude	130 ha (at 1.4 cm/px) at 50 m flight altitude 320 acres (at 0.55 in/px) at 164 ft flight altitude	100 ha (at 0.7 cm/px) at 57 m flight altitude 247 acres (at 1.18 in/px) at 188 ft flight altitude
Coverage at 120 m / 394 feet*	270 ha (at 2.6 cm/px) 667 acres (at 1.0 in/px)	320 ha (at 3.4 cm/px) 790 acres (at 1.3 in/px)	210 ha (at 1.5 cm/px) 520 acres (at 0.6 in/px)

WingtraOne with Specialty Cameras

	WingtraOne Rededge	WingtraOne FLIR
Description and optimal usecase	Advanced bundle for precision farmers and plant analysis	Advanced bundle for thermal mapping and monitoring
Overview		
Technical specifications	Micasense RedEdge M / 5.5 mm lens, 5 individual custom sensors, multispectral	FLIR Duo Pro R 640 / 13 mm, thermal (7.5 – 13.5 μm) and visible spectrum
Main quality features	High quality multispectral images	High precision thermal images and high resolution visible mapping
Camera weight (incl. mount)	325 g (0.72 lb)	425 g (0.94 lb)
GSD range	6.7-170 cm/px 2.6-67.0 in/px	6.5-320 cm/px (thermal) 1.3-66.0 cm/px (visible) 2.5-127.0 in/px (thermal) 0.5-26 in/px (visible)
Coverage at lowest GSD*	160 ha (at 6.8 cm/px) at 98 m flight altitude 395 acres (at 2.62 in/px) at 321 ft flight altitude	80 ha (at 6.5 cm/px thermal) at 50 m flight altitude 200 acres (at 2.55 in/px) at 164 ft flight altitude
Coverage at 120 m / 394 feet*	150 ha (at 8.2 cm/px) 370 acres (at 3.2 in/px)	190 ha (at 15.5 cm/px thermal) 469 acres (at 6.1 in/px thermal)

Telemetry / Remote Control

Frequency range Telemetry	Country Specific: EU 868 - 869 MHz, US 902 - 928 MHz, AUS 915 - 928 MHz, CN 915 - 928 MHz
Frequency range Remote Control	All countries 2.404 - 2.479 GHz
Transmission power (Remote Control)	< 27dBm, (< 20 dBm)
Specified max. range	40 km (25 mi)
Tested max. range	8 km (5 mi)