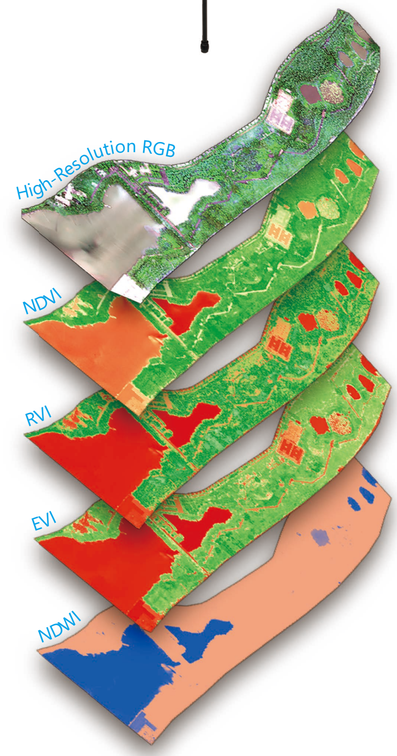
▶▶▶ Multi-spectral Imaging

Sensor Model	**Ms600**
Dimension	79x74x52 mm (LxWxH)
Weight	275 g (DLS module excluded)
Power Consumption	7W nominal; 10W peak (DLS module included)
Sensor Feature	sync radiometric calibration; realtime reflectance computation
Sensor Specification	global shutter; resolution 1.2 MP; 12-bit ADC; 6 channels
Sensor Size	CMOS 1/3"; F/2.2; E 5.2mm; pixel 3.75um; FOV 49.6° x 38°
Spectral Sensitivity	300-1000 nm; 17 bands; PT ≥95% @OD2
Optical Window	sapphire glass, wear & scratch resistant
Ground Resolution	8.65cm @120m AGL
Frame Coverage	110x83m @120m AGL
Image Format	16-bit Tiff & 8-bit JPEG
Capture Rate	max. 1 m/s (all channels)
Record Rate	≥30 MB/s (Micro SD card, UHS-I Speed Class 3)
Data Storage	default 64 GB, max. 128 GB
Operating Temperature	-10˚C ~ +50˚C (relative wind speed ≥1 m/s)
Relative Humidity	≤85%, non-condensing



SPECIFICATION

Aircraft			
Model	Drone-eco Pro	Drone-eco	Drone-eco Plus
Type	quadcopter, X-shape body, with foldable propellers	quadcopter, H-shape body, with quick release propellers	quadcopter, H-shape body, with quick release propellers
Control Method	vertical take-off & landing		
Structure	fully integrated, assembly free	quick assembly	quick assembly
Diagonal Distance	716 mm	618 mm	618 mm
Dimension	564 x 564 x 360 mm (L x W x H)	450 x 424.3 x 290 mm (L x W x H)	450 x 424.3 x 290 mm (L x W x H)
Weight	5.15 kg (with battery); 2.35 kg (without battery)	3.2kg (with battery); 1.7 kg (without battery)	3.2kg (with battery); 1.7 kg (without battery)
Payload Capacity	max. 1.4 kg	max. 0.8 kg	max. 1.2 kg
Max. Take-off Weight	6.55 kg	4.0 kg	4.5 kg
Power Supply	Lithium polymer battery, one unit		
Battery Power	25,000 mAh, 6S, 26.1V	12,000 mAh, 6S, 26.1V	13,700 mAh, 6S, 23.1V
Battery Charging Time	approx. 1.5 h (@ 15 A)	approx. 1.2 h (@ 10 A)	approx. 1.3 h (@ 10 A)
Obstacle Sensing	forward 2-40 m, millimeter-wave radar detection		
Downward Laser Ranging	10 m, for precise landing control		
Max. Service Ceiling	4000 m ASL		
Working Height	typical 60-1000 m		
Cruising Speed	max. 12 m/s		
Endurance	(without payload/with single lens/with 5-lens) approx. 80/70/60 min*	approx. 60/50/- min*	approx. 70/60/50 min*
Effective Flight Duration	(without payload/with single lens/with 5-lens) approx. 60/55/50 min*	approx. 55/50/- min*	approx. 60/50/40 min*
Response Time	setup<3 min; packing<3 min		
Weather Limit	beaudfort scale 6	beaudfort scale 5	beaudfort scale 5
Operating Temperature	-20˚C ~ 50˚C		
Environmental Humidity	90% condensing		
Ingress Protection Rating	IP 45		
Positioning System	dual redundancy design		
Airborne GNSS Module	GPS + Glonass + Galileo + Beidou tracking		
Differential Mode	GNSS PPK	GNSS PPK	GNSS PPK/RTK
Data Refresh Rate	RTK: 100 Hz; PPK: 5/10/20 Hz optional		
Hovering Accuracy	H. 1cm+1ppm; V. 2cm+1ppm		
Positioning Accuracy	when fixed: H. 1cm+1ppm; V. 1.5cm+1ppm		
Relative Accuracy (XY/Z)	1-3x GSD / 1-5x GSD		
Single Flight Range	40-50 km (@ 12 m/s, with single lens)	30-36 km (@ 12 m/s, with single lens)	40-45 km (@ 12 m/s, with single lens)
Single Flight Coverage	max. 3 sq.km (@ 10 cm GSD, with S42)	max. 2.2 sq.km (@ 10 cm GSD, with S42)	max. 2.6 sq.km (@ 10 cm GSD, with S42)
POS Data Storage	Micro SD card, 16 GB		
Download Interface	Micro USB		
Pilot Interaction	LED indicators & Web UI		
Video Transmission	N/A	N/A	picture-in-picture realtime display, FPV or downward optional
Remote Controller			
Datalink Mode	WiFi + type C + RD-link		
Internet Access	via external SIM card		
Control Frequency	2.4 - 2.483 GHz		
Communication Channel	≥12		
Radio Datalink Range	5 km		
Transmitting Power	20 dBm @CE / 23 dBm @FCC		
Display Terminal	integrated with LED display, 7-inch, Android OS		
Working Time	6 - 20 h		
Hardware Option	upgradeable upon request		
Payload			
Connectivity	typical flange connector		
Power Supply	external, supplied by drone battery		
Trigger Exposure	flight control system triggering		
Time Synchronization	POS recorded while triggering		
Device Options	single lens, multi-lens, etc.		
Payload Option ①	S24, customized single lens, 24.3 MP, 25 mm lens, 266 g		
Payload Option ②	S42, customized single lens, 42.4 MP, 40 mm, full framer, 336 g		
Payload Option ③	T53P, customized 5-lens (45° lateral lens x 4, 35 mm; center lens, 25 mm), 120 MP in total, 750 g		
Payload Option ④	Q51,customized 5-lens (45° lateral lens x 4, 56 mm; center lens, 40 mm), 210 MP in total, 1.2k g		

Note*: such flight duration descriptions were obtained in an environment of 20˚C with no wind and 95%+ new battery. The result might vary under different actual conditions.

AERIAL EFFICIENCY

imaging sensor	single flight coverage (flight height & ground resolution)			
S24 (24 MP)	113 ha (@96m, 1.5cm GSD)	206 ha (@191m, 3cm GSD)	250 ha (@319m, 5cm GSD)	500 ha (@638m, 10cm GSD)
S42 (42 MP)	140 ha (@133m, 1.5cm GSD)	263 ha (@266m, 3cm GSD)	350 ha (@444m, 5cm GSD)	600 ha (@888m, 10cm GSD)
T53P (120 MP)	50 ha (@96m, 1.5cm GSD)	93 ha (@191m, 3cm GSD)	126 ha (@319m, 5cm GSD)	250 ha (@638m, 10cm GSD)
Q51 (210MP)	41 ha (@126m, 1.5cm GSD)	80 ha (@253m, 3cm GSD)	116 ha (@421m, 5cm GSD)	185 ha (@843m, 10cm GSD)

Note: the reference data shown above is computed according to the forward overlap 75%/80% (single lens/5-lens) and side overlap 60%/70% (single lens/5-lens) from approx. 45-50 min. effective flight for a survey zone with aspect ratio around 2:1 and at cruising speed of 12 m/s.

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FLY2MAP SERIES

Drone-eco/Drone-eco Plus/Drone-eco Pro

Hey! Take It Easy coz' Fly It Easy!

"Impressive is the ground control station software running on the integrated remote controller display. The survey-oriented flight plans and attentive safety control are tailor-made for drone pilots engaging in professional survey work. The well-balanced representation of aerial efficiency, mapping accuracy plus ease-of-use makes it a trustworthy UAV solution, yet it's fairly cost friendly. Believe it or not, you will find it much easier to train drone pilots than ever!" said Engr. Mayuan, a Chinese specialist dedicated to survey equipment R&D for nearly 30 years.

SKYSOLUTIONS

(V. 2022AUG)

▶▶▶ Drone (aerial zone)

- highly integrated aircraft, **assembly free** and ready to use after unpacking
- fully autonomous operation after proper settings, **no pilot control required**
- **direct geo-referencing** with accurate POS data delivered by airborne GNSS
- millimeter-wave radar that provides **intelligent obstacle avoidance** against flight safety
- a lightweight but efficient unit that enjoys **much longer endurance**
- **a variety of payload** options available for diverse needs
- **optimized precise landing** controlled by downward laser ranging

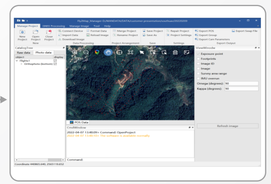
▶▶▶ Fly2Map Pilot (ground station software)

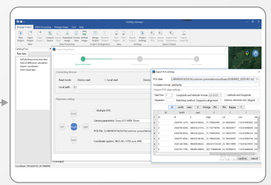
- display interface integrated with remote controller, **no tablet or laptop required** for ground control
- **survey-oriented flight plans** specifically made for professional aerial mapping
- compulsory pre-flight **checklist that guarantees no improper use**
- **one-key return-to-home** command in case of emergency
- **auto return-to-home** function enabled by challenging conditions
- **terrain-following option** ready for rugged terrains
- possible to **start with last waypoint to continue** the mission
- progress bar that vividly **illustrates flight duration and battery percentage**

▶▶▶ Fly2Map Manager & Fly2Map Cloud (process & control software)

Fly2Map Manager

- mission planning
- raw data quality check
- PPK processing
- GCPs planning
- raw data integration
- flight assignment
- POS data editing
- coordinate transformation
- 3-dimension measurement





Fly2Map Cloud

- web user interface
- user management
- flight records
- realtime trajectory
- flight logs
- monitoring & statistics
- maintenance memo
- cloud platform control
- customization available

▶▶▶ 2D Photogrammetry

single lens, captures aerial images from ortho direction

2 options available for different aerial efficiencies

S24 (24 MP)
entry-level single-lens

S42 (42 MP)
single-lens full framer

orthophoto map, produced
by 2D photogrammetry (with single lens)
and mainly used for topography, urban planning, land management, etc.

▶▶▶ 3D Photogrammetry

T53P (120 MP)
entry-level 5-lens

integrated 5 lens, triggers aerial images from 5 directions simultaneously

2 options available for different aerial efficiencies

Q51 (210 MP)
5-lens full framer

oblique 3D model, generated
by 3D photogrammetry (with multi lens) and
mainly used for cadaster, smart city, civil engineering construction, etc.