KOLIDA
Professional's Choice

SKYCRUISER FLYme

A Typical SURVEYOR-ORIENTED Mapping Drone

Why surveyor-oriented? FLYme is specifically made for professional aerial mapping.

- PPK / RTK — precise aerial positioning & waypoint navigation
- ultrahigh resolution 42 mpx imaging sensor
- precise landing control within 6m radius
- extremely long endurance up to 90 min
- incredible aerial mapping productivity & efficiency
- smart elevation partition for elevated area (200m / 300m)
- corridor/linear mapping flight plan
- multi-zone planning in a single flight
- multi-flight planning for large survey zone
- excellent flight performance against windy environment
- durable EPO material against hundreds of uses
- 1-day training good enough for beginners

Worried about drone crash or drone loss? FLYme is particularly designed for flight safety control.

- no-fly-zone database for drone use reference
- compulsory checklist reminder to guarantee no improper use
- elevation condition evaluation to guarantee no crash accident
- automatic return home upon low battery power
- automatic return home upon aerial imaging failure
- automatic return home upon 30sec radio disconnection
- automatic return home in case of heavy wind
- automatic return home in case of high temperature
- one-key return command to escape from rain or bird
- GCS power-off protection for uninterrupted operation
- abort landing contingency to avoid unexpected obstacle
- airborne GPS tracker to detect drone location

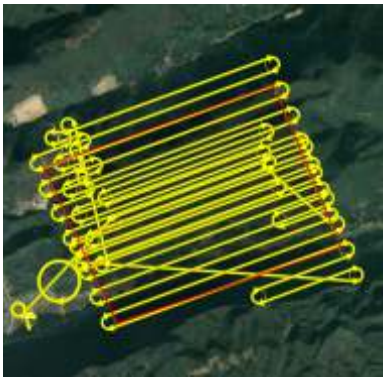
Which ranges to perfectly use for? A variety of applications include...

road survey | power line inspection | topographic survey | mining survey | ...

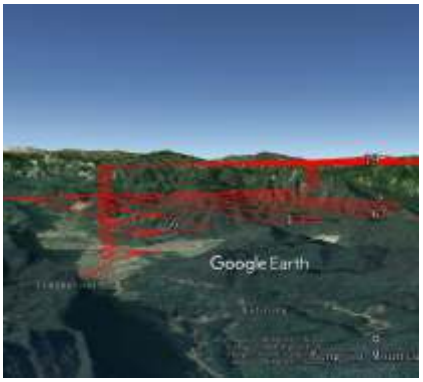
SKYSOLUTIONS

linear area flight planning

road survey skyway generation



smart elevation partition for hilly terrain



Googelearth display of partitioned skyway

specifications

aircraft system

model	FLYme
aircraft type	fixed-wing
system structure	modular design
wingspan	150 cm
packing size	98 cm * 49 cm * 68 cm
take-off weight	3.5 kg (including camera and drone battery)
propulsion system	1000w electric pusher motor, with 13-inch propeller
power supply	lithium polymer battery, one unit
battery power	7000 mAh, 6S, 22.2V
body material	Industrial EPO foam

operation performance

pre-flight setup	5-8 minutes
control mode	autopilot
base observations	integrated with radio datalink device
radio datalink	Frequency Hopping Spread Spectrum（FHSS）
control frequency	1W, 915 MHz (869 MHz or 2.4 GHz optional)
radio communication range	typical, 5-10 km; maximum 30 km
transmitting power	0.1-2W
weather limit	beaudfort scale 6, 10.8-12.7 m/s
operating temperature	-10℃ to 50℃
environmental humidity	90% condensing

onboard sensor

autopilot computer	1x
airspeedometer	1x
accelerometer	1x
barometer	1x
magnetometer	1x
gyroscope	1x
GPS receiver	1x
airborne PPK/RTK receiver	inbuilt GNSS chipset (L1/L2 GPS, L1/L2 Glonass, B1/B2 Beidou), data refresh baud rate 20 Hz

flight performance

take-off method	typical, hand launch; optional, catapult launch
landing method	typical, precise parachute landing; optional, belly landing
maximum ceiling	4000 m
working height	typical 120-1400 m
cruising speed*	typical 20 m/s (72 km/h)
endurance	not less than 59 minutes, best up to 90 minutes (upon customization)
single flight range*	maximum 92 km
single flight coverage*	maximum 60 sq.km (6,000 ha) @ GSD 20cm
landing space	precise landing control within 6 m radius

imagery payload

imaging sensor	Sony RX1RII
sensor type	Exmor R® CMOS, 2/3 full framer
picture size	35.9 x 24.0 mm
sensor weight	507 g (includes SD card and battery)
resolution value	42.4 mpx
focusing length	E 35 mm
aperture control	F 2.0
image acquisition	hot shoe triggering
imaging resolution	1.5-20 cm GSD

acquisition performance

single point positioning*	3 cm CEP
relative accuracy (XY/Z)*	1-3/1-5 x GSD
absolute accuracy (without GCPs)*	horizontal, down to 3-10 cm; vertical, down to 5-15 cm
absolute accuracy (with GCPs)*	horizontal, down to 1-2 cm; vertical, down to 5-10 cm

ground control

pre-flight checks	via logical and intuitive checklist
basic operations	automatic take-off, flight, data capture and landing
flight planning	includes typical aerial survey programs in addition to standard flight control
camera triggering	automated, realtime display
fail-safe routines	automated
auto return	upon indications of low battery, high temperature, heavy wind, 30sec radio disconnection and imaging failure
fail-safe commands	manually controlled, one-key operation
drone tracking	APP display via pre-installed GPS tracker

note: all aspects marked with * are determined by weather conditions and manual operations in practice.

coverage reference

GSD	flight height	coverage per flight	coverage per day
5 cm	388 m	600 ha	2,400 ha
10 cm	776 m	1,200 ha	4,800 ha
15 cm	1164 m	1,800 ha	7,200 ha
20 cm	1552m	2,400 ha	9,600 ha

note: the data shown left is computed according to the 75%/60% (forward/side overlap) from a 60-minute effective flight for a survey zone with aspect ratio around 2:1. And the area coverage per day results from 4 flights in the same day. In theory, bigger coverage figures are expectable with rational parameter settings and increased flight arrangements.

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