

ACRE
SURVEYING SOLUTIONS

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SHAR 赛尔

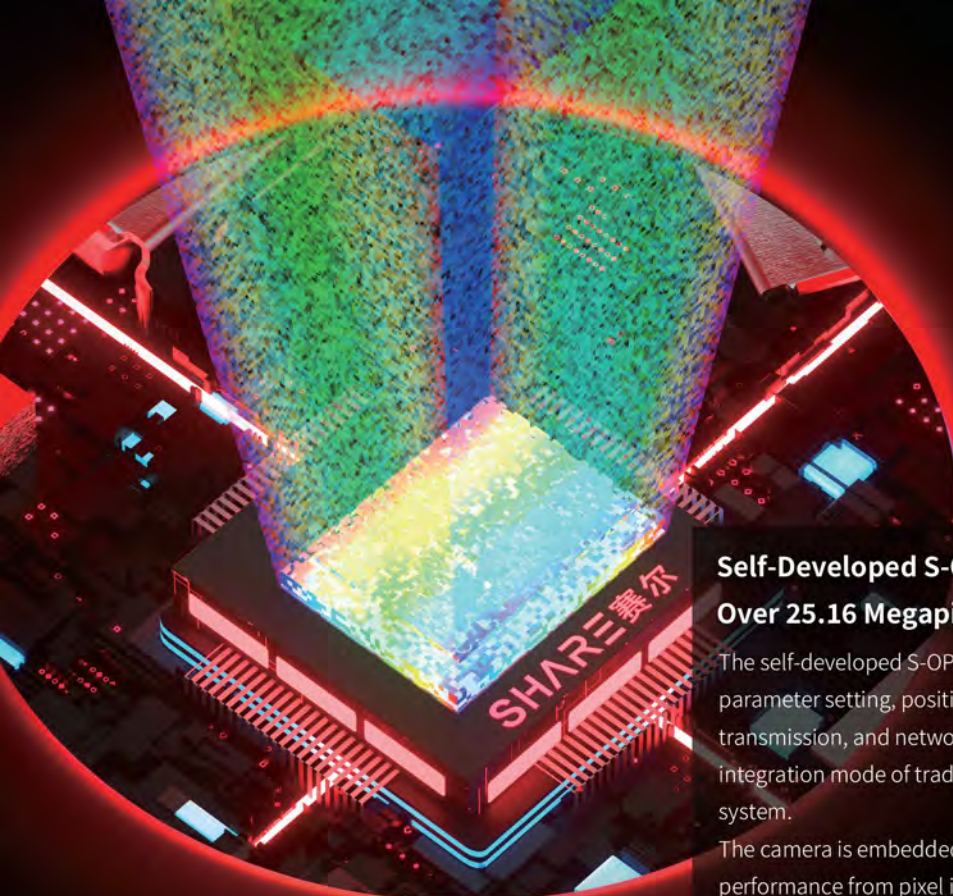


Gimbal Brings More Wonderful

PSDK 102S V3

5-Lens Oblique Camera With





Self-Developed S-OPG Mapping Image Control System Over 25.16 Megapixel Image Sensors in Each Angle of View

The self-developed S-OPG mapping image control system integrates data imaging, parameter setting, position calculation, dynamic image transmission, Bluetooth transmission, and network communication, breaking through the control integration mode of traditional oblique camera and opening the user operating system.

The camera is embedded with five S-OPG image control sensors, showing excellent performance from pixel integration to image quality.



In Addition to Basically Enhancing Stabilization Supporting Multi-Angle Picturing

The intelligent 3-axis Gimbal can guarantee the horizontal stabilization of camera, realizing the high overlap between original data and the calculated aerial triangulation.

The pitching angle can be freely adjusted within 180 degree , so it can be used for building facade shooting; And stereo overlaying function enables users to view more details of oblique photography.



Super Durable S-GS Global Shutter Prolonging Working Life by Three Times A Cost-Effective Productivity Tool.

The independently developed S-GS global shutter can stabilize image at high speed flies clearly, improving capturing efficiency and quality.

The Shutter is integrated with KIMOTO high speed shading blade with double structure, so that the friction coefficient is low and high temperature resistance is high. Therefore, it is designed for high frequency trigger scenarios, and is more stable and durable.



Excellent Optical Quality

Self-Developed Professional S-ML Mapping Lens

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Self-developed S-ML prime lens equipped in five views and multi-layer LD low-dispersion lens enable excellent optical quality, effectively eliminating chromatic aberration.

The front len is coated with fluor in compound, which is waterproof, oil-proof, stain-proof, protecting the lens module effectively.

The model is more excellent with precision optical correction, highly matched CMOS imaging matrix, and stable data capturing process.

Abundant and Clear Screen Display Visualized Camera Information

The camera is equipped with a new upgraded OLED HD color screen, which can display the camera status and parameter settings in a real-time way, including trigger signal type, number of photos, body temperature, ambient humidity, RTK status, Bluetooth connection status, RAM, shutter life, and other important information. It is intuitive and easy for user operation.



Terrain-Following Flight

Unlocking a New Attitude of Oblique Photography

The three-axis Gimbal-enhanced terrain-following flight enables adjustment of camera to ensure that the camera shooting angle is always vertical to the ground to give full play to the extreme performance of UAV and camera and improve the operation efficiency.

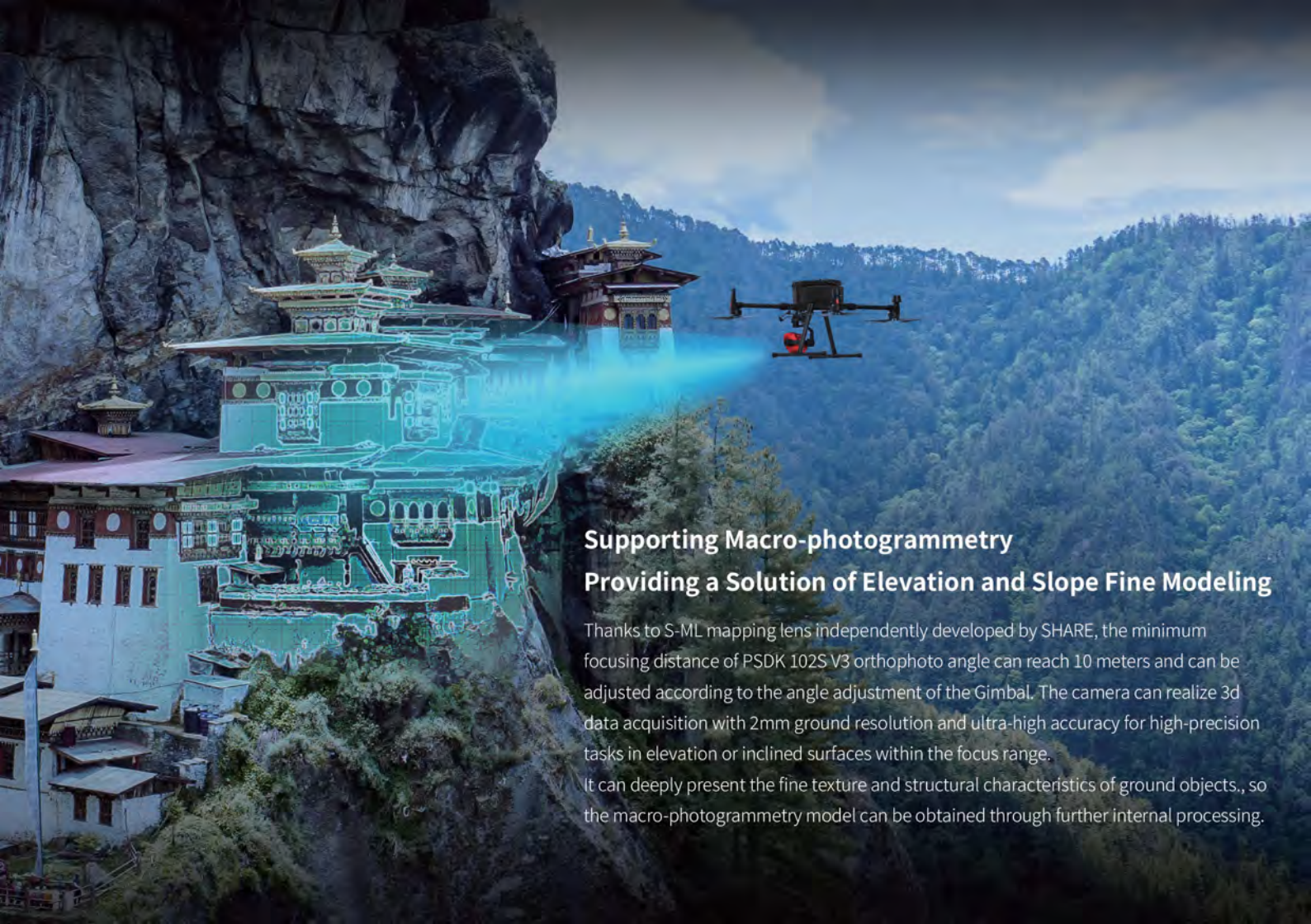




2D Modeling

Intelligent Stabilizing Orthographic Mapping Camera

Users can open nadir view lens separately to do 2D projects. The nadir view angle can always be vertical to the ground when combined with 3-axis stabilized gimbal. The orthographic projects can be achieved with GCPs free and high efficiency to meet the requirement of different orthographic scenarios.



Supporting Macro-photogrammetry Providing a Solution of Elevation and Slope Fine Modeling

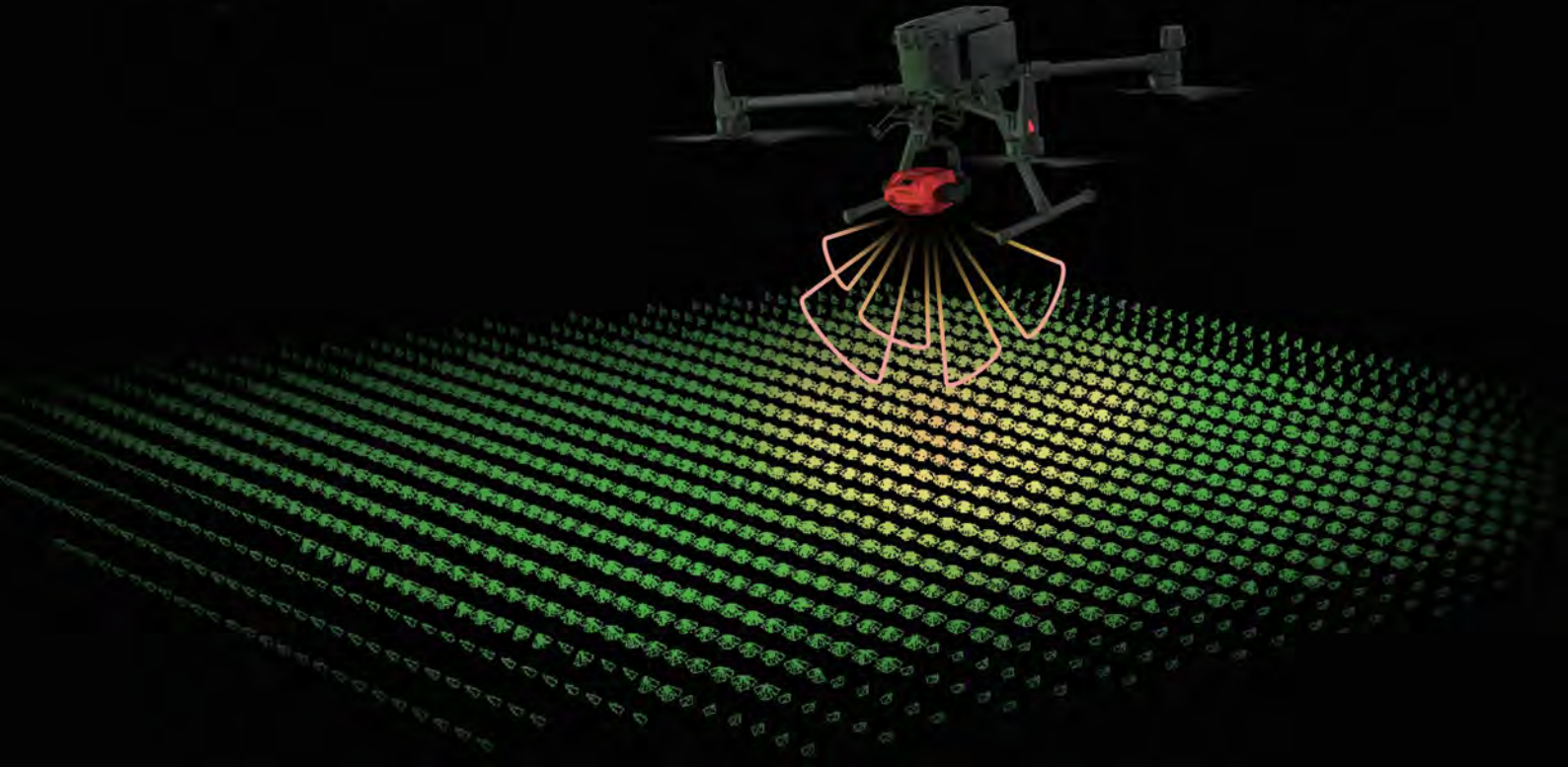
Thanks to S-ML mapping lens independently developed by SHARE, the minimum focusing distance of PSDK 102S V3 orthophoto angle can reach 10 meters and can be adjusted according to the angle adjustment of the Gimbal. The camera can realize 3d data acquisition with 2mm ground resolution and ultra-high accuracy for high-precision tasks in elevation or inclined surfaces within the focus range.

It can deeply present the fine texture and structural characteristics of ground objects, so the macro-photogrammetry model can be obtained through further internal processing.

Instantly Triggering and Writing POS and Photographs

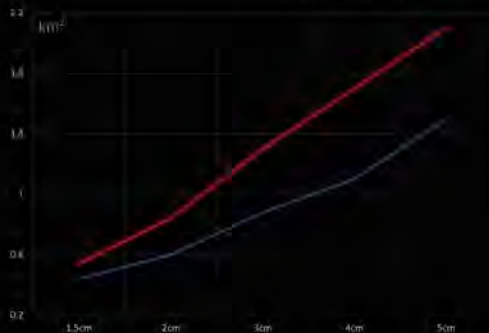
TimeSync 2.0 time synchronization algorithm is incorporated deeply, synchronizing time at microsecond-level with UAV, recording five-view centimeter-level position information independently and accurately, and letting POS write photos instantly without integrating any in-industry software.

It uses highly mature image free control technology and is the individual operation new weapon in Aerial surveying.

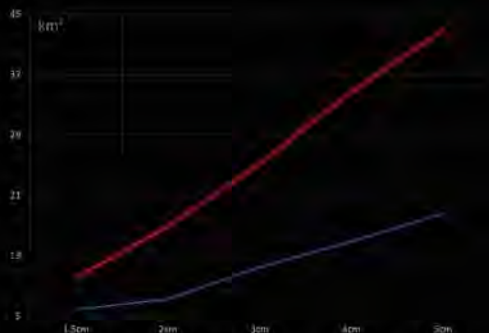


Comparison on PSDK 102S V3 Operational Efficiency

PSDK 102S V3 Traditional 100-Megapixel Five-Lens Camera



Comparison on Single Sortie Operation Efficiency



Comparison on All Day Operation Efficiency

Working time of traditional 100-megapixel five-lens camera is 9:00-15:00, totally 6 hours/ day, and the maximum operating speed is 10m/s; while PSDK 102S V3 can extend the working time to 8:00-17:00, totally 9 hours/day, and the maximum operating speed is 15m/s.

DJI M300 RTK + PSDK 102S V3 Aerial Survey Efficiency Table

It should be calculated based on 30min of single sortie and 9h of whole day.
Overlap rate: forward overlap is 80% and side overlap is 70%.

Ground Resolution cm	Flight Height m	Flight Speed m/s	Single Sortie Operation Area km ²	All-Day Operation Area km ²
1.5	100	12.3	0.54	10.1
2	133	15	0.84	16.9
3	200	15	1.3	25.2
4	266	15	1.7	34.7
5	333	15	2.1	42.9

The above data are measured in a controlled test environment for reference only. There may be errors in different project requirements or operating environments, so please subject to actual operating conditions.

Specification

Size	120*120*83mm;171*192*185mm(with Gimbal)
Weight	610g;1100g(with Gimbal)
Working Temperature	-10°C-40°C
Storage Temperature	-20°C-50°C
Absolute Precision	Plane precision: 3cm, height precision: 5cm , groundresolution-3cm,flight speed 15m/s, forward overlap 80%, side overlap 70%;
Camera Power Supply	Two interfaces, external: DC 12-50V
Effective Pixels	Single lens \geq 25 million pixels, total 125 million pixels
Sensor	Sensor size: 23.1x15.4mm(APS-C)
Pixel Size	3.76 μ m
Image Size	6144 X 4096px
Data Storage	Photo/POS file with GPS information and camera parameter information
Focal Lens	Oblique: 35mm,normal incidence: 25mm
Oblique Angle	45 degree
ISO Interval	50-200,50-400,50-640,50-800,50-1000,50-1600
Shutter Speed	1/500,1/640,1/800,1/1000,1/1250
Aperture Size	F5.6
Storage Capacity	1280GB
Shooting Interval	\geq 0.5S
Stable System	3-axis (Pitch,roll,yaw)
Installation Method	DJI SKYPORT;DJI SKYPORT adapter
Gimbal Rotating Range	Pitch: -120°~ +45°;Roll: \pm 45°;Yaw: \pm 160°

