



User manual

**Z5S**

UHD 4K Video Gimbal Camera

**Compatible with DJI M200/M210/V2/M300RTK**



Images are for reference only, please subject to the actual product.

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## Camera Introduction

Z5S is a combination of 3 axis gimbal and SONY a5100 camera with APS-C sensor. The 3-axis gimbal based on FOC technology features high stability, accuracy and sensitivity. The gimbal can be controlled in three directions: YAW, ROLL and PITCH, we use FOC solution can greatly compensate the vibration of UAV. Combined Sony APS-C sensor with a5100 interchangeable lens, Z5S have been widely used in various fields like electrical industry, transmission towers, electric substations, zoom aerial photography and other industries in the application of drones. It can be used on DJI drones M200 / M210 / M210RTK and V2, and controlled directly by APP DJI PILOT. The one-key to center function will allow the gimbal return to initial position automatically and rapidly. You can input a degree in APP Payload Setting and get the gimbal attitude exactly.

## Camera Description



Please make sure that the motor is not stopped by any object during the rotation, if the gimbal is blocked during rotation, please remove the obstruction immediately.

# Mechanics@Electronic Characteristics

Input voltage	3S~ 4S	Idle current	330mA@12V
Dynamic current	450mA@12V	Working environment temp	0℃ ~ +40℃
Size	127*125*130mm	Weight	

Pitch/Tilt: Pitch angle range of action : $\pm 90$
Roll: Roll angle range of action : $\pm 85^{\circ}$
Yaw/Pan: Yaw angle range of action : $\pm 360^{\circ}$ N
Vibration angle: Pitch/Roll: $\pm 0.02^{\circ}$ , Yaw: $\pm 0.03^{\circ}$

## Application Description

### DJI Pilot

After mounting Z5S on DJI drone and connecting with remote control, you can operate the gimbal camera via APP DJI Pilot. The gimbal attitude angles (tilt and pan) can be controlled by DJI remote control. Control method please refer to DJI related user manual.

### 1. Menu instruction



## 2. Camera setting

### 2.1 Photo mode setting

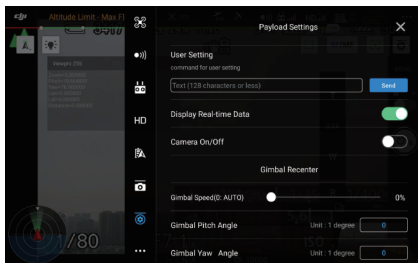
You can choose single shot, burst mode or interval mode.



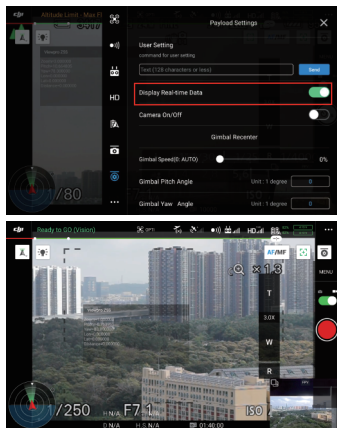
### 2.2 Record mode setting



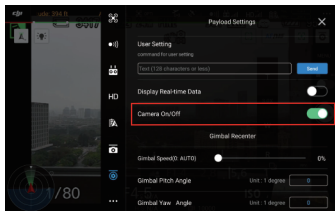
### 3. Payload Settings



#### 3.1 Display real time data:



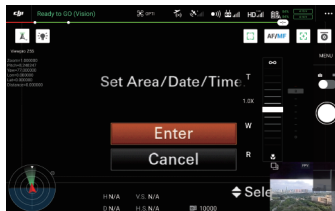
- 3.2 Camera on/off: to switch both On and Off the camera, you need to turn on and off the button once as one action.
- All camera settings can only be saved after camera on/off.
  - Turn off the camera before power off so that setting requirements won't pop-up again when you reboot
  - Turn camera off could protect the camera lens during taking off and landing.



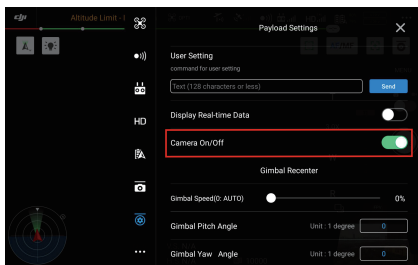
Turn off camera: "No video signal" on OSD



Turn on camera: Set the camera as needed (Area, Date, Time, Language...)  
(For more camera setting instruction please refer to user manual of SONY a5100.)

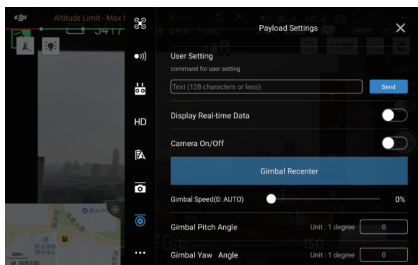


Note: Make sure camera is off before shutting down.



### 3.3 Gimbal recenter:

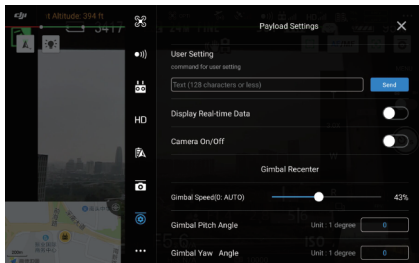
Gimbal recenter will allow the gimbal return to initial position automatically and rapidly.





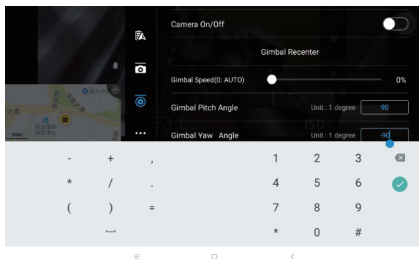
### 3.4 Gimbal speed

Gimbal speed is adjustable. When it's 0%, the speed will adjust automatically, quick speed for wide end, slow speed for tele end. When you adjust it to 1% manually, the speed will be low even in wide end. The high the percentage is, the quicker the speed will be.



### 3.5 Gimbal Angles Setting

Input the pitch / yaw angle degrees to get exact attitude angles directly.



# Specification

Hardware Parameter	
Working voltage	12V ~ 16V
Input voltage	3S ~ 4S
Output voltage	5V (connected with PWM)
Dynamic current	450mA @ 12V
Idle current	330mA @ 12V
Power consumption	≤5.4W
Working environment temp.	0℃ ~ +40℃
Output	Slipport
Local-storage	SD card (Up to 64G, class 4, FAT32 or ex FAT format)
Control method	DJI Pilot (control zoom, focus, photograph, record, on/off camera)
Gimbal Spec	
Pitch/Tilt	±45° ~ +90°
Roll	±45°
Yaw/Pan	±360°
Vibration angle	Pitch/Roll: ±0.02°, Yaw: ±0.03°
One-key to center	√
Camera Spec	
Imager Sensor	SONY Exmor CMOS, 23.5x15.6mm (APS-C)
Lens	16~50mm, F3.5-5.6 OSS
Zoom	2x optical zoom
Digital zoom	4x
Effective pixel	24.3MP
Total pixel	24.7MP
Image Sensor aspect ratio	3:2
Recording format	AVCHD 2.0 / MP4 / XAVC S
Image format	JPEG (DCF Ver. 2.0, Exif Ver.2.3, MPF Baseline compliant), RAW (Sony ARW 2.3 format)
Image size (pixels), 3:2	L: 6000 x 4000 (24 M) M: 4240 x 2832 (12 M) S: 3008 x 2000 (6.0 M)
Dynamic range functions	Auto High Dynamic Range (Auto Exposure Difference, Exposure Difference Level (1-6 EV, 1.0 EV step)) Dynamic Range Optimizer (Auto/Level (1-5)) Off
Backlight compensation	Yes
Shutter speed	Movies: 1/4000 to 1/4 (1/3 steps) up to 1/60 in AUTO mode (up to 1/30 in Auto slow shutter mode) Still Images: 1/4000 to 30 sec, Bulb
White balance	Auto
Focus type	Fast Hybrid AF (phase-detection AF/contrast-detection AF)
AF mode	AFA (Automatic AF), AFS (Single-shot AF), AFC (Continuous AF), DMF (Direct Manual Focus), Manual Focus
Exposure compensation	Still images: +/- 3.0EV (1/3EV steps), Movies: +/- 2.0EV (1/3EV steps)
Gain	Auto
OSD	Yes
Facial Detection	On, On (Regist. Faces), Off
Packing Information	
N.W.	570g
Product meas.	127*125*130mm
Accessories	1pc gimbal camera device / High quality plastic box with foam cushion