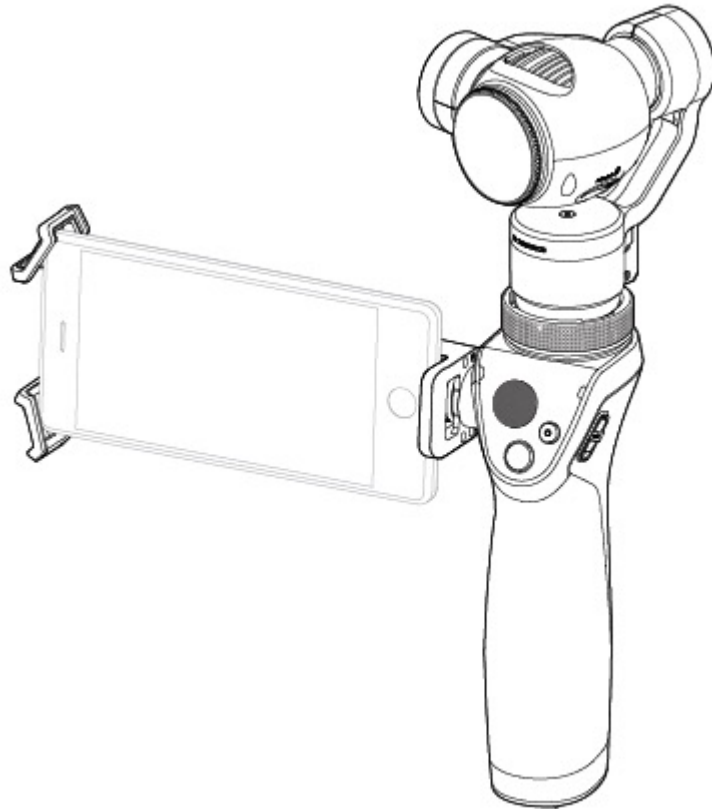# Osmo User Manual

V1.0 2015.09

Navigating to a Topic
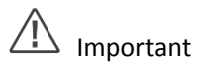
View a complete list of topics in the table of contents. Click on a topic to navigate to that section.

Searching for Keywords

Search for keywords such as "battery" and "install" to find a topic. If you are using Adobe Acrobat Reader to read this document, press Ctrl+F on Windows or Command+F on Mac to begin a search.

Using this Manual

Legend

⚠ Important   💡 Tips

Download DJI GO App

Search 'DJI GO' on the App Store or Google Play and download the app to your mobile device.

For the best experience, use a mobile device that runs iOS 8.0 or Android 4.1.2, or a later version.

Content

Introduction

The Osmo is a professional handheld gimbal with camera. Its camera has a 20 mm lens and

shoots sharp 12mp stills and stable video at up to 4K. The light and portable design, along with accessible buttons on the handle allows you to capture the world from a personal and unique perspective. A high speed WiFi video downlink connects your mobile device that offers a live HD view while filming.

The Osmo uses a 3-axis gimbal coupled with SmoothTrack technology to iron out camera shake from hand movement. It can be set in Locked Mode, in which camera motion is be fixed. Osmo allows you quickly adjust the pan and tilt angle of the camera by hand. There is a build-in microphone and an external microphone input.

The Osmo comes with a mobile device holder to mount your smartphone, but there are other external mounts available that are well suited for other filming scenarios. These external mounts include extension bar, vehicle mount, tripod and bicycle amount.

At a Glance:
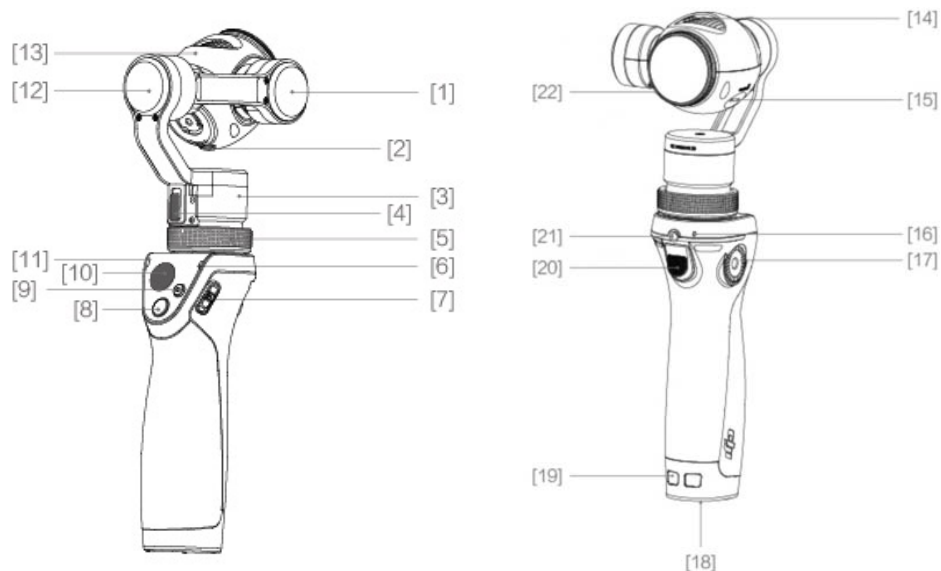
1. Tilt Motor
2. Micro USB Port
3. Pan Motor
4. Pan Axis Lock
5. Gimbal Lock
6. System Status LED
7. Power Switch
8. Shutter Button
9. Record Button
10. Control Stick
11. Camera Status LED
12. Roll Motor
13. Camera
14. Air Vents
15. Micro SD Card Slot

16. Built-in Microphone

17. Gear Mount

18. Battery Cover

19. Lanyard Hole

20. Trigger

21. External Microphone Input

22. Lens Cover

Getting Started

Intelligent Battery

Before you start using your Osmo, be sure to fully charge the Intelligent Battery. The battery has a capacity of 980mAh, and can power the Osmo for about 65 minutues.

| Intelligent Battery Functions	
Battery Balancing	The battery balances the voltage of each cell during charging.
Overcurrent Protection	The battery stops charging if the charging current is too large.
Overcharge Protection	The battery stops charging if its voltage is too high.
Over-discharge Protection	The battery stops discharging if its voltage is too low.
Short Circuit Protection	The battery cuts the power supply if a short circuit is detected.
Temperature Control	The charging temperature range is between 15°C and 40°C. The battery will stop charging if the temperature is out of range.
Battery Level Display	The battery level is displayed in the DJI GO app.

Battery Specifications

Model	HB01-522365
Type	LiPo
Capacity	10.8Wh, 980mAh
Charging Temperature	15° to 40° C
Operating Temperature	0° to 50° C

Charging the Battery

Place the battery into the battery charger, and then connect the charger to a power outlet using the provided cable. Only charge the battery with the provided battery charger.

The LED indicator on the battery charger glows green when in standby, and glows red when charging. After the battery is fully charged, the LED indicator will change from red to green.
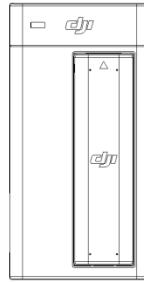
Battery Charger Specifications

| Model	SOY015A-1260120
Input	100-240V, 50/60Hz
Output	12.6V, 1.2A

Inserting the Battery

Toggle the switch at the base of the Osmo to lock or unlock the battery cover. Insert the battery and lock the battery cover.

Mounting the Gimbal and Camera

The Osmo comes with the Zenmuse X3 gimbal and camera, which should be mounted onto the handle before using the Osmo.

1. Remove the gimbal cover handle cover. Loosen the gear mount cover.
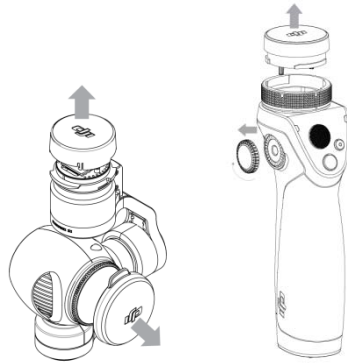
2. Rotate the Gimbal Lock to the unlocked position (with the white mark on the Gimbal Lock aligned to the white line on the handle), then insert the gimbal by aligning the white mark on the gimbal with white mark on the Gimbal Lock. Make sure the two ends make good contact.

3. Rotate the Gimbal Lock to the locked position (with the red mark on the Gimbal Lock aligned to the white line on the handle). Ensure the gimbal is mounted securely.
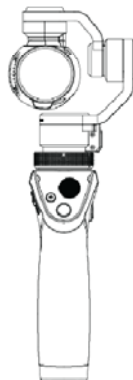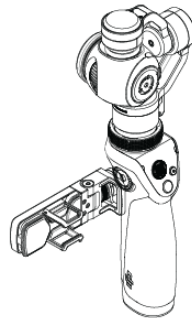
The Osmo supports the more powerful DJI Zenmuse X5 gimbal and camera which can be mounted onto the Osmo through an adaptor. Refer to the Zenmuse X5 User Manual for more details.

Mounting the Mobile Device Holder

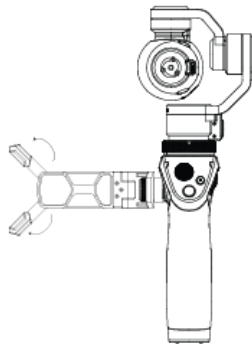1. Attach the end of the mobile device holder to the gear mount.
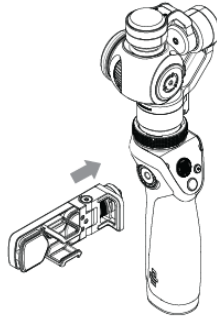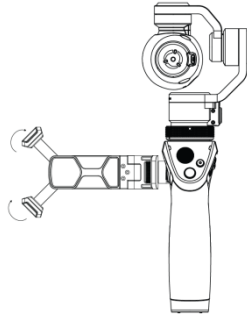

2. Tighten the knob to secure.

Mounting your Mobile Device

1. Release the two clamps on the mobile device holder.

2. Rotate the clamps to the desired position.

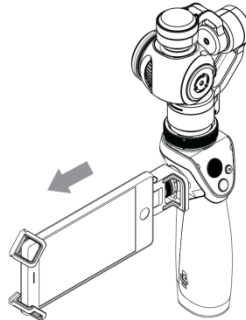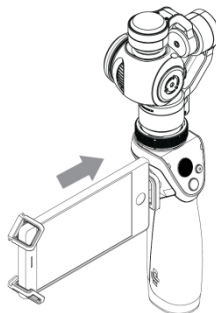3. Place one end of your mobile device into the clamps.
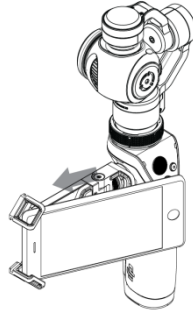
4. Extend the clamps so that your entire mobile device fits into the mobile device holder.

5. Release your mobile device to secure it in place.

Different types of adapters can be attached to the gear plate of the Osmo filming conditions.

Extend Handle: the distance between your hand and Osmo can be adjusted convenience when using the extend handle.
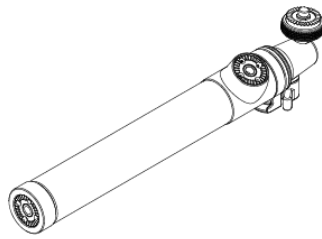
Vehicle Mount: For mounting the Osmo on top of vehicles or behind the window where the Osmo will be subjected to extreme movement or acceleration.
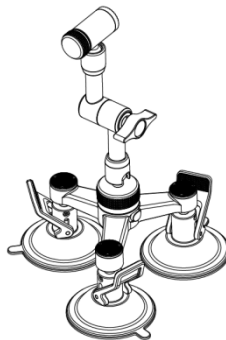
Tripod: For capturing steady footage.
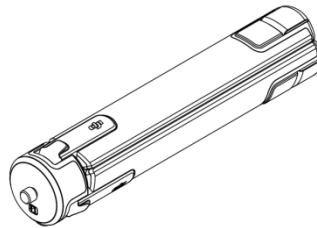
Bicycle Mount: For mounting the Osmo on a bicycle.
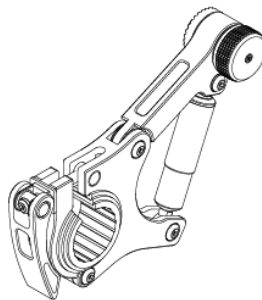
Visit the DJI Store to learn more.

Unlocking the Gimbal

To protect the gimbal, the three motor axes are locked out of the package. Make sure you unlock the gimbal before using it.

1. Gently rotate the tilt motor until it can rotate freely. Then do the same for the roll motor.
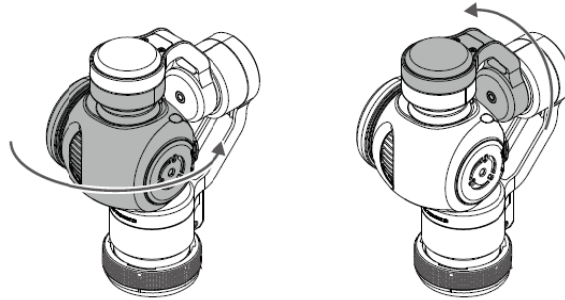
⚠ • Be sure to unlock the tilt motor prior to unlock the roll motor every time, otherwise it may cause friction to the camera lens.
   • Only rotate the motors a few range to unlock them.

2. Slide the switch on the pan axis upwards to unlock the pan axis.
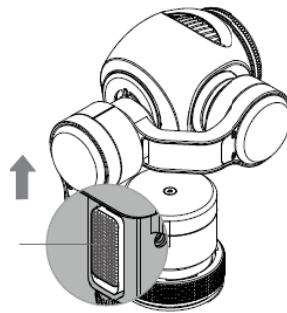
Using the Osmo

Handle Buttons

Power Switch

To turn on or turn off the Osmo, pull the power switch down, hold for 1.5 seconds, and then release it. If for some reason the Osmo cannot turn off normally, pull the power switch down and hold for 4 seconds to force it to power off.

Pulling the power switch when the Osmo is turned on will cause it to enter hibernation mode. Repeat this action to bring the Osmo out of hibernation mode.
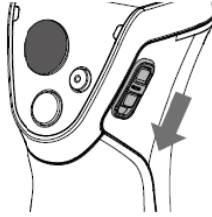
⚠ Ensure that the gimbal is unlocked and the three motor axes can rotate freely before powering on the Osmo.

Control Stick

Controls the pan and tilt motions of the camera. Push left or right to pan, up or down to tilt.
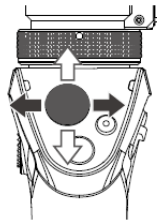
Shutter Button

Pressing this button will take photos based on your settings in the DJI GO app.

Record Button

Press this button once to start recording video, and again to stop recording.
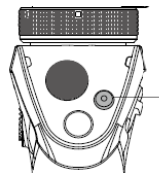
Camera Status LED

Indicates the camera's system status. Refer to the table below for details.
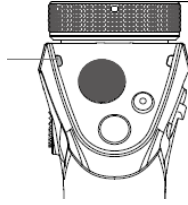
Camera Status LED	Description
Solid Green	Camera is functioning normally / Successful firmware upgrade.
Solid Red	Camera is not mounted on Osmo properly / Firmware upgrade or operation error.
Blinks Green	Shooting Photo.
Blinks Green slowly	Delay in shooting.
Blinks Green for each shot	Burst shooting.
Blinks Red and Green alternately	Upgrading firmware.
Blinks Yellow	Micro SD card warning (such as formatting initialization)
Solid Yellow	Micro SD card error.
Blinks Red twice	Camera error.

System Status LED

Indicates the status of the Osmo. Refer to the table below for details.

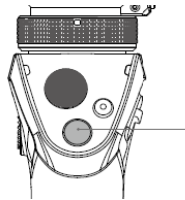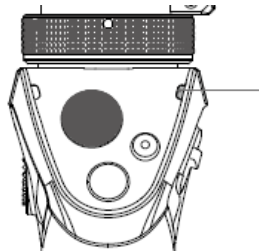| System Status Indicator	Description
Blinks Yellow	The roll angle of handle is less than 45°, the gimbal will not power on
Blinks Green quickly	The Osmo is initializing (along with beeping)
Solid Green	The Osmo is functioning normally
Solid Yellow	Low-battery level warning
Blinks Red twice at a time	Critical low battery level warning
Blinks Green, Yellow or Red depending on the current battery level	The trigger button is pressed and the gimbal is in lock mode
Solid Red	The Osmo is functioning abnormally.
Blinks Green, Yellow or Red depending on the current battery level	The Osmo is in hibernation mode.
Blinking Green quickly	Exiting hibernation mode.

Trigger Button

The SmoothTrack mode is enabled by default. When the handle is rotated left or right, the camera will smoothly pan and slow down to stop, when the handle is rotated up or down, the camera will smoothly tilt and slow down to stop.

Press the Trigger Button and hold will enable Lock Mode. The camera will stay at the current position, no matter how the handle is rotated. The Osmo will switch back to SmoothTrack mode once the button is release.

Press the Trigger Button twice quickly to return the camera to the center.
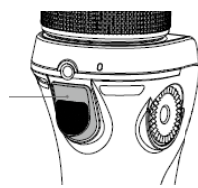
External Microphone Input

Attach an external mic to this input to record high quality audio.
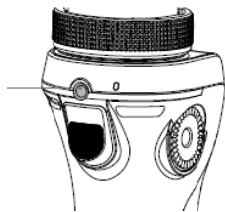
Built-in Microphone

Records audio. You can turn off reception in the DJI GO app.
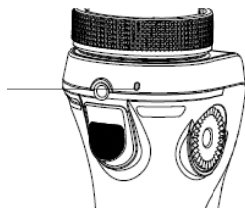
⚠ The external microphone will override audio reception of the built-in microphone.

DJI GO App

You may see what the camera sees in your mobile device in a real time HD through DJI GO app, camera settings and gimbal settings can be configured in the app too.

Download

Search 'DJI GO' on the App Store or Google Play and download the app to your mobile device.

Connecting to the DJI GO App

1. Pull down the power switch and hold for 1.5 seconds, then release to turn on the Osmo. Do not touch the gimbal during self-check.
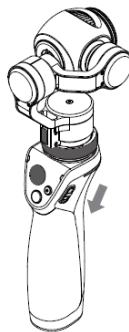
2. On your mobile device, select 'xxx' from the Wi-Fi networks, and enter the default password. Then launch the DJI GO app.

3. Enter Camera View, then you will see what the camera captures in real time if it is connected successfully.

DJI GO App Settings

1. Equipment-> Enter Camera View
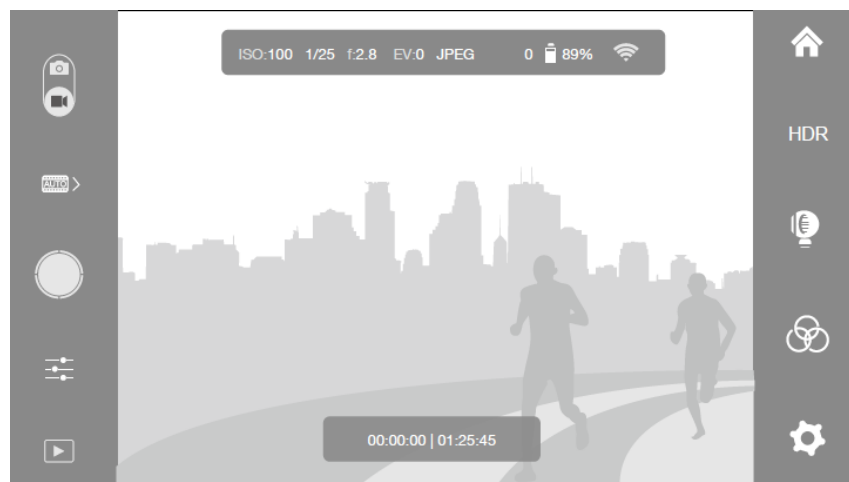
[1] Osmo Information

Display ISO, Shutter Speed, EV, Current Battery Level, Wi-Fi signal Strength.

[2] Photo or Video

Slide to switch photo or video mode.

[3] Photo/Video Settings

Photo Settings

Single

Single shoot, delay 5 sec or delay 10 sec shoot.

Multiple

Burst shooting 3/5/7 frames or Auto Exposure Bracketing (AEB) 3/5 bracketed frames at 0.7EV Bias.

PANO

Auto: The camera will automatically rotate 360 degree to take a panoramic photo.

Manual: You may set up the start and stop position, then the camera will rotate between the two positions and take a panoramic photo.

Selfie: The camera will automatically adjust the lens point to you and rotate 180 degrees to take a panoramic photo.

Interval

5 sec, 10 sec, 30 sec

Video Settings

Auto: The video can be recording without other input.

Time Lapse: The video can be recording after the setting delay time.
Slow Motion: The video can be recording in slow motion.

[4] Shutter Button and Start/Stop Recording Button

Tap once to shoot or start/stop recording.

[5] Camera Parameters Settings

Setting Camera mode, Iris (available when using Zenmuse X5 on Osmo), ISO, EV, and WB.

[6] Play Back Button
Tap to view your photo or video.

[7] Time Bar

`00:10:32 | 0:00`

Display the video recording time and remain recording time.

[8] Settings

Camera Settings
Video Resolution, Video Format, Photo Scale, Photo Format, Overexposure Warning, Grid Histogram, Anti-Flicker, Record Audio, Enhance Contrast and Video Standards could be set up here. You may also view the Serial Number, enable YouTube Live Stream and Reset Camera.

Gimbal Settings
Preset Profiles
Three preset profiles are provided for users to quickly set up the SmoothTrack speed, SmoothTrack acceleration, deadband, control stick smoothing, and control stick maximum speed. Users may also create their custom profiles.

Deadband
A larger deadband requires more pan/tilt/roll handle movement to translate into gimbal motion.

SmoothTrack Speed
SmoothTrack speed determines how fast the gimbal will catch up with the translated pan/tilt/roll handle movement.

SmoothTrack Acceleration
The SmoothTrack acceleration determines how closely the camera will follow the translated pan/tilt/roll handle movement.

Control Stick Smoothing

Smoothing affects the deceleration of the gimbal. A low smoothing value will cause the gimbal to stop abruptly.

Max Control Stick Speed

This setting represents the maximum speed of the tilt and pan axis when the stick is push all the way in any given direction.

Roll Axis Adjustment

Adjust the roll axis angle here. Increasing the positive value will rotate the roll axis clockwise while increasing the negative value will rotate the roll axis counter clockwise.

General Settings

You may reset the Wi-Fi password and view the SSID here.

Other settings such as video cache, Micro SD card format can be set up here. You may view the current firmware version and restore to default setting.

[9] Photo Filters

Various filters to enhance your photos.

[10] Gimbal Functions

Tap any object in the camera view, the gimbal will follow the selected object all the time. Tap to enable lock mode of the gimbal, the camera will always point to one position. Tap to reposition the camera to center.

[11] HDR

Turn on high dynamic range imaging.

[12] Home

Tap to navigate to the home screen.

2. Library

View, edit and share your artwork all in one place. The Library has a range of simple but powerful tools that let you edit your videos and photos before sharing them online, minutes after they are captured.

View all the photos or videos which capture by Osmo in the Library. The DJI GO app is support to synchronize photos and videos to your mobile device. The best part is you may edit and create your own movie use the editing feature in the Library.

Synchronization

All of the photos and videos will be automatically cached to your mobile device. Tap the □ icon on the right up corner and choose the video or photo to download to your local album.

Edit Video

1. Original Footage

All of the videos you have record will be show up in the Original Footage. Watch one of the videos by tapping it. Extract your best footage within the yellow rectangle by tapping the scissor button.

The time of the yellow rectangle can be adjust from 6 seconds to 60 seconds. You may choose one or more footages. Tap Save, the chosen footages will be show up in the Videos.

2. Videos

Tap to choose one video, you may edit, download, share or delete the video. Tap √ on the video to select two or more videos. Tap Create Movie to edit.

Tap any of the footage to edit, Play Speed, Brightness Adjustment, Saturation and Contrast could be set. Press and hold to move or delete the footage.

There are different music, video number and time for every video template. Tap★ to add water marks, sharing the location, author and date.

Tap Save then your edit videos will be save to your mobile device.

Edit Photos

To edit your photos, you may adjust the parameters, edit the photo size, adding water mark and filter.

Upload and Share

Once you login or register your DJI account, you may upload and share your artwork convenience. The saved photo and video could be upload to Skypixel, and they will always be found and easy to visit and share to social network such as Facebook, Twitter, WeChat, moments and Sina weibo.

3. Explore

Find out about our latest events, featured products and trending Skypixel uploads in the Explore page.

4. Me

If you already have a DJI account, you will be able to participate in forum discussions, earn Credits in the DJI Store, and share your artwork with the community.

If you have any further questions, contact DJI on this page.

Operation Modes

Standard Mode

Standard Mode can be used without any user input.
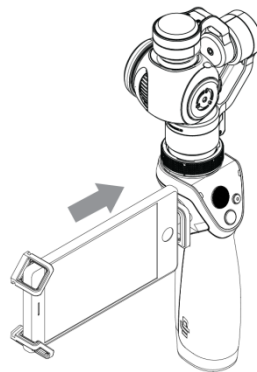
Hanging Mode

Holding the Osmo upside down will cause it to enter Hanging Mode, the camera will be able to capture in lower position while the footage is seen normal. Pressing the mode button twice quickly will center the camera.
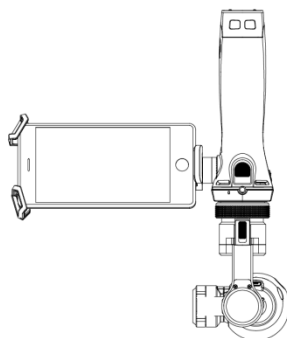
Flashlight Mode

Rotate the Osmo for 90 degrees from the Stand Mode will enter to Flashlight Mode.
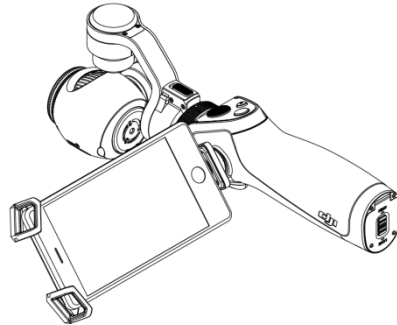
Upgrade

Using Micro SD card to Upgrade

1. Ensure the battery has at least 50% power and there is enough free space on the Micro SD card.
2. Download the newest firmware update package from download page of Osmo product page on DJI website.
3. Insert the SD card into your computer. Extract the .bin file into the root directory of the SD card. Remove the SD card from your computer and insert it to the Micro SD card slot on the camera when Osmo is powered off.
4. Upgrade will begin automatically after Osmo is powered on.

It will take approximately 10 minutes to complete upgrade. The gimbal will sounds short 'Di-Di-Di-Di" during the procedure. The gimbal will sounds 'Di-DiDi' when upgrade successfully. If the upgrade is failed, the gimbal will sounds 'Di-------', please try to upgrade again.

## Upgrade the Osmo through DJI GO App

Connect the Osmo and DJI GO app, there will be a reminder if there is a new firmware version. It is need to be connect to internet when download the firmware package. Upgrade the Osmo according to the tips pop-up in DJI GO app.

It will take approximately 10 minutes to complete upgrade. The gimbal will sounds short

'Di-Di-Di-Di" during the procedure. The gimbal will sounds 'Di-DiDi' when upgrade successfully. If the upgrade is failed, the gimbal will sounds 'Di-------", please try to upgrade again.

You may read the .txt file on the SD card to confirm the upgrade result.

Maintenance

It is recommend to lock the Osmo during transportation to protect the gimbal. Switch the pan axis lock down and rotate the pan axis to the locked position (until it could not rotate), and then adjust the roll motor prior to tilt motor to lock them in place, as shown below.
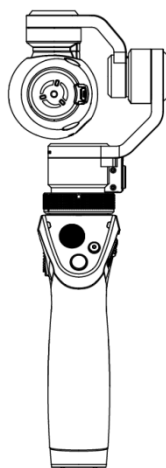
Be sure to unlock the gimbal and adjust the camera to standard operation mode before powering on again.

The Osmo is a precise machine and it is not water resistant. Keep it away from sand and dust during usage. After use, it is recommended to wipe the Osmo down with a soft dry cloth. Never spray any cleaning liquids onto the Osmo.

Specifications

Handle	
Dimensions	61.8 x 48.2 x 161.5 mm
Weight (Battery Included)	205 g
Bicycle Mount Weight	105.5 g
Bicycle Mount Dimensions	113.5 x 79 x 29.3 mm
Mobile Device Holder Weight	118 g

Mobile Device Holder Dimensions	116 x 30 x 34 mm
Tripod Weight	262.5 g
Tripod Size (Folded)	Φ 36 x 171 mm

Gimbal - ZENMUSE X3	
Weight	215 g
Output Power (With Camera)	Static: 9 w; Dynamic: 11 w
Angular Vibration Range	+ - 0.03°
Mounting	Detachable
Controllable Range	Tilt：－45° to +135°；Pan：+ － 320°；Roll－45° to +45°
Mechanical Range	Tilt：－90° to +150°；Pan：+ － 330°；Roll－50° to +90°
Max Controllable Speed	

Camera - X3/FC350h	
Sensor	Sony Exmor R CMOS; 1/2.3"; Effective pixel 12.40M（Total pixel 12.76M）
Photo Resolution	94° FOV 20mm（35mm format equivalent）f/2.8, focus at 3.5m
ISO Range	100-3200 (video); 100-1600 (photo)
Electronic Shutter Speed	8 s - 1/8000 s
Max Image Size	4000 x 3000 pixels
Still Photography Modes	Photo burst mode: 3/5/7 shots
	Auto Exposure Bracketing (AEB): 3/5 bracketed frames at 0.7EV bias
	Time-lapse
Video Recording Modes	UHD: 4096x2160p 24/25; 3840x2160p 24/25/30
	2.7K: (2704x1520p30)
	FHD: 1920x1080p 24/25/30/48/50/60
	HD: 1280x720p 24/25/30/48/50/60
Max Video Bitrate	60 Mbps
Supported File Formats	FAT32/exFAT
	Photo: JPEG, DNG
	Video: MP4/MOV (MPEG-4 AVC/H.264)
Supported SD Cards	Micro SD; Max Capacity: 64GB; Class 10 or UHS-1
Operating Temperature	0° to 40° C
Audio Output	Dual track, 48KHz, AAC

Intelligent Battery	
Model	HB01-522365
Type	LiPo
Capacity	10.8 Wh, 980 mAh
Charging Temperature	15° to 40° C
Operating Temperature	0° to 50° C

Battery Charger	
Model	SOY015A-1260120
Input	100－240V, 50/60Hz
Output	12.6 V, 1.2 A

FCC Warning Message

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

IC RSS warning

This device complies with Industry Canada licence-exempt RSS standard (s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference,including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC Radiation Exposure Statement:

This equipment complies with IC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

KCC Warning Message
"해당무선설비는 운용 중 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다."
"해당 무선설비는 운용 중 전파혼신 가능성이 있음"

NCC Warning Message
低功率電波輻射性電機管理辦法
第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。