

IP Camera Configuration Guide

v1.0

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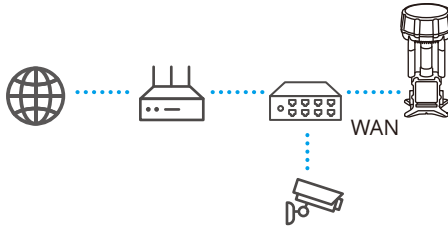
1 Overview

In Gateway Mode, DJI O4 Ground Station supports connecting IP cameras that comply with ONVIF or GB/T 28181 Protocols (China's national standard for video surveillance interconnection). Through DJI FlightHub 2, users can centrally manage camera feeds, monitor device status and surrounding environments in real time. It also supports functions such as PTZ control, motion detection, and video tampering alerts.

 DJI O4 Ground Station does not support connecting IP cameras in Relay Mode.

1.1 Typical Topologies

The following typical topology is available based on the camera's power supply method. The IP camera and the DJI O4 Ground Station WAN port are both connected to the same upstream PoE switch for unified power supply and network access.



Select the appropriate power supply and network topology based on site conditions. For detailed network configuration, refer to [Connection Requirements](#).

2 Connection Requirements

Protocol and Compatibility

- The IP camera must support ONVIF or GB/T 28181 Protocol; otherwise, it cannot be recognized by DJI O4 Ground Station.
- The video stream format must be set to H.264.
- Some camera brands or models may not be compatible. Refer to the Supported Camera List.

Power Supply Requirements

DJI O4 Ground Station cannot supply power to downstream devices. The IP camera must be powered by an independent power source.

- **PoE-powered IP camera:** Connect via a PoE switch or PoE Router, which provides both power and network access.
- **DC-powered IP camera:** Use a separate DC power adapter for power, and connect the camera to a PoE switch via an Ethernet cable for network access.

Network Requirements

Make sure the camera and DJI O4 Ground Station are on the same LAN. A network speed of 100 Mbps or higher is recommended. The camera must connect via the WAN port, with the following IP address requirements:

- ONVIF cameras: Enable DHCP on the camera for automatic IP address assignment. If a static IP address is required, configure it on the same subnet as the upstream router.
- GB/T 28181 cameras: Disable DHCP and configure a static IP address on the same subnet as the WAN port of DJI O4 Ground Station.

3 Pre-Connection Setup

It is recommended to complete all the following preparations indoors before the on-site deployment to minimize commissioning time in the field.

1. Activate the Camera

- a. Set the computer to a static IP address on the same subnet as the camera to ensure connectivity.
- b. Connect to the camera using the configuration tool provided by the camera manufacturer (PC software or web management interface) and complete activation and other initialization steps.
- c. Set an administrator account and password, and keep a record. These credentials are required when adding the camera in the DJI Enterprise App.



Configuration tools and activation processes vary by camera brand. Refer to the camera manual or contact the manufacturer's technical support.

2. Configure Network

Configure the camera's IP address based on the protocol used. For details, refer to [Connection Requirements](#).

3. Configure Connection Protocol

Select the corresponding configuration procedure based on the protocol used by the camera.

ONVIF cameras:

- a. In the camera configuration tool, enable the ONVIF protocol and configure the following features:
 - **Media Stream:** Must be enabled for video transmission.
 - **PTZ:** Enable to allow remote PTZ control in DJI FlightHub 2 (applicable only if the camera supports PTZ).
 - **Event:** Enable if motion detection or video tampering alerts are required.
- b. Save the settings.



To verify that ONVIF is properly enabled, use a third-party tool such as ONVIF Device Manager (ODM) on a PC to scan for the device. If ODM cannot discover the camera, DJI O4 Ground Station will not be able to detect it either.

GB/T 28181 cameras:

- a. When deploying DJI O4 Ground Station using DJI Enterprise App, disable DHCP in the wired network settings to assign a fixed IP address to DJI O4 Ground Station. A fixed IP address is required for GB/T 28181 camera connections.

- b. In the camera configuration page, set the connection protocol to GB/T 28181.
- c. Configure the GB/T 28181 parameters: Enter the IP address of DJI O4 Ground Station as the SIP Server IP address, and configure other parameters as needed.
- d. Connect both the camera and the DJI O4 Ground Station WAN port to the same router or switch.
- e. View the camera video stream in DJI FlightHub 2. The GB/T 28181 configuration parameters of the connected camera can also be viewed on the remote configuration page of DJI O4 Ground Station, under the LAN port connection status.

4. Configure Stream Settings

- a. In the camera configuration tool, go to the video/stream settings page and set the video encoding format to H.264.
- b. Adjust the resolution based on the on-site network conditions. If bandwidth is insufficient, reduce the resolution (e.g., from 1080p to 720p) to ensure smooth video playback.

5. Configure Event Functions (Optional)

Enable the following event functions in the camera configuration tool based on the monitoring requirements:

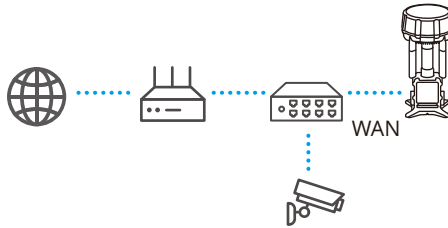
- **Motion Detection:** Detects moving objects in the frame and triggers an alert.
- **Video Tampering:** Triggers an alert when the camera lens is obstructed.



Event function support varies by camera model. Some models may not support the above functions.

4 Installation and Cabling

The following steps use the typical topology as an example.



1. Mount the camera at the selected location and adjust the orientation as required.
2. Run the cable from the camera to the equipment room and connect to the upstream PoE switch.
3. Connect the WAN port of DJI O4 Ground Station to the same PoE switch, which supplies power and network access to the ground station.
4. Connect the PoE switch to an external network.
5. Complete waterproofing and grounding as required by the camera manufacturer.

 Use Cat 6 or higher standard twisted-pair cables for all cabling. The cable length from the camera to the switch must not exceed 100 m.

5 App Configuration and Verification

5.1 Adding a Camera in DJI Enterprise App

1. Ensure that DJI O4 Ground Station is in Gateway Mode, powered on, and connected to the network.
2. Connect DJI O4 Ground Station to a smartphone using a USB-C cable, then run DJI Enterprise App.
3. In the app, go to the **Device Management** page and select **Add Camera**.
4. The app automatically scans for ONVIF cameras on the LAN. Select the desired camera from the search results.
5. Enter the camera administrator credentials to complete authentication. The camera will be added and connected.



If the app cannot find the camera, check the following:

1. Ensure ONVIF Protocol is enabled on the camera.
 2. Ensure the camera and DJI O4 Ground Station are on the same LAN.
 3. Ensure the network cable connection is normal.
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5.2 Viewing and Verifying in DJI FlightHub 2

1. Open DJI FlightHub 2, go to the camera management page, and confirm the camera status is online.
2. Open the live view to ensure the image quality is normal.



If the video stutters, reduce the resolution in the camera configuration tool and retry.

3. Fine-tune the camera angle to ensure the monitoring area covers the target zone.
4. If the camera supports PTZ, test the PTZ Control response.
5. If Motion Detection or Video Tampering alerts are enabled, trigger an alert and confirm that DJI FlightHub 2 receives it correctly.

Supported Camera List

Brand	Model	Protocol	H.264 Live Stream	PTZ Control	Alert Reporting	Firmware Version
Dahua	DH-3H3405-ADP	ONVIF	Supported	Supported	Motion Detection: Supported	2.811.0000018.0.R
		GB/T 28181			Video Tampering: Supported	
TP-LINK	TL-IPC443MEP-A2.8 (PTZ)	ONVIF	Supported	pan/tilt: Supported	Motion Detection: Supported	1.0.4 Build 220818 Rel.66610n
		GB/T 28181		zoom: Not supported	Video Tampering: Not supported	
Dahua	DH-X14M-pro	ONVIF	Supported	Not supported	Motion Detection: Supported	2.860.0000000.29.R
		GB/T 28181			Video Tampering: Supported	
Hikvision (Haovisiontong Series)	HST-IPC62C-LT	ONVIF	Supported	Not supported	Motion Detection: Supported	V5.8.21
		GB/T 28181			Video Tampering: Supported	
Hikvision (AnXiao Series)	HF-V2N-P(2.8mm)	ONVIF	Supported	Not supported	Motion Detection: Not supported	V1.1.0 build 250702
		GB/T 28181				
Hikvision	DS-2DC2404MW-DE3	ONVIF	Supported	Supported	Motion Detection: Supported	V5.9.1
					Video Tampering: Supported	
Hikvision	HK-Q3S5M-W	ONVIF	Not supported (H.265 only)	Not supported	Motion Detection: Supported	V5.8.0