

ALIBI™ ALI-NS1025VR 6 Megapixel IR Mini Dome IP + WiFi Camera Quick Installation Guide

The ALIBI ALI-NS1025VR dome camera includes 6 megapixel video performance in a small form factor network camera. The camera can be mounted directly onto a ceiling. This camera includes the following features:

- 3072 × 2048 (6 MP) @ 20 fps video
- Up to 33 ft (10 m) IR
- 120 dB WDR
- Built-in microSD / SDHC / SDXC card storage up to 128 GB
- Built-in microphone, supports audio in and out (1 channel each way)
- 12 Vdc or Power over Ethernet (PoE)
- Internal 3-axis adjustment
- IP66 weather rated, IK08 impact resistant, TVS 2000 Lightning, Surge and Transient protection

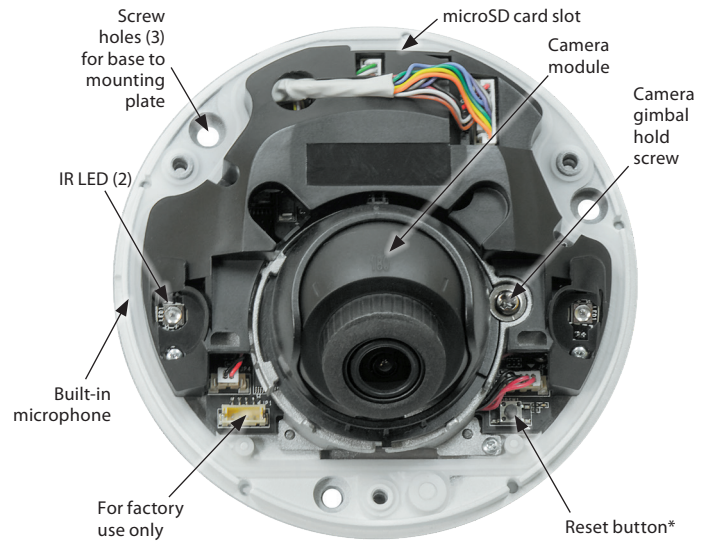


This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

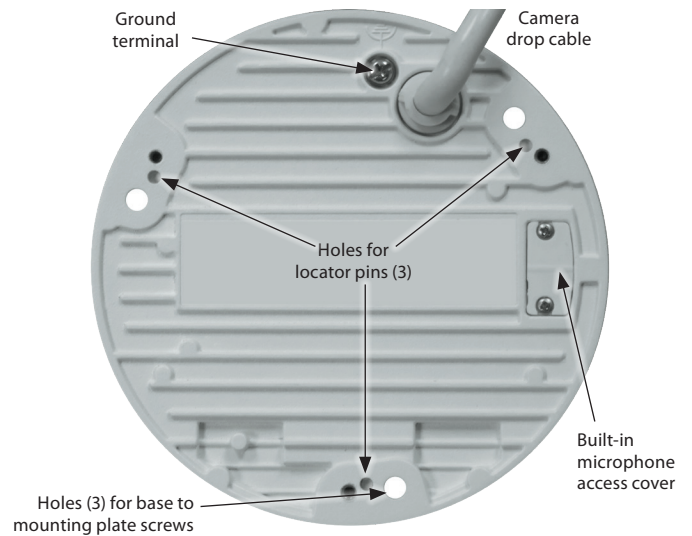
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 8 inches (20 cm) between the radiator & your body.

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

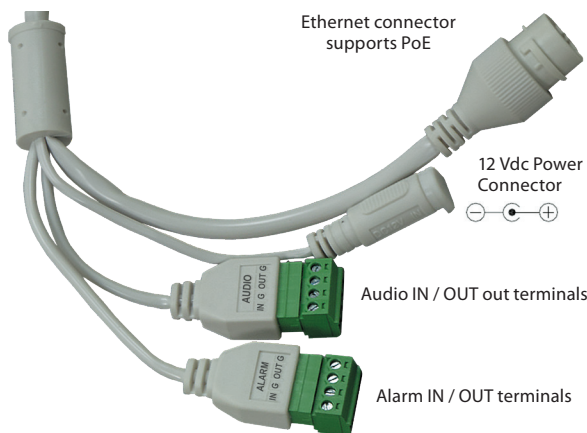


*Reset restores factory settings. Press the reset button for 10 seconds while the camera is powering on or rebooting.

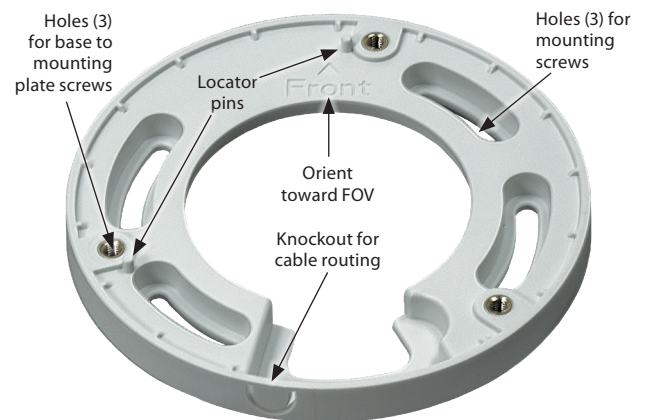
Camera base assembly



Underside of camera base assembly



Camera drop cable connectors

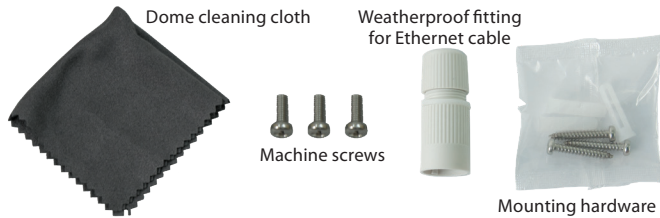


Adapter plate

What's in the box

- Camera assembly
- Dome cleaning cloth
- Machine screws (3)

- Weatherproof Ethernet fitting
- Mounting hardware - screws and wall inserts (3 each)
- This document



Tools you need

To install the camera, you will need:

- If not powering with PoE, a 12 Vdc power source. See **Specifications** for voltage and wattage requirements.
- Phillips #2 screwdriver
- Tools and additional fasteners may be required for mounting the camera
- Ethernet, alarm, audio and power extension cables as needed for the installation.

Step 1. Install the camera

Before installation:

- Do not remove the plastic film that protects the plastic dome.
- Make sure that the device is in good condition and all the assembly parts are included.
- Check the specification of the products for the installation environment.
- Make sure that the mounting surface is strong enough to hold 3 times the weight of the camera.
- To avoid fire or shock hazard, use only UL listed power supplies. Verify that the power supply will provide the rated voltage and wattage for the camera. See the **Specifications** section.

Route wiring to the camera

The camera drop cable can be routed either mounting surface or out the side of the adapter plate.

NOTE

When selecting a mounting location for the camera

- Make sure that there are no reflective surfaces near to the camera lens. IR light from the camera may bounce back onto the lens causing reflections.
- Determine how wiring is routed into the camera. The cable can be routed through conduit (a threaded conduit adapter is provided), through the mounting surface and access hole in the mounting plate, or through the side inlet.

See photos above. The camera includes drop cable connectors for the following:

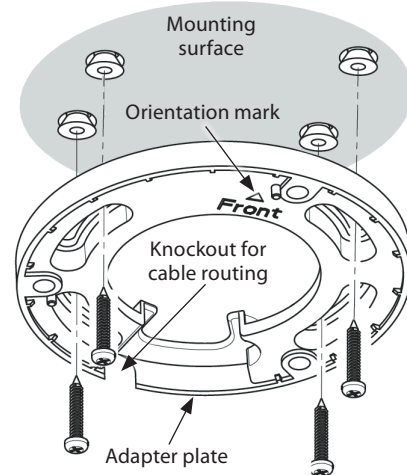
- **Ethernet** (required): The Ethernet drop cable can connect to a LAN extension cable from a switch or Network Video Recorder. The camera can be powered across the LAN using power over Ethernet (PoE) injection. A weatherproof Ethernet cable fitting is provided. See the Specifications section at the end of this document for power requirements.
- **12 Vdc power input** (optional if PoE powered, required if not PoE): If powering the camera with a long power extension cable, refer to the tables at the end of this guide for wire gauge requirements. Voltage input at the camera can be within the range 12 Vdc $\pm$ 25%.
- **Alarm IN / OUT, Audio IN / OUT** (optional): Connect these leads to auxiliary devices as needed. The camera supports one alarm input, one alarm output, one audio input and one audio output. Terminals on the drop cable are screw down connectors.
- **Ground**: A ground terminal is provided near to where the crop cable attaches to the camera. Follow local electrical codes for grounding procedures.

1. Route a LAN extension cable from a network switch or Network Video Recorder to where the camera will be installed.
2. If the camera is not powered using PoE, route 12 Vdc power cables from an adequate power source to the location where the camera will be installed. Refer to the *Specifications* section for power requirements. Also, for long line power leads, refer to the *Wire Gauge Standards* and *12 Vdc Wire Gauge and Transmission Distance* tables at the end of this document. Voltage input at the camera can be within the range 12 Vdc $\pm$ 25%.



Do not apply power to the camera at this time. Before applying power to the camera, ensure that the polarity is correct. An incorrect connection may cause a malfunction and can damage the camera.

3. Install an alarm input and an alarm output devices as needed, and then route wires from them to where the camera will be installed. Alarm terminations for one input (NO or NC) and one output alarm device (DC or AC) are screw-down connectors that accommodate bare wires.
4. Install audio input and out devices as needed, and then route cables from them to where the camera will be installed. Audio terminations in the camera are 3.5 mm plugs.
5. Determine the method for mounting the camera considering:
 - The camera lens adjustments allow a pan of $\pm 30^\circ$, tilt of $0^\circ \sim 75^\circ$, and rotation of $0^\circ \sim 360^\circ$. When mounting the camera, point it at your surveillance target.
 - Where the camera drop cables will connect to the interface cabling.
 - The length of the camera drop cable.
6. Determine the best mounting hardware (screws, wall inserts) for the surface on which you will mount the camera. The screws and wall inserts are adequate for many types of surfaces.
7. Install the adapter plate on the mounting surface:



- a. Place the adapter plate on the mounting surface with the orientation mark (**Front** triangle, see the drawing above) pointing toward the desired field of view.
 - b. Use the adapter plate to mark the hole locations on the mounting surface for mounting screws and cable(s).
 - c. Drill holes for the mounting screws and crop cable, as needed.
 - d. If the drop cable will be routed out the side of the adapter plate, remove the cable knockout.
 - e. Attach the adapter plate to the surface with the screws and wall inserts, if needed.
8. Route the Ethernet, power, alarm I / O, and audio out extension cables from the camera mounting location to the devices they will connect to. Do not apply power to any extension cables at this time.
 9. Connect the extension cables to the camera drop cables.
 - a. If the location where you are installing the camera is excessively dusty or has potential for high moisture levels, install the Weatherproof Ethernet Fitting on the LAN extension cable. See the instructions at the end of this document.



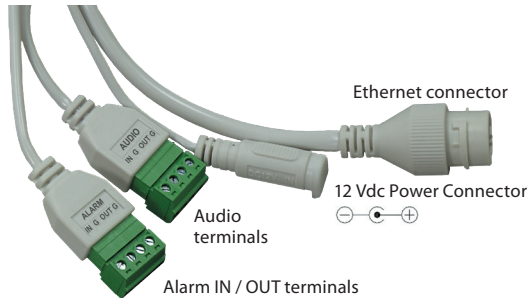
Ethernet Fitting assembled and connected



Failure of the Ethernet connector due to moisture or another contaminant is considered an installation error, which voids the warranty. If installing this camera in a location such as an overhang, shop, garage, kitchen, etc. where high humidity or dust is present, seal these connections adequately.

- b. Attach the Ethernet drop cable to the LAN extension cable.
- c. Connect the ground cable to the ground terminal on the back of the camera base assembly. This location is shown in the photo on page 1.
- d. Connect the audio extension cables to the Audio IN and OUT terminals on the drop cable. Seal these connectors as needed to prevent contamination by dust or moisture.

- e. Connect the alarm extension cables to the Alarm IN and OUT terminals on the drop cable. Attach the ground side of the sensor to the terminal marked **G**. Seal these connectors as needed to prevent contamination by dust or moisture.



- f. Connect the 12 Vdc power cables to the drop cable power connector, if needed. Observe the polarity of the connector as shown in the picture above.
10. Attach the camera base assembly to the adapter plate using the three (3) machine screws provided. Align the base assembly so that the locator pins on the adapter plate slip into the with the locator holes on the base and that the camera is pointing at your surveillance target.
11. Apply power to the camera through the 12 Vdc extension cable or through the Ethernet cable using PoE.

NOTE

This camera supports both IP (wired) and WiFi (wireless) connectivity. Steps 2 thru 4 below guide you for activating the camera and configuring its network parameters for a wired connection. If using the camera exclusively in wireless mode, please refer to the camera firmware user manual activating the camera and configuring its network parameters, and then continue here with Step 5.

Step 2. Install the Alibi Config Tool software

NOTE: If the camera LAN extension cable is attached to a Network Video Recorder (NVR) internal switch, skip this step.

The Alibi Config Tool is a PC-based network utility for discovery of Alibi compatible devices. It provides an easy way to activate devices, configure camera and recorder network configuration settings, and set device passwords. It can be installed on a Microsoft® Windows® operating system that has direct access to the network where your Alibi devices are installed. You can download the Alibi Configuration Tool from Supercircuits.com or AlibiSecurity.com/Resources.

1. Download the Alibi Config Tool from the Supercircuits.com or AlibiSecurity.com/Resources website. At the time when this document was published, the file is named: **alibi-config-tool.zip** and is about 80MB.
2. Un-zip the file on a computer with Microsoft Windows (Windows 10 or newer) that is connected to the LAN where your Alibi camera is connected.
3. Run the file contained in the zip file: **Alibi Config Tool.exe**. Follow the on-screen instructions to install the file.
4. Open the Alibi Config Tool application. When the application opens, it automatically “discovers” and lists all Alibi compatible devices on the LAN. See below.

ID	Device Type	Security	IP Address	Port	Software Version	IP Gateway	HTTP Port	Device Serial No.	Subnet Mask
005	ALI-QVR5016H	Active	192.168.3.99	8000	V3.4.60build 160616	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
010	ALI-QVR5016H	Active	192.168.3.92	8000	V3.4.80build 170302	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
003	ALI-IPU3030R	Active	192.168.0.201	8000	V5.2.0build 150525	192.168.0.1	80	ALI-IPU3030R201409...	255.255.255
001	WL-N16P	Active	192.168.3.27	8000	V3.3.60build 160722	192.168.3.1	80	WL-N16P1620160829...	255.255.255
024	WL-N16P	Active	192.168.3.38	8000	V3.3.60build 161209	192.168.3.1	80	WL-N16P1620160830...	255.255.255
009	WL-T16H	Active	192.168.3.102	8000	V3.4.40build 160713	192.168.3.1	80	WL-T16H1620160829...	255.255.255
025	ALI-NVR3308P	Active	192.168.1.230	8000	V3.4.60build 160913	192.168.1.1	8998	ALI-NVR3308P082016...	255.255.255

Notice: In the screen above, the tool discovered devices with IP addresses of 192.168.0.xxx and 192.168.3.xxx. It will also list other Alibi compatible devices on the LAN, and devices with the address 192.168.1.64 (an inactive Alibi device).

Step 3. Activate Inactive Alibi device

NOTE: If the camera LAN extension cable is attached to a Network Video Recorder (NVR), skip this step. Refer to the documentation available for your NVR firmware for the procedure to activate the camera, if necessary.

When an Alibi device is first installed, or reset to its factory configuration, it must be “Activated” before it can be used. In the Alibi Configuration Tool, “Inactive” devices have a **Security** status of **Inactive**, and an IPv4 address of **192.168.1.64**. A device is “Activated” when a password is assigned to the **admin** username of the device.

In the example below, an ALI-NS1025VR camera is activated and configured for its network. The procedure is similar for all other Alibi network cameras currently available.

1. Scan through the list of devices the Alibi Config Tool discovered for the Inactive device you want to activate (see below). Click on the device in the list to highlight it, and then click the select box to check it. See below.

ID	Device Type	Security	IP Address	Port	Software Version	IP Gateway	HTTP Port	Device Serial No.	Subnet Mask
005	ALI-QVR5016H	Active	192.168.3.99	8000	V3.4.60build 160616	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
010	ALI-QVR5016H	Active	192.168.3.92	8000	V3.4.80build 170302	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
016	ALI-NS1025VR	Inactive	192.168.1.64	8000	V5.4.50build 170701	192.168.1.1	80	ALI-NS1025VR201707...	255.255.255
001	WL-N16P	Active	192.168.3.27	8000	V3.3.60build 160722	192.168.3.1	80	WL-N16P1620160829...	255.255.255
024	WL-N16P	Active	192.168.3.38	8000	V3.3.60build 161209	192.168.3.1	80	WL-N16P1620160830...	255.255.255
009	WL-T16H	Active	192.168.3.102	8000	V3.4.40build 160713	192.168.3.1	80	WL-T16H1620160829...	255.255.255
025	ALI-NVR3308P	Active	192.168.1.230	8000	V3.4.60build 160913	192.168.1.1	8998	ALI-NVR3308P082016...	255.255.255

2. Click the **Activate** button. In the Activate window, you will create a password for the **admin** (administrator) username.

- a. In the Activate window, enter an a password for **admin** in the **New Password** field. Include a combination of uppercase, lowercase alphabetic characters and numbers to create a “Strong” password. The rating is shown beneath the field. See above.
- b. Enter the **admin** password again in the **Confirm** field, and then click **Activate**. In the screen below, notice that the device Security status shows “Active”. **Record your admin password for reference later.**



If you lose your **admin** (administrator) password, you cannot configure the device or restore it to its factory settings. To reset your password, **call** your support organization for specific instructions.

ID	Device Type	Security	IP Address	Port	Software Version	IP Gateway	HTTP Port	Device Serial No.	Subnet Mask
005	ALI-QVR5016H	Active	192.168.3.99	8000	V3.4.60build 160616	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
010	ALI-QVR5016H	Active	192.168.3.92	8000	V3.4.80build 170302	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
016	ALI-NS1025VR	Active	192.168.1.64	8000	V5.4.50build 170701	192.168.1.1	80	ALI-NS1025VR201707...	255.255.255
001	WL-N16P	Active	192.168.3.27	8000	V3.3.60build 160722	192.168.3.1	80	WL-N16P1620160829...	255.255.255
024	WL-N16P	Active	192.168.3.38	8000	V3.3.60build 161209	192.168.3.1	80	WL-N16P1620160830...	255.255.255
009	WL-T16H	Active	192.168.3.102	8000	V3.4.40build 160713	192.168.3.1	80	WL-T16H1620160829...	255.255.255
025	ALI-NVR3308P	Active	192.168.1.230	8000	V3.4.60build 160913	192.168.1.1	8998	ALI-NVR3308P082016...	255.255.255

Notice that although the device is now activated, it retained the default IP address.

Step 4. Modify Network Parameters

NOTE: If the camera LAN extension cable is attached to a Network Video Recorder (NVR), skip this step. The camera will receive network configuration settings from the NVR. Refer to the documentation available for your NVR firmware for more information.

You can change the network parameters of devices that are active.

1. In the list of devices discovered, click on the device you want to change the network settings for, and then click the select box to check it. See below.

Modify Network Parameters

ID	Device Type	Security	IPV4 Address	Port	Software Version	IPV4 Gateway	HTTP Port	Device Serial No.	Subnet Ma
005	ALI-QVR5016H	Active	192.168.3.99	8000	V3.4.60build 160616	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
010	ALI-QVR5016H	Active	192.168.3.92	8000	V3.4.80build 170302	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
016	ALI-NS1025VR	Active	192.168.1.64	8000	V5.4.5build 170701	192.168.1.1	80	ALI-NS1025VR201707...	255.255.255
001	WL-N16P	Active	192.168.3.27	8000	V3.3.6build 160722	192.168.3.1	80	WL-N16P1620160829...	255.255.255
024	WL-N16P	Active	192.168.3.38	8000	V3.3.6build 161209	192.168.3.1	80	WL-N16P1620160830...	255.255.255
009	WL-T16H	Active	192.168.3.102	8000	V3.4.4build 160713	192.168.3.1	80	WL-T16H1620160829...	255.255.255
025	ALI-NVR3308P	Active	192.168.1.230	8000	V3.4.6build 160913	192.168.1.1	8998	ALI-NVR3308P082016...	255.255.255

2. In the popup window, edit the current network parameters, and then enter the *admin* user password in the field at the bottom.
 - a. **Enable DHCP:** You can select **Enable DHCP** to acquire compatible network settings from a DHCP server installed on the LAN. However, these settings can be changed by the DHCP server. Since it is recommended to use an unchanging IP address, you can use DHCP to acquire compatible network settings, and then uncheck **Enable DHCP** and save that configuration to retain the new network parameters.
 - b. In the example below, the IPv4 address was changed to 192.168.3.100, and the IPv4 Gateway was changed to 192.168.3.1. The Subnet Mask here did not need to change. These settings were determined to be compatible with the network router and other devices that share the same router.

Modify Network Parameters

☐ Enable DHCP

Device Serial No.: ALI-NS1025VR20170701AAWR748

IP Address: 192.168.1.64

Port: 8000

Subnet Mask: 255.255.255.0

Gateway: 192.168.1.1

IPv6 Address: 5000e541f001a68cbfffe456a3d

IPv6 Gateway: ::

IPv6 Prefix Length: 64

HTTP Port: 80

Security Verification

Admin Password: *****

OK Cancel

Modify Network Parameters

☐ Enable DHCP

Device Serial No.: ALI-NS1025VR20170701AAWR748

IP Address: 192.168.3.100

Port: 8000

Subnet Mask: 255.255.255.0

Gateway: 192.168.3.1

IPv6 Address: 5000e541f001a68cbfffe456a3d

IPv6 Gateway: ::

IPv6 Prefix Length: 64

HTTP Port: 80

Security Verification

Admin Password: *****

OK Cancel

3. Click **OK** to save your settings. The parameter change(s) will be shown device's network parameters (see below).

ID	Device Type	Security	IPV4 Address	Port	Software Version	IPV4 Gateway	HTTP Port	Device Serial No.	Subnet Ma
005	ALI-QVR5016H	Active	192.168.3.99	8000	V3.4.60build 160616	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
010	ALI-QVR5016H	Active	192.168.3.92	8000	V3.4.80build 170302	192.168.3.1	80	ALI-QVR5016H16201...	255.255.255
016	ALI-NS1025VR	Active	192.168.3.100	8000	V5.4.5build 170701	192.168.3.1	80	ALI-NS1025VR201707...	255.255.255
001	WL-N16P	Active	192.168.3.27	8000	V3.3.6build 160722	192.168.3.1	80	WL-N16P1620160829...	255.255.255
024	WL-N16P	Active	192.168.3.38	8000	V3.3.6build 161209	192.168.3.1	80	WL-N16P1620160830...	255.255.255
009	WL-T16H	Active	192.168.3.102	8000	V3.4.4build 160713	192.168.3.1	80	WL-T16H1620160829...	255.255.255
025	ALI-NVR3308P	Active	192.168.1.230	8000	V3.4.6build 160913	192.168.1.1	8998	ALI-NVR3308P082016...	255.255.255

Step 5. Login to the camera

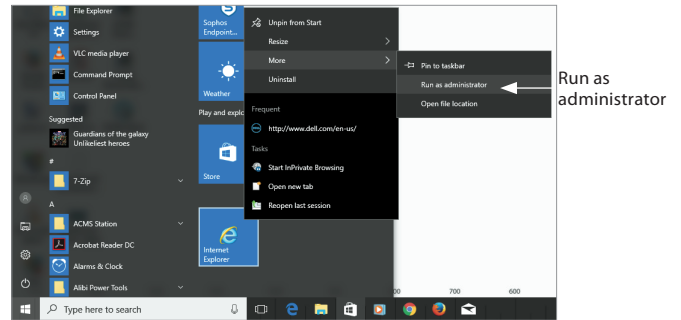
NOTE: If the camera LAN extension cable is attached to a Network Video Recorder (NVR), skip this step.

Microsoft® IE is used to access your camera remotely. IE must run as an Administrator to use all features available through a remote login to the camera.

Setting MS Internet Explorer to run as an Administrator

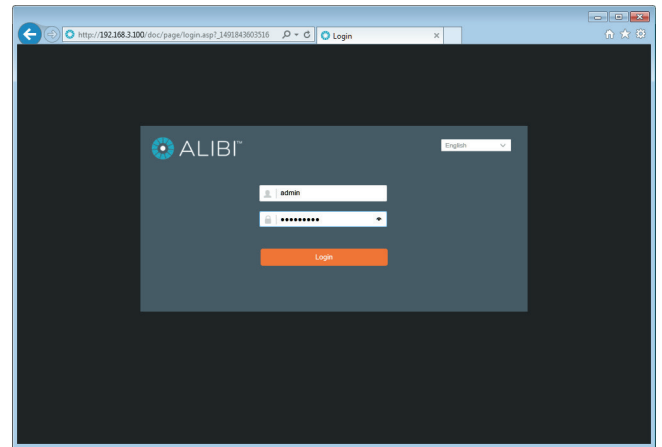
Window 10: To run IE as an Administrator:

1. Find MS IE in the start menu. Usually this is found in the **Windows Accessories** group.
2. Pin the entry to **Start**.
3. Right click on the Internet Explorer tile, and then select **More | Run as administrator**.

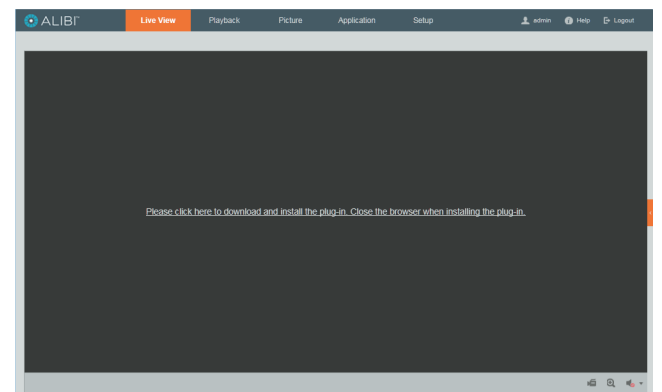


To login to the camera from a computer on the same LAN:

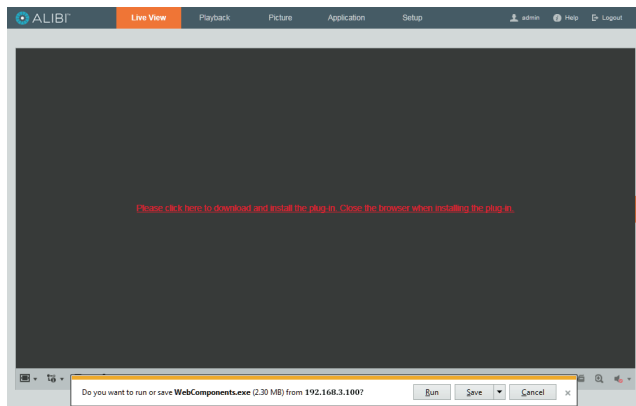
1. Open your Microsoft Internet Explorer (IE) browser on your computer and enter the IP address of the camera in the URL field. In the example below, the IP address of the camera is 192.168.3.100.



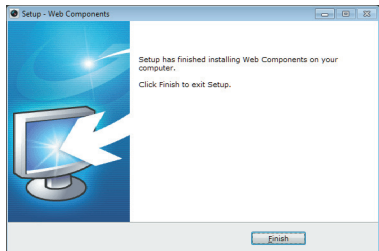
2. In the login window, enter *admin* for the **User Name** and the password you created in the **Password** field, then click **Login**.
3. If this is the first time you are logging into a camera, you may see the message in the following screen. If this appears, follow the sub-steps below.



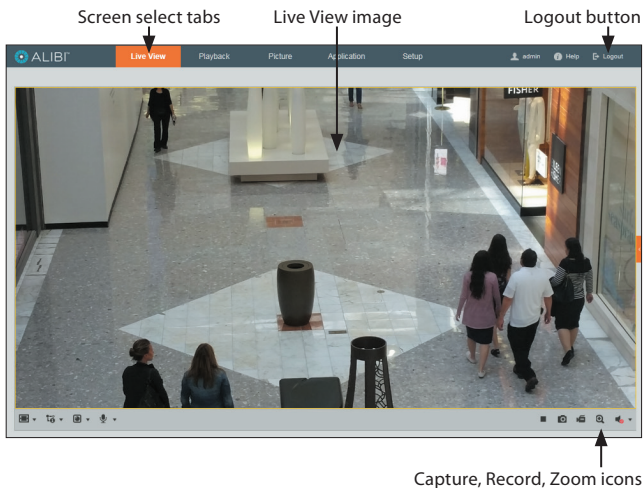
- a. Click on the message to install the plugin.



- b. In the message bar at the bottom of the screen, click **Run**. Follow the on-screen instructions to install **WebComponents**. When the following screen opens, click **Finish**.



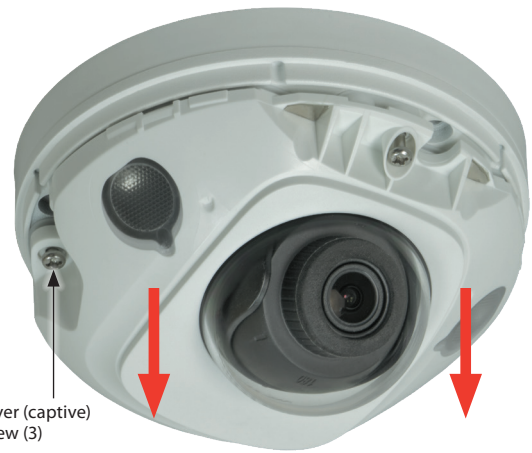
The Live View screen with the camera video image should appear.



Step 6. Insert microSD card into the camera

A microSD card installed in the provides local storage for video recordings, capture files, and log data. The camera supports microSD cards with capacities up to 128 GB. **NOTE:** If the camera is not managed by an NVR or other video management system (VMS), and doesn't have a microSD card, video recordings, capture files, and log data are not saved.

1. Remove the outer camera cover. The outer cover unsnaps from the dome cover.
2. Use a #2 Phillips screwdriver to unscrew the four captive screws that secure the dome cover to the base assembly, and then separate it from the base assembly. At this time, do not remove the plastic film that protects the clear plastic dome.



3. Insert a microSD card into the card slot as shown in the photo below. The label on the card should face away from the mounting surface.



Back of camera base assembly

4. Push the microSD card into the slot as far as possible, and then release it. It should click into place when fully inserted.

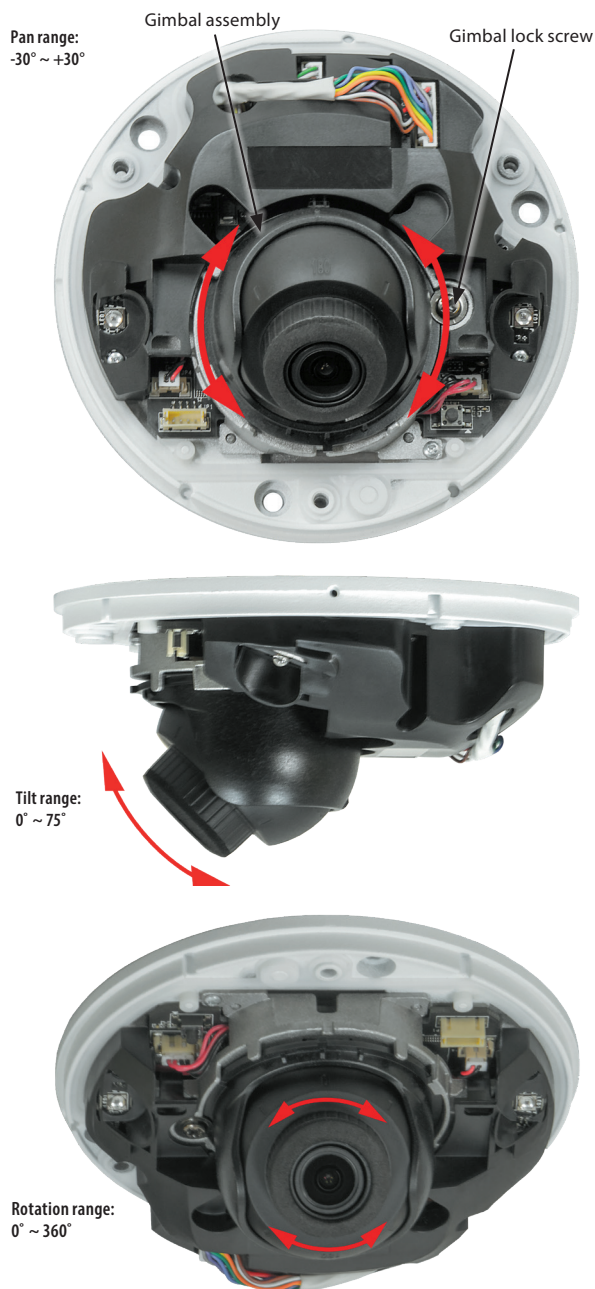


To remove the microSD card, push the card all the way in to release it from the connector, then withdraw it out of the slot.

Step 7. Adjust camera pan, tilt and rotation

Adjust the camera pan, tilt and rotation to point the camera at your surveillance target. When pointing the camera, use the **Live View** display on a recorder or remote login. You can also attach the BNC video maintenance cable to the connector on the maintenance panel, and then attach it to CVBS monitor to see a live view video from the camera.

1. While observing live video from the camera, use a #2 Phillips screwdriver to loosen the gimbal lock screw until the gimbal is free to rotate (about three turns). The location of the lock screw is shown in the photos on page 1 of this guide.
2. Point the camera at your surveillance target, changing the pan, tilt and rotation as needed. See below. Always stay within the specified pan, tilt and rotation ranges of the camera.



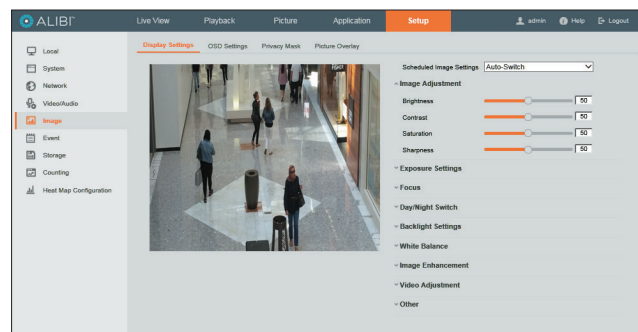
3. Tighten the adjustment lock screw to securely hold the gimbal in place.
4. Reinstall the camera dome cover.
5. Reinstall the camera outer cover.

Step 8. Adjust the camera image for your surveillance target

Use the firmware menus to adjust the brightness, contrast, saturation and sharpness of the video image if necessary. These settings are initially optimized at the factory and may not need adjustment. When adjustments are necessary, the paths to the image settings menus are different if the camera is installed as a device on a LAN, or if it is connected to a NVR. Select the installation type below for your camera to complete this step.

For cameras installed on a LAN or using a WiFi connection

1. If necessary, open IE and log into the camera with administrative credentials.
2. Click the **Setup** tab, and then click the **Image** link in the left frame.

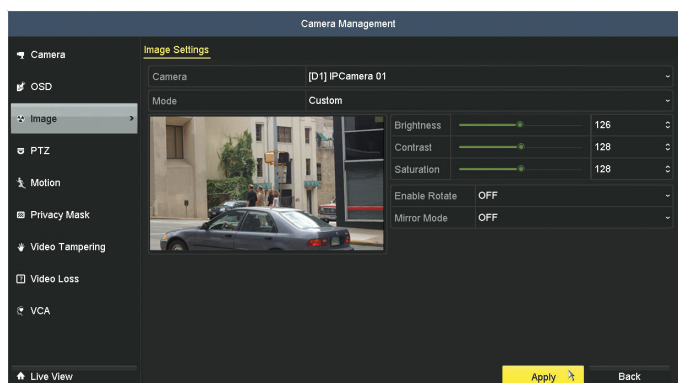


3. Adjust the Brightness Contrast, Saturation and Sharpness of the image. Each parameter can be set to a level of 0 ~ 100 either by moving the slider or entering the value in the box on the right. The effect of the adjustment will appear in the Live View image in the menu.

Refer to the firmware user manual for your camera to use the other submenus on this screen.

For cameras connected directly to an NVR

1. Log into the NVR with administrative privileges.
2. Open the firmware Image menu. Go to **Menu | Camera Management | Image**



3. In the **Camera** field drop down list, select the camera you want to configure. In the example above, **[D1]IPCamera 01** is selected.
4. Drag the **Brightness**, **Contrast**, **Saturation** and **Hue** adjustment markers left or right to perfect the image from the camera. For some adjustments, you can click the up (▲) or down (▼) icons near the adjustment value (on the right side) to incrementally change the value of those adjustment.
5. Click **Apply** to save your settings for this camera.

Refer to the firmware user manual for your NVR to use the other submenus on this screen.

Specifications

Camera	
Image Sensor	1 / 2.9" Progressive Scan CMOS
Min. Illumination	Color: 0.01 Lux @ (F1.2, AGC ON), 0 Lux with IR; Color: 0.028 lux @(F2.0, AGC ON), 0 lux with IR
Shutter Speed	1/3 s ~ 1/100,000 s
Slow Shutter	Yes
Day & Night	IR Cut Filter
Digital Noise Reduction	3D DNR
WDR	120 dB
3-Axis Adjustment	Pan: -30° ~ +30°, tilt: 0° ~ 75°, rotate: 0° ~ 360°
Lens	
Focal length	2.8 mm
Aperture	F2.0
FOV	2.8 mm: Horizontal field of view: 97°, Vertical field of view: 54°, Diagonal field of view: 113°
Lens Mount	M12

IR	
IR Range	Up to 33 ft (10 m)
Wavelength	850 nm
Compression Standard	
Video Compression	Main stream: H.265 / H.264 Sub stream: H.265 / H.264 / MJPEG Third stream: H.265 / H.264
H.264 Type	Main Profile/High Profile
H.264+	Yes
H.265 Type	Main Profile
H.265+	Yes
Video Bit Rate	32 Kbps to 16 Mbps
Audio Compression	G722.1 / G711ulaw / G711alaw / G726 / MP2L2 / PCM
Audio Bit Rate	64Kbps(G.711) / 16Kbps(G.722.1) / 16Kbps(G.726) / 32-192Kbps(MP2L2)
Smart Feature-set	
Behavior Analysis	Line crossing detection, intrusion detection, unattended baggage detection, object removal detection
Face Detection	Yes
Region of Interest	Support 1 fixed region for main stream and sub-stream separately
Image	
Max. Resolution	3072 × 2048
Main Stream	50 Hz: 20 fps (3072 × 2048), 25 fps (2560 × 1440, 1920 × 1080, 1280 × 720) 60 Hz: 20 fps (3072 × 2048), 30 fps (2560 × 1440, 1920 × 1080, 1280 × 720)
Sub-stream	50 Hz: 25 fps (640 × 480, 640 × 360, 320 × 240) 60 Hz: 30 fps (640 × 480, 640 × 360, 320 × 240)
Third Stream	50 Hz: 25 fps (1920 × 1080, 1280 × 720, 640 × 360, 352 × 288) 60 Hz: 30 fps (1920 × 1080, 1280 × 720, 640 × 360, 352 × 240)
Image Setting	Rotate mode, saturation, brightness, contrast, sharpness adjustable by client software or web browser
Image Enhancement	BLC / 3D DNR
Day / Night Switch	Auto / Schedule / Day / Night / Triggered by Alarm In
Network	
Network Storage	Support Micro SD / SDHC / SDXC card (128G), local storage and NAS (NFS,SMB / CIFS), ANR
Alarm Trigger	Motion detection, video tampering, network disconnected, IP address conflict, HDD full, HDD error, illegal login
Protocols	TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTPC, PPPoE, NTP, UPnP™, SMTP, SNMP, IGMP, QoS, IPv6
General Function	One-key reset, anti-flicker, three streams, heartbeat, mirror, password protection, privacy mask, watermark, IP address filter
API	ONVIF (PROFILE S, PROFILE G), ISAPI
Simultaneous Live View	Up to 6 channels
User / Host	Up to 32 users 3 levels: Administrator, Operator, User
Client	Alibi CMS (ACMS)
Web Browser	Microsoft® Internet Explorer® 8 or later, Apple® Safari® 8.0 or later
Interface	
Audio (-S model)	2 Inputs: Line in (3.5 mm) or Mic in (built-in microphone), 1 Output: Line out (3.5 mm), mono sound
Alarm (-S model)	1 Input: Alarm in (3.5 mm), 1 Output: Alarm out (3.5 mm)
Communication Interface	1 RJ45 10M / 100M self-adaptive Ethernet port
On-board storage	Built-in Micro SD / SDHC / SDXC slot, up to 128G
SVC	Support H.264 and H.265 encoding
Wi-Fi	
Wireless Standards	IEEE 802.11b/g/n
Frequency Range	2.412 GHz to 2.4835 GHz
Channel Bandwidth	20 M / 40 M
Protocols	802.11b: DQPSK, DBPSK, CCK 802.11g/n: OFDM /64-QAM,16-QAM, QPSK, BPSK
Security	WPA, WPA2
Transfer Rates	11b: 11 Mbps, 11g: 54 Mbps, 11n: up to 150 Mbps

Wireless Range	Depends on the environment
Audio	
Environment Noise Filtering	Yes
Audio Sampling Rate	16 kHz, 32 kHz, 44.1 kHz, 48 kHz
General	
Operating Conditions	-22 °F ~ +140 °F (-30 °C ~ +60 °C), Humidity 95% or less (non-condensing)
Power Supply	12 VDC ± 25%, PoE (802.3af, class 3)
Power Consumption and Current	12 Vdc, 0.625 A, max. 7.5 W PoE (802.3af, 36 V ~ 57 V), 0.26 A to 0.17 A, max. 9.5 W
Protection Level	IK08, IP66, TVS 2000V Lightning Protection, Surge Protection and Voltage Transient Protection
Material	Front cover: plastic , Bottom base: metal
Dimensions	Ø4.33" × 2.22" (Ø110 mm × 56.4 mm)
Weight	Camera: 0.88 lb (400 g) approx.

Wire gauge standards

Bare Wire Gauge(mm)	American Wire Gauge (AWG)	Cross-sectional Area of Bare Wire (mm²)
0.750	21	0.4417
0.800	20	0.5027
0.900	19	0.6362
1.000	18	0.7854
1.250	16	1.2266
1.500	15	1.7663
2.000	12	3.1420
2.500		4.9080
3.000		7.0683

12 Vdc Wire Gauge and Transmission Distance

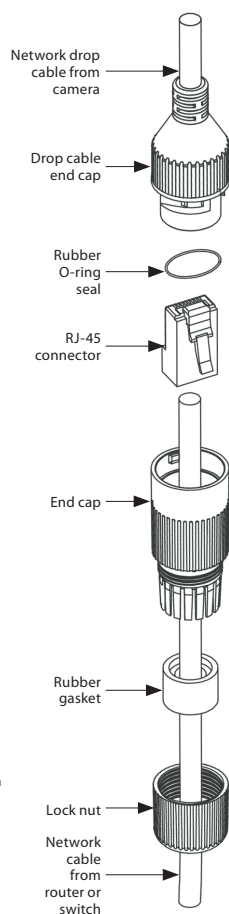
The following table shows the recommended maximum distance adopted for the different wire sizes when the 12 Vdc voltage loss is less than 15%. For example, for a device with the rating power of 20 VA which is installed 77 feet (22 m) from the transformer, the minimum wire gauge required is 1.0000 mm (18 gauge).

Power (VA)	Wire size mm (gauge)			
	0.800 (20)	1.000 (18)	1.250 (16)	2.000 (12)
10	97 (28)	153 (44)	234 (67)	617 (176)
20	49 (14)	77 (22)	117 (33)	308 (88)
24	41 (12)	64 (18)	98 (28)	257 (73)
30	32 (9)	51 (15)	78 (22)	206 (59)
40	24 (7)	38 (11)	59 (17)	154 (44)
48	20 (6)	32 (9)	49 (14)	128 (37)
50	19 (6)	31 (9)	47 (13)	123 (35)
60	16 (5)	26 (7)	39 (11)	103 (29)
70	14 (4)	22 (6)	33 (10)	88 (25)
80	12 (3)	19 (5)	29 (8)	77 (22)
90	10.8 (3.1)	17 (5)	26 (7)	69 (20)
100	9.7 (2.8)	15 (4)	23 (7)	62 (18)
110	8.9 (2.5)	14 (4)	21 (6)	56 (16)
120	8.1 (2.3)	13 (4)	20 (6)	51 (15)
130	7.5 (2.1)	11.8 (3.4)	18 (5)	47 (14)
140	7 (2)	11 (3.1)	17 (5)	44 (13)
150	6.5 (1.9)	10.2 (2.9)	16 (4)	41 (12)
160	6.1 (1.7)	9.6 (2.7)	15 (4)	39 (11)
170	5.7 (1.6)	9 (2.6)	14 (4)	36 (10)
180	5.4 (1.5)	8.5 (2.4)	13 (4)	34 (10)

Using the Waterproof Ethernet Fitting

Install the **Waterproof Ethernet Fitting** on the Ethernet cable end at the camera when moisture or contamination exists in the area near the camera. The fitting includes several parts that must be installed in a specific order. To install the fitting:

1. Place the rubber O-ring over the camera drop cable end cap. Push the O-ring up to the connector cap.
2. Place the Lock Nut onto the network cable from the router or switch as shown in the drawing to the right. The inside threads must be toward the camera end.
3. Place the rubber basket onto the network cable above the lock nut as shown.
4. Place the end cap onto the network cable above the rubber gasket as shown. The fingered end must be toward the router or switch.
5. Install an RJ-45 connector onto the network cable.
6. Plug the RJ-45 connector with the network cable into the camera network drop cable.
7. Fit the end cap on the network cable onto the camera drop cable end cap. Rotate the network cable end cap to lock it in place.
8. Push the rubber gasket fully into the end of the network cable end cap.
9. Screw the lock nut onto the network cable end cap until it is fully seated.



Cleaning

Dust or grease on the dome cover will cause IR reflection. Please do not remove the dome cover film until the installation is finished. If there is dust or grease on the dome cover, clean the dome cover with clean soft cloth and isopropyl alcohol.

Do not touch lens with fingers. If cleaning is necessary, use clean cloth with ethanol and wipe it gently. If the camera will not be used for an extended period, please replace the lens cap to protect the sensor from dirt.