TELEDYNE

Teledyne FLIR
Security Solutions

Quasar™ Premium Mini-Dome Cameras Quick Install Guide

Items Included in Kit (images not to scale)

1 Check Contents

Make sure all of the items above are included in the camera kit.

2 Select a Location

Warnings

- Placing a camera in an environment subject to extremely high temperature can result in an explosion or the leakage of flammable liquid or gas.
- Subjecting the camera to extremely low air pressure can result in an explosion or the leakage of flammable liquid or gas.
- The camera must be installed by qualified personnel and the installation should conform to all local codes.

Verify that the operating temperature falls within the following ranges, with 10-90% non-condensing humidity:

- Without heater: -30° C to 60° C (-22° F to 140° F)
- With heater: -55° C to 60° C (-67° F to 140° F)
- Cold start with heater: -40° C to 60° C (-40° F to 140° F)Make sure you have the required accessories and tools.

Make sure that the location provides a suitable method for routing cables to and from the camera.

Supplying Power to the Camera

The camera can be powered by:

- A UL-listed L.P.S. (Limited Power Supply) unit, rated to a maximum temperature of 60° C:
  - 12VDC, 1.21A minimum
  - 24VAC, 50/60Hz, 1.2A minimum
- PoE (Power over Ethernet): 48 VDC, 0.27A minimum

Maximum Power Consumption with Heater and IR	
CM-6405-11-I	12.5 W
CM-6408-11-I	11.5 W

For assistance with purchasing a power supply, contact Teledyne FLIR.

3 Remove Cover and Separate Base

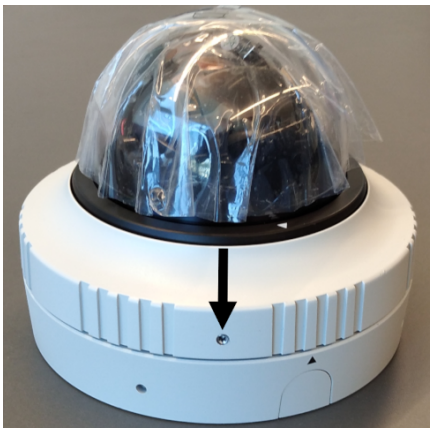
Tip When unpacking the camera, do not remove the plastic sheet protecting the dome.

To remove the dome cover:

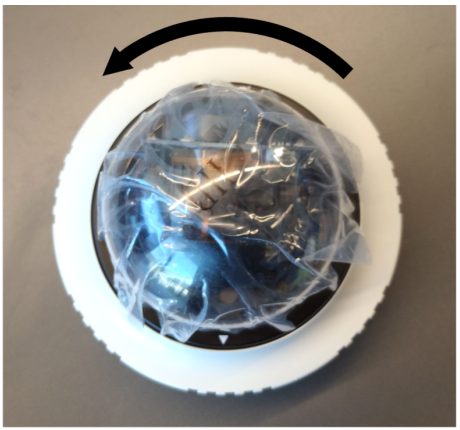
a. Using the Torx wrench, loosen the screw on the camera's outer circular ring that secures the dome cover to the camera base.

b. While firmly holding the base, rotate the ring counterclockwise to loosen it.

c. Carefully pull the ring and cover away from the base.



Outer Ring Locking Screw



Loosen Ring

To separate the camera base from the mounting bracket:

a. Using a screwdriver, loosen the two twist-lock screws securing the camera and its base to the mounting bracket.

b. Gently pull the camera and its base away from the mounting bracket.

Change the number of LEDs (optional)

The camera has a total of eight IR LED illuminators. On the 3D lens assembly, there is a switch that enables four (left when switch faces up) or all eight (right; default). With the dome cover removed, you can change the switch setting.

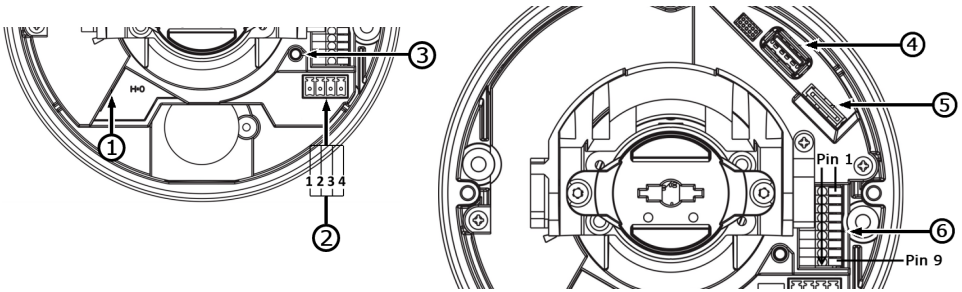
Separate Base from Bracket

Switch in 8 LED Position

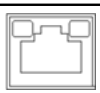
4 Connect the Camera

To install the camera, Teledyne FLIR recommends connecting the camera on a bench or in a lab and configuring it for networking before mounting and aiming it. However, circumstances can dictate adjusting the sequence of the steps. For example, you can mount the camera before configuring it for networking, or connect the camera before mounting it.

Warning	The camera itself does not have a power on/off switch. Do not supply power to the camera until you have completely finished connecting it.



Connectors

Connector		Connection
1	RJ-45 Two LEDs 	Attach a Cat 6 cable from the network switch to the RJ45 connector for a 10/100/1000 Mbps Ethernet and IEEE 802.3af class 0 PoE connection. Ethernet is required for streaming video and for configuring the camera. The green link LED indicates a good network connection. The orange activity LED flashes to indicate network activity.
Warning		The PoE unit and all interconnected equipment must be installed indoors within the same building, including all PoE-powered network connections, as described by Environment A of the IEEE 802.3af standard.

<table>
<tr><th colspan="2">Connector</th><th colspan="5">Connection</th></tr>
<tr><td rowspan="2">2</td><td rowspan="2">Four-pin power terminal block</td><td>1</td><td>24VAC -</td><td>3</td><td>12VDC -</td><td rowspan="2">If using a 24VAC or 12VDC power supply, connect it to the power terminal block connector according to the pin assignment shown.</td></tr>
<tr><td>2</td><td>24VAC +</td><td>4</td><td>12VDC +</td></tr>
<tr><td colspan="2">Warning</td><td colspan="5">The power cord to the 12VDC or 24VAC power supply unit must be connected to a socket outlet with an earthing connector.</td></tr>
<tr><td>3</td><td>Default Button</td><td colspan="5">To restore the camera to its factory defaults, use a proper tool to press the default button for at least 20 seconds.</td></tr>
<tr><td>4</td><td>USB</td><td colspan="5">Connects to Wi-Fi dongle (future release support)</td></tr>
<tr><td>5</td><td>microSD Card Slot</td><td colspan="5">For video clip and snapshot recording and file storage, insert a microSD / SDHC / SDXC card (maximum 1 TB) in the card slot. When the camera is powered on, do not remove the microSD card.</td></tr>
<tr><td rowspan="5">6</td><td rowspan="5">Nine-pin terminal block</td><td>1</td><td>Audio In L</td><td>6</td><td>Alarm Out +</td><td rowspan="5">Attach wires from external devices to the terminal block connector for alarm and audio in/out according to the pin assignment shown.</td></tr>
<tr><td>2</td><td>Audio In R</td><td>7</td><td>Alarm Out -</td></tr>
<tr><td>3</td><td>GND</td><td>8</td><td>Alarm In +</td></tr>
<tr><td>4</td><td>Audio Out L</td><td>9</td><td>Alarm In -</td></tr>
<tr><td>5</td><td>Audio Out R</td><td></td><td></td></tr>
</table>

Warnings

- Do not connect an external power supply to the nine-pin audio/alarm I/O terminal block connector.
- This product contains a battery that is soldered to the PCB. There is a risk of explosion if the battery is replaced by an incorrect type. **Do not replace the battery.** The battery should be disposed of in accordance with the battery manufacturer's instructions.

Tip

To make it easier to mount and install the camera, while the camera is on the bench or in the lab, you can connect Ethernet and other cable patch cords to the camera's connectors and route them through the grommets on the base and through the mounting bracket. Then, you'll be able to mount and install the camera without separating the camera base from the mounting bracket a second time.

5 Configure for Networking

To discover the camera on the network, Teledyne FLIR recommends using the FLIR Discovery Network Assistant (DNA) tool, which does not require a license to use, and is a free download from the product's web page on the Teledyne FLIR website. After downloading the DNA ZIP file, extract it.

Users assigned the Admin privilege level can configure the camera using the DNA tool, the camera's web page, or a supported VMS.

	DNA tool	Camera's web page
Discover camera IP address	•	
Configure IP address, mask, and gateway	•	•
Configure DNS settings, MTU, and Ethernet speed		•
Change user credentials	•	•
Change video format	•	•
Configure more than one camera at the same time	•	

For information about using the DNA tool to configure one or more cameras, see the *DNA User Guide*. While the software is open, click the Help icon .

For information about using the camera's web page to configure the camera, see the camera's installation and user guide. For information about using a supported VMS to configure the camera, see the VMS documentation.

By default, DHCP is enabled on the camera and a DHCP server on the network assigns the camera an IP address. If the camera cannot connect to a DHCP server, the camera's default IP address is 192.168.0.250. For example, if the camera is managed by FLIR Horizon or Meridian VMS and the VMS is configured as a DHCP server, the VMS automatically assigns the camera an IP address.

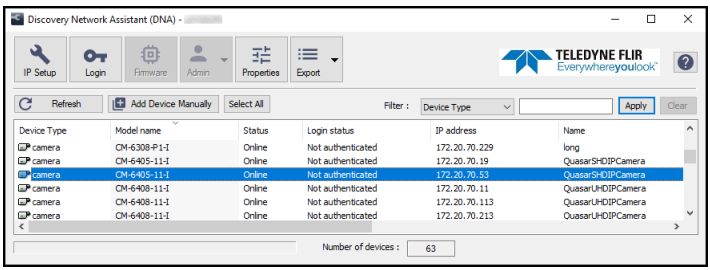
If the camera is managed by FLIR Latitude VMS or is on a network with static IP addressing, you can manually specify the camera's IP address using the DNA tool or the camera's web page.

To manually specify the camera's IP address using the DNA tool:

a. Make sure the camera and the PC are on the same LAN segment.

b. Run the DNA tool (DNA.exe) by double-clicking .

The Discover List appears, showing compatible devices on the LAN segment and their current IP addresses.

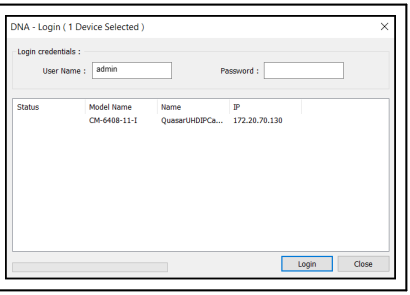


c. In the DNA Discover List, verify that the camera's status is Online.

If this is the first time you are configuring the camera or if it is the first time after resetting the camera to its factory defaults, DNA authenticates the camera with user name *admin* using its default password (*admin*).

> If the *admin* user's password is not the default password, you need to authenticate the camera.
>
> 1. In the DNA Discover List, select the camera and then click **Login**.

2. In the **DNA - Login** window, type a user name for a user assigned Admin privileges and the password. If you do not know this information, contact the person who configured the camera's users and passwords.
3. Click **Login**, wait for ✔ Ok status to appear, and then click **Close**.

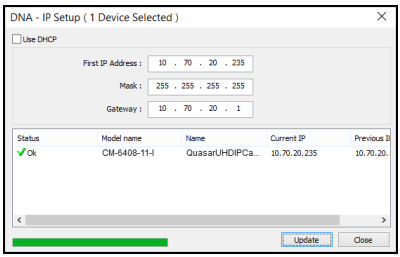


d. Verify that the camera's Login status is Authenticated.

e. Change the camera's IP address.

1. Right-click the camera and select **IP Setup**.
2. In the **DNA - IP Setup** window, clear *Use DHCP* and specify the camera's *IP address*. You can also specify the *Mask* (default: 255.255.255.0) and *Gateway*.

   Then, click **Update**, wait for ✔ Ok status to appear, and then click **Close**.

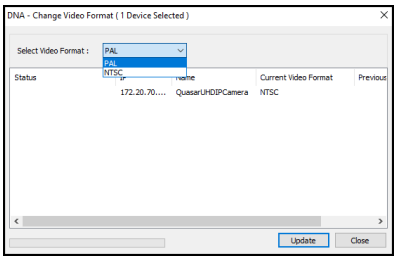


6 Change Video Format (Optional)

By default, NTSC is the camera's video format. You can change the camera's video format to PAL using the DNA tool.

a. In the DNA Discover List, right-click the camera and select **Change Video Format**.

b. In the **Change Video Format** window, select PAL. If Shutter WDR 30 FPS NTSC is the camera's current video format, this changes the camera's video format to Shutter WDR 25 FPS PAL. Likewise, if Linear 60 FPS NTSC is the camera's current video format, this changes the camera's video format to Linear 50 FPS PAL.



c. Click **Update**, wait for ✔ Ok status to appear, and then click **Close**.

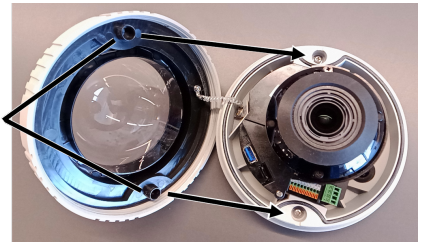
7 Re-attach Cover

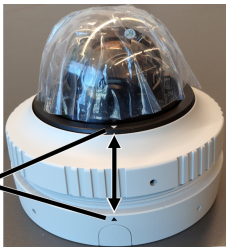
To prevent damaging the camera's internal components while moving it from the bench or lab to its mounting location, re-attach the dome cover to the base and then remove it again at the mounting location.

Before doing so, you can re-attach the camera base to the mounting bracket. Use a screwdriver to tighten the two twist-lock screws securing the camera and its base to the mounting bracket. If you do not re-attach the camera base to the mounting bracket, remember to bring the screwdriver to the mounting location.

To re-attach the dome cover:

a. Using the two guide pins on the dome cover and the triangles on the cover and on the base, carefully align and position the dome cover and outer ring onto the base.





b. Make sure the outer ring sits flat on the base. Then, securely tighten the outer ring.

c. Lock the ring. Using the Torx wrench, tighten the screw on the outer ring that secures the outer ring to the base.

8 Install Mounting Hardware (Optional)

Using the hardware included in the camera kit, you can mount the camera onto a standard electrical box or onto a suitable surface. For information about other mounting options, including the list of Teledyne FLIR mounting accessories that support the camera, see the camera's installation and user guide.

If you are using mounting hardware not included in the camera kit, install it according to the installation instructions for the hardware. If necessary, adapt the instructions in this guide to those instructions.

9 Remove Cover and Separate Base

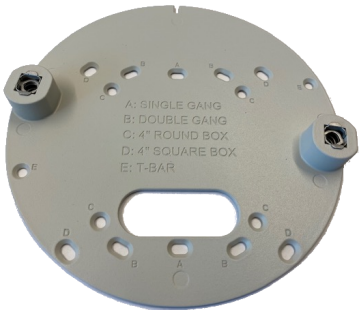
Repeat the steps described in 3 Remove Cover and Separate Base.

10 Install Mounting Bracket

To install the mounting bracket on a standard electrical box:

Attach the bracket to the box using:

- The holes in the mounting bracket, according to the types of boxes engraved on the bracket
- The corresponding holes in the box
- Suitable bolts, washers, and nuts (not included in the camera kit)



To install the mounting bracket directly on a surface:

a. Choose four widely spaced mounting holes on the bracket for optimum flat surface mounting.

b. Using the bracket as a template to mark the surface, drill four anchor holes.

c. (Optional) If necessary, drill a hole wide enough for routing cables.

d. Hammer the four plastic screw anchors into the drilled holes.

e. Insert the anchors and then attach the bracket to the surface using the four M4 25mm self-tapping screws included in the camera kit.

When tightening the screws, the holes in the mounting plate allow for making small adjustments to the bracket's position.

11 Route Cables and Connect the Camera

Cables can enter the camera from the side or from the rear. To route cables *through the side of the camera*, use the Torx wrench to loosen the screw securing the side conduit hole cover and remove the hole cover. Then, route cables through the hole. To route cables *through the rear of the camera*, route cables through the hole in the mounting bracket.

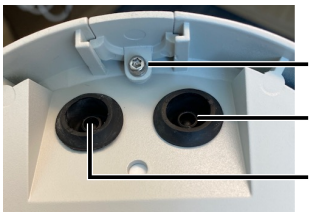
To route cables into the camera base:

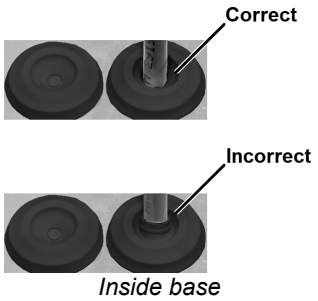
a. For each cable, use the Torx wrench to punch a hole in the center of the rubber glands in the the camera's base, from the underside.

b. Route the cable through the hole in the grommet.

   To route an Ethernet cable with an RJ45 plug attached, attach the supplied RJ45 insertion tool to the RJ45 plug. Then, route the tool, plug, and cable through the grommet. Remove the tool.

c. Push the cables back through the seal so that the seal extends out of the base.





According to the information in 4 Connect the Camera, connect the camera.

Note

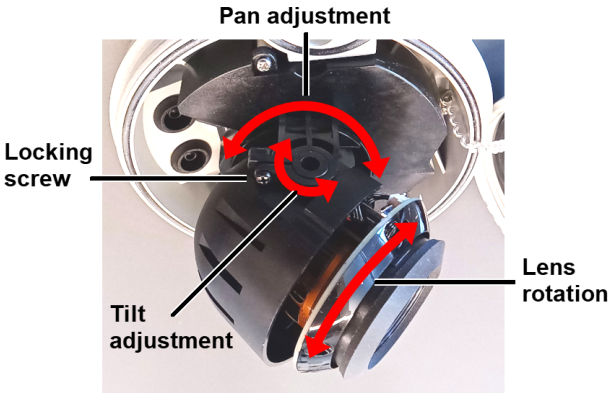
Connect the camera to a 24VAC or PoE power source as the primary power source, and then connect 12VDC as the secondary power source. If the primary power source fails, the camera seamlessly switches to 12VDC until the primary power source is restored.

12 Mount and Aim the Camera

a. Make sure that the camera is facing the required field of view. Then, carefully re-attach the camera base to the mounting bracket. Use a screwdriver to tighten the two twist-lock screws securing the camera and its base to the mounting bracket.

b. Aim the camera, which has three axes for adjusting the field of view:

   - *Pan adjustment* – Rotate the lens base until satisfied with the field of view.
   - *Tilt adjustment* – Loosen the screw locking the camera lens in its tilt angle. Tilt the lens until satisfied with the field of view. Then, tighten the screw.
   - *Lens rotation* – Rotate the 3D assembly in the lens until satisfied with the field of view.



Aiming the Camera

Caution

Do not rotate or tilt beyond the mechanical limits for each axis:

- Pan adjustment range: 356°
- Tilt adjustment range: ±80°
- Lens rotation range: ±98° – Rotating the 3D assembly in the lens beyond its mechanical limit can twist, disconnect, or break the camera's internal cables.

At the camera's widest view (zoom = 1x) and at certain tilt / rotation angles, a small part of the camera can appear in the far upper-left corner of the field of view.

Tilt angle	Lens rotation angle range
20°	30°~45°
10°	10°~45°

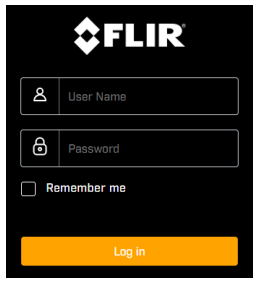
c. Repeat the steps described in 7 Re-attach Cover.

13 Complete Camera Setup

Depending on installation and use, completing camera setup can consist of adjusting the camera's zoom and focus; and formatting the microSD card.

To complete camera setup, you need to access the camera's web page, which supports the latest version of Google Chrome® and other popular web browsers.

To access the camera's web page:



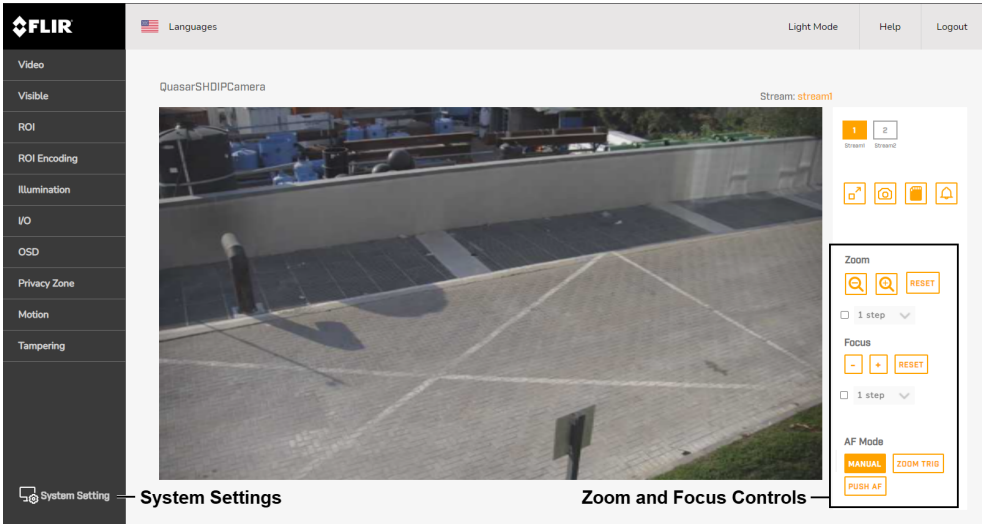
a. Do one of the following:
   - In the Teledyne FLIR Discovery Network Assistant (DNA) tool, double-click the camera in the Discover List.
   - Type the camera's IP address in a browser's address bar (when the PC and the camera are on the same network). If you do not know the camera's IP address, you can use the DNA tool to discover it.

b. On the login screen, enter a user name and the password. Passwords are case-sensitive. If you do not know a user name or the password, contact the person who configured the camera's users and passwords.

When logging in to the camera for the first time or for the first time after resetting the camera to its factory defaults:

1. Log in with user name *admin* and the default password, *admin*.
2. Specify a new password for user name *admin*:
   - must be 8-64 characters
   - can include the following special characters: @#~!$&<>+_-.,*?
   - cannot include four-digit sequences (for example, 1234)
   - cannot include four repeating characters (for example, aaaa)
3. Log back in using the new password.

The camera's View Settings home page opens.



Camera Web Page for Admin users
Light Mode - CM-6405-11-I

To adjust the zoom and focus:

Use the controls on the View Settings home page. They are available when a View Settings menu page is not open.

To format the microSD card:

a. Click System Settings. Then, open the SD Card page.
b. Under SD Format, select *vfat* (default) or *ext4* (recommended).
c. Click **Format**.

Additional Configuration Steps

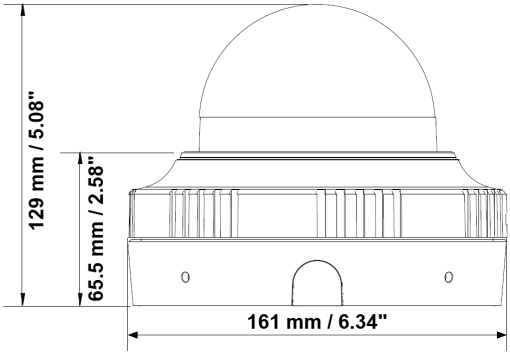
Setting up the camera can also consist of configuring or modifying the default video stream settings; exposure, white balance, WDR, and other picture settings; security, advanced networking, event notification, and other system settings.

Many of these configuration steps can be performed before or after mounting the camera. However, some of them can or should only be performed after mounting the camera. For more information about configuring the camera, see the camera's installation and user guide.

14 Attach the Camera to a Supported VMS

After mounting the camera and discovering or defining its IP address, use VMS Discovery/Attach procedures to attach the camera to a supported VMS.

15 Camera Dimensions



16 Register the Product

Register the product at https://customer.flir.com.
For warranty information, see https://www.flir.com/support-center/warranty/security/flir-security-product-warranties/.

17 Contact Information

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