

Gocator 2D Smart Camera

Quick Start Guide



When you receive your Gocator 2D Smart Camera, make sure the following parts are included:

- Gocator 2D Smart Camera
- Lens cover
- M3x12 screws (x4)

Before installing the Gocator 2D Smart Camera, please note the following:

- The camera is powered using the provided 24 VDC power supply. This power supply can output 10 amps, which is sufficient to power the optional RMX140 ring light (which requires 7 amps).
- The camera cannot be connected to a Master.

For complete specifications, see the *Gocator 2D Smart Camera* user manual.

I. Mounting the Lens

CAUTION



Injury by a falling lens

Especially if you are going to operate Gocator 2D Smart Camera without a lens tube: Screw lenses into the lens mount until you feel resistance.

CAUTION



Risk of cuts by sharp edges of lens mounts

The threads of the lens mount can have sharp edges.
Be careful when mounting or unmounting lenses.

NOTICE



Damage to cameras by unsuitable lenses

The lens and the camera's sensor, filter or electronics can be damaged if a lens exceeding maximum protrusion is mounted to the camera.

- Use lenses with less than 13.6 mm maximum protrusion.

NOTICE



Damage to lenses or lens tubes

Lenses or the lens tube's front glass can be damaged if lenses are used that exceed the dimensions of the lens tube.

- Use only lenses within the dimensions of the lens tube.
- Observe that some lenses change in length when focus or zoom are used.

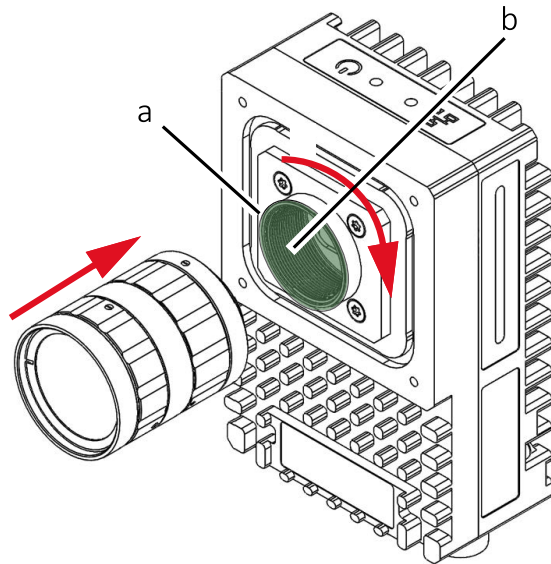
1. Remove the rear lens dust cap from the lens.
2. Put the lens face down on your work surface and place the dust cap on the rear of the lens.
3. Remove the plastic film (a) covering the camera's C mount with your fingers.
Keep the plastic film in case you need to remove the lens in the future.
4. Remove the rear lens dust cap.



For the user manual, CAD drawings, firmware release notes, SDK, and more, go to lmi3d.com/product-downloads.

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5. Fit the lens thread into the camera's C-mount thread (b) and screw the lens clockwise until tight.
Be careful not to cross-thread the lens.



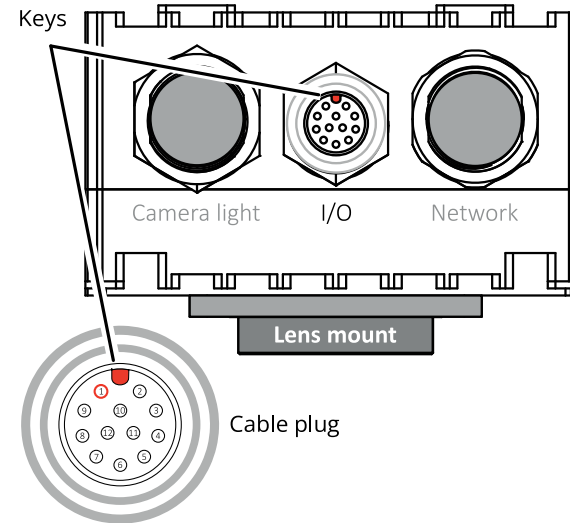
II. Connecting Desktop Power Supply

Gocator 2D Smart Camera can be used with a brick-style desktop power supply (Rockcom FZ4544). This is sufficient for most use cases, and is described below.

If your application requires digital input or output, you must use a different power supply and wire it to the Power and IO cordset (both sold separately). For more information, see *Connecting Power and I/O Cordset* in the user manual.

To use the desktop power supply

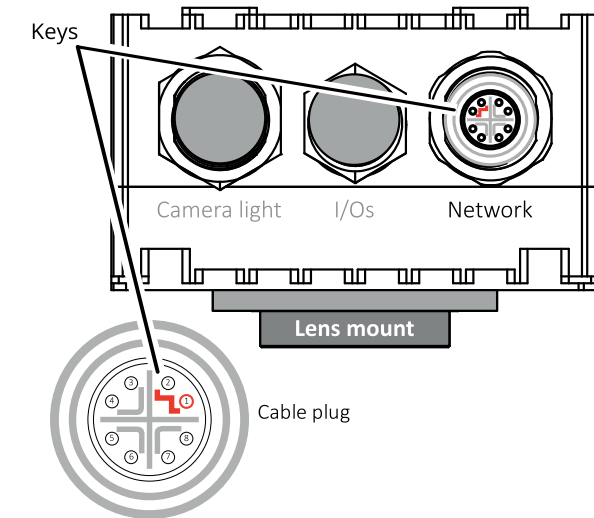
1. Remove the IP67 protective cap from the device's I/O connector and store it for future use.
2. Rotate the power supply's M12 connector until its key aligns with the key of the camera's connector, and push the cordset connector onto the camera connector.



3. Rotate the locking sleeve clockwise to tighten the connectors.
Tighten to a maximum torque of 1.2 to 1.5 N m.

III. Connecting Network Cordset

1. Remove the IP67 protective cap from the device's LAN (POE) connector and store it for future use.
2. Align the keys of the device and cordset connectors, and push the cordset connector onto the device connector.



3. Rotate the locking sleeve clockwise to tighten the connectors.
Tighten to a maximum torque of 1.2 to 1.5 N m.
4. Connect the RJ45 plug to a client computer or switch.

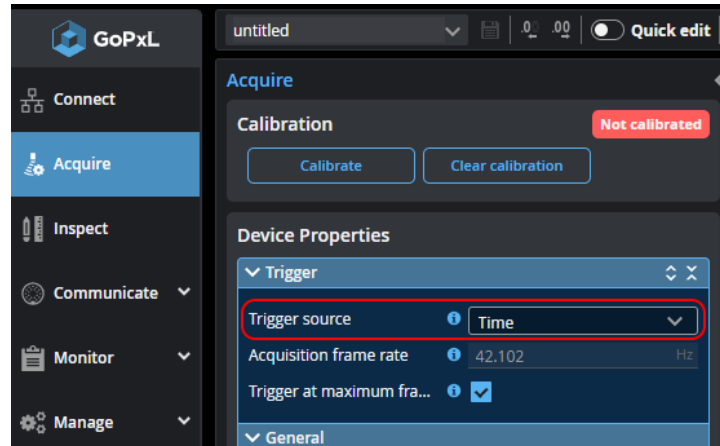
IV. Adjusting Focus and Aperture

Before attaching the lens cover and ring light, you acquire a series of images so that you can adjust the lens focus and aperture.

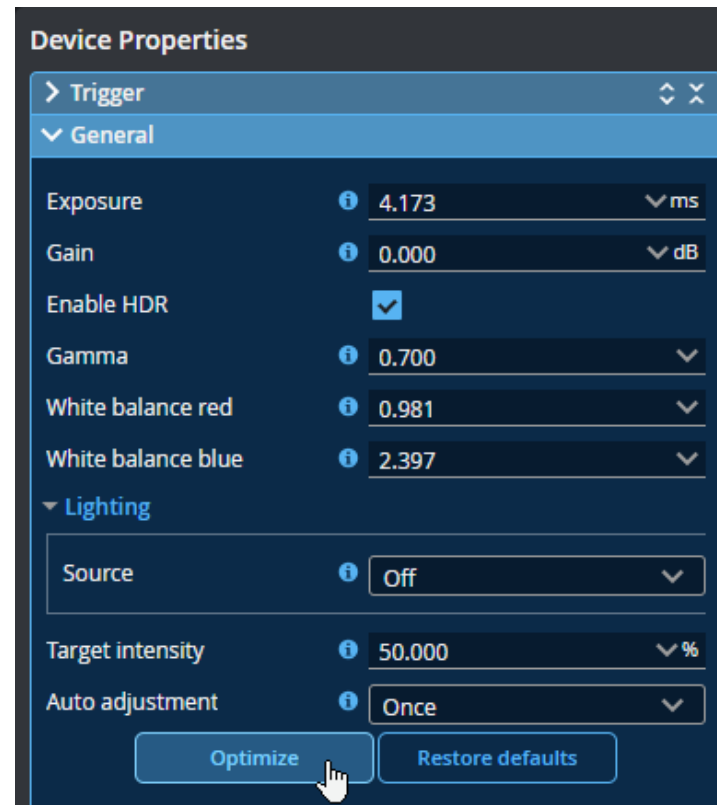
1. Make sure the camera's network cordset is connected to a switch or directly to the client computer.
2. Apply power to the camera.
3. On the client PC, change the IP address of the network adapter to which the camera is connected as follows:
IPv4 address: 192.168.x.x (except 192.168.1.10 or the IP address of any other devices on that network)

IPv4 mask: 255.255.x.x

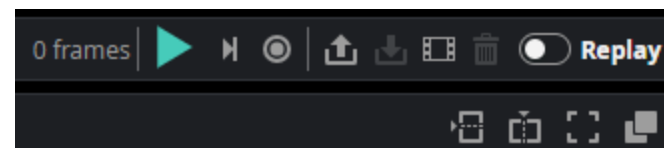
- In web browser such as Google Chrome, go to 192.168.1.10.
The camera's default IP address is 192.168.1.10.
- Go to the **Acquire** page and make sure **Trigger source** is set to Time.



- Remove the lens cap.
- With a white sheet of paper under the camera, in the **General** section, click the **Optimize** button.



- Place a target under the camera.
- At the upper right of the user interface, click the Start button to start capturing images.



- Adjust the aperture and focus on the lens until the image is sharp and depth of field (if appropriate) is adequate.

V. Mounting Lens Cover

CAUTION



Injury by falling lens covers

Tighten screws at 1.0 Nm maximum torque.
Follow the instructions below.

NOTICE



Damage to lenses or lens covers

Lenses or the lens cover's front glass can be damaged if lenses are used that exceed the dimensions of the lens tube.

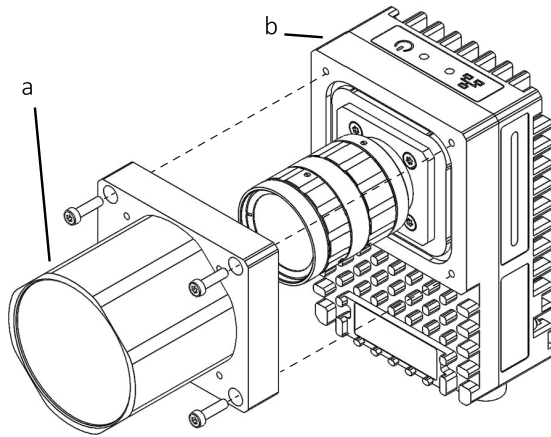
- Use only lenses within the dimensions of the lens cover.
- Observe that some lenses change in length when focus or zoom are used.

The optional lens cover protects the camera lens, and helps prevent accidental adjustment of focus and aperture.

- Align the lens tube (a) and camera housing (b) mounting holes.
- Using the provided M3-12↓ screws, attach the tube lens to the housing.

Tighten the screws to a maximum torque of 1.0 Nm.

For final assembly, LMI recommends using screw locking varnish to prevent the screws from coming loose.



VI. Mounting Ring Light Adapter Plate

⚠ CAUTION



Injury by a falling camera ring lights

- Tighten screws at 1.0 Nm maximum torque.
- Follow the instructions below.

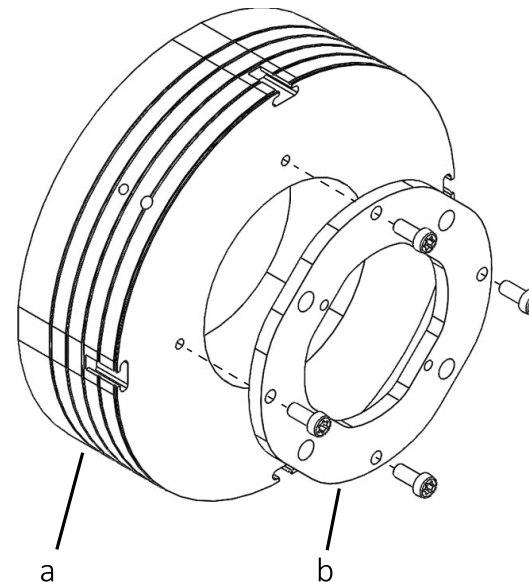
If you are using the RMX140 ring light, you must first install an adapter plate.

If you are using the lens cover, use the mounting plate with part number 301355. Follow these steps:

1. Align the ring light (a) and adapter (b) mounting holes.
2. Using the provided M4-10↓ screws, attach the adapter to the ring light.

Tighten the screws to a maximum torque of 1.0 Nm.

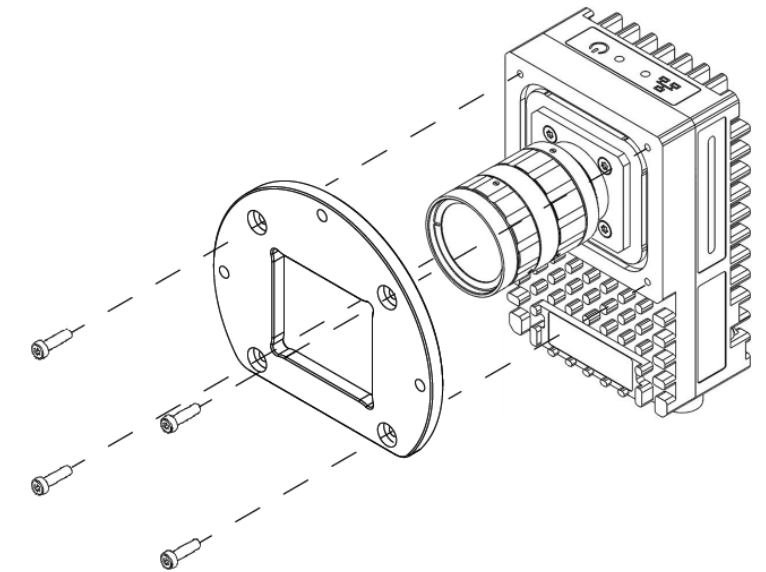
For final assembly, LMI recommends using screw locking varnish to prevent the screws from coming loose.



2. Using the provided M3-12↓ screws, attach the adapter to the ring light.

Tighten the screws to a maximum torque of 1.0 Nm.

For final assembly, LMI recommends using screw locking varnish to prevent the screws from coming loose.



VII. Mounting Ring Light to the Camera

⚠ CAUTION



Injury by a falling camera ring lights

- Tighten screws at 1.0 Nm maximum torque.
- Follow the instructions below.

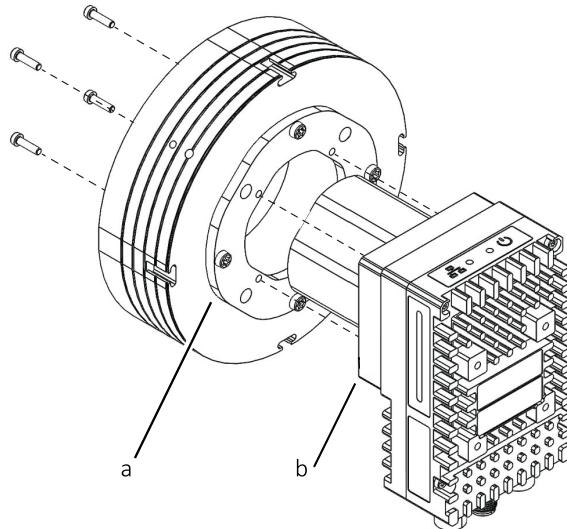
If You Are Using the Lens Cover...

After installing the adapter to the ring light, install the assembly to the camera.

1. Align the adapter plate (a) and lens tube (b) mounting holes.
2. Using the provided M3-12↓ screws, attach the ring light to the lens tube.

Tighten the screws to a maximum torque of 1.0 Nm.

For final assembly, LMI recommends using screw locking varnish to prevent the screws from coming loose.



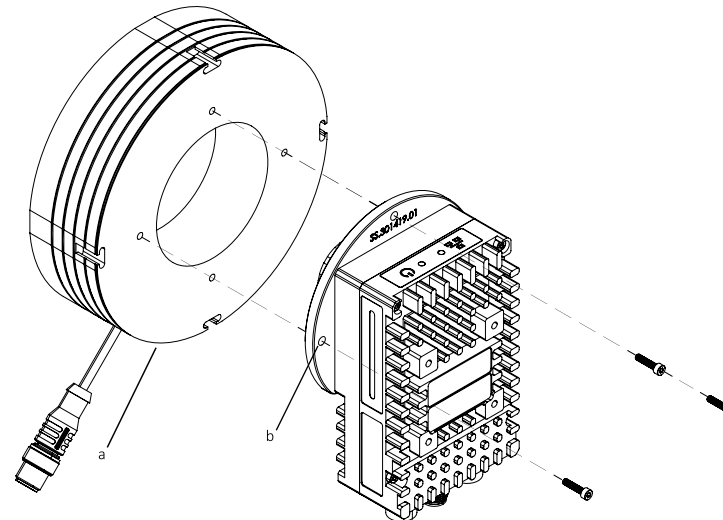
If You Are Not Using the Lens Cover...

Install the ring light to the adapter plate (301419) you mounted on the camera.

1. Rotate the ring light (a) until the holes on the back of the light align with the holes on the adapter plate (b).
2. Using the provided screws, attach the ring light to the adapter plate.

Tighten the screws to a maximum torque of 1.0 Nm.

For final assembly, LMI recommends using screw locking varnish to prevent the screws from coming loose.



VIII. Connecting Ring Light to the Camera

NOTICE



Damage to Gocator 2D Smart Camera electronics and connected peripherals

If the power output is used beyond the specified limits, Gocator 2D Smart Camera can be damaged.

- Keep the maximum output for VCC-Light below 5.9 A.
- Observe that above 700 mA, Strobe-PNP is limited to 50 ms and 10% duty cycle.
- Observe the specifications in *Gocator 2D Smart Camera Light Connector* in the user manual.



Connections for external lighting

LMI offers compatible Y-cables at different lengths to separate electrical lines for lighting control by Gocator 2D Smart Camera from lighting power by external power supplies; contact LMI for more information.

NOTICE



Damage by unsuitable cables

If cable plugs do not fit tightly, the Gocator 2D Smart Camera can be damaged.

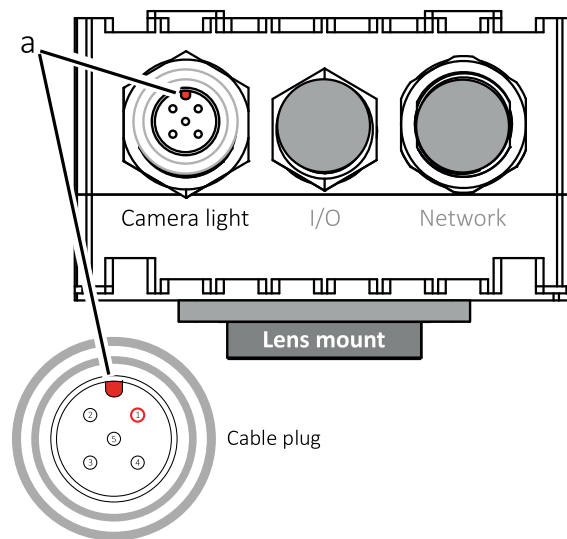
- For IP67 compliance, use only cables by LMI Technologies.

NOTICE

- Before using other cables, apply tests for IP67 compliance.

After mounting the ring light to the camera, you must connect the ring light to the camera using the 5-pin cordset.

1. Remove the IP67 protective cap from the camera's connector. Store the cap safely for future use.
2. Rotate the cordset's connector until its key aligns with the key of the camera's connector, and push the cordset connector onto the camera connector.



3. Rotate the locking sleeve clockwise to tighten the connectors. Tighten to a maximum torque of 1.2 to 1.5 N m.

IX. Mounting Camera

⚠ CAUTION



Injury by a falling Gocator 2D Smart Camera embedded camera systems

Ensure proper mounting of Gocator 2D Smart Camera, especially for dynamic applications.

- Mount the smart camera as described in the instructions.
- Always make sure the mounting threads are intact.
- Fasten screws with maximum torque, using the specified thread engagement.
- For less thread engagement, calculate torque values correspondingly.

You should mount the Gocator 2D Smart Camera at an appropriate distance from your target. Determine the appropriate distance by looking at the camera's specifications, that is, its minimum object distance and its different working distances, taking into account the size of your target.

The camera should be mounted using the provided mounting hardware (part number 301409) to a stable surface, using M4 screws. You can optionally use a 1/4" tripod mount with the mounting plate. For complete information on mounting points, see the specifications in the *Gocator 2D Smart Camera* user manual.

NOTICE



Damage to mounting holes

The maximum torque of the M4 screws is 1.2 Nm for a minimum thread engagement of 3.0 mm between screws and mounting threads.

Be careful not to damage the internal threads by cross-threading or improper insertion of screws.