

User Manual for LiLz Cam

LC-10

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1 Introduction

FCC Notice:

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.

FCC CAUTION

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

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

ISED Statement:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique 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;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

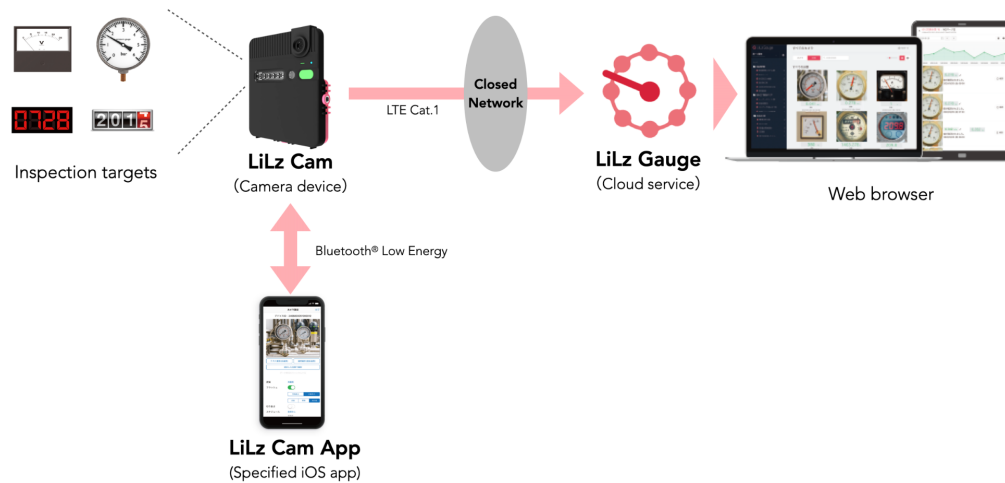
This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules. This equipment should be installed and operated keeping the radiator at least 20cm or more away from person's body.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE. Cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le radiateur et le corps humain.

PMN: LC-10

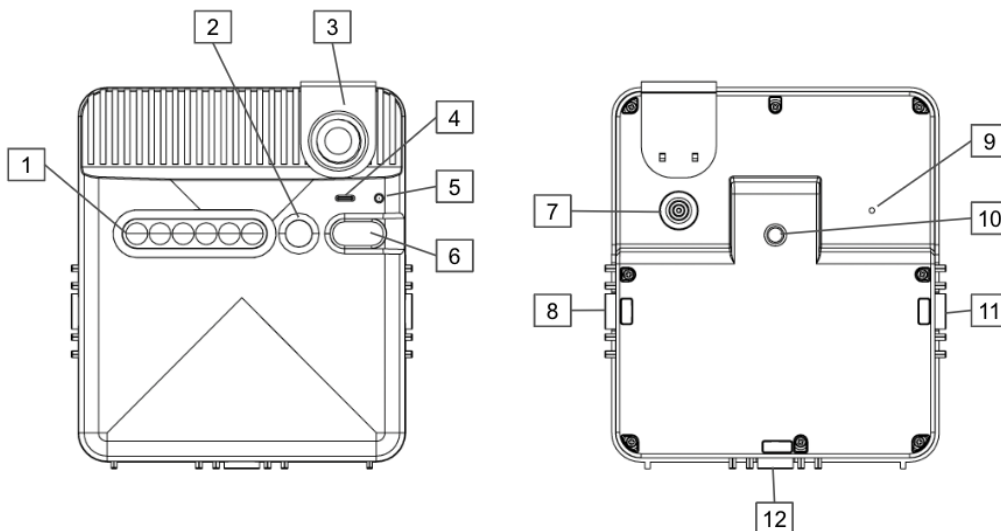
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2 System Features



LiLz Cam is a low-power IoT camera designed for remote inspection. The LiLz Cam can be configured to capture images of the inspection target, such as an analog gauge, on a preset schedule. The captured images are uploaded to the cloud via LTE and can be viewed through our cloud service, LiLz Gauge. In addition, shooting conditions such as shooting schedule and resolution can be configured via a specified iOS app, LiLz Cam App.

3 Name of Each Part



- 1: LED Flash for Medium to Long-Distance Shooting
- 2: LED Flash for Close-Up Shooting
- 3: Extension Lens Adapter

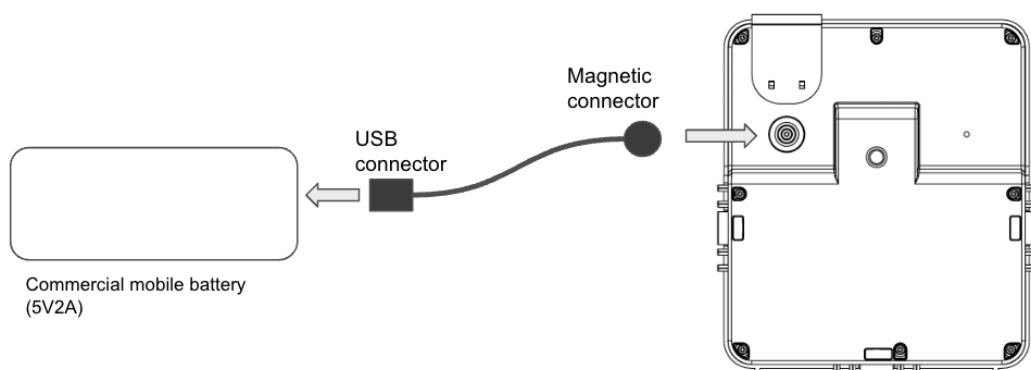
- 4: Communication Status LED
- 5: Status LED
- 6: Power Button
- 7: Magnetic Contact Point for Charging
- 8: Mounting Hole-1
- 9: Ventilation Hole
- 10: Mounting Hole-2
- 11: Mounting Hole-3
- 12: Mounting Hole-4

4 Included Items

- ☐ Camera device (1)
- ☐ Specified charging cable (1)
- ☐ Protective seals for the magnetic contact point (6)
- ☐ Warranty card (1)

5 Charging

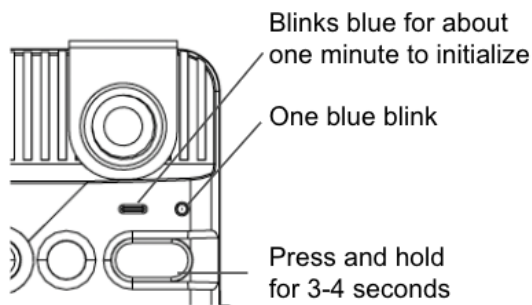
To charge the battery of the LiLz Cam, connect the camera device to a power source using the specified charging cable included in the package. The power source can be a commercial 5V2A mobile battery or a commercial AC power adapter with a USB port.



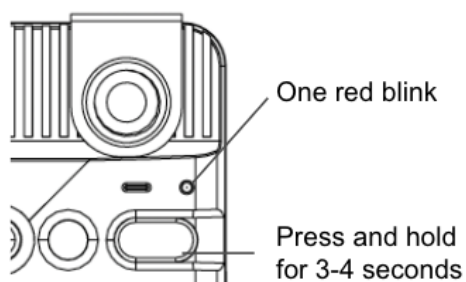
Caution: Do not charge if the magnetic contact point or the connector of the specified charging cable is wet. This can cause a short circuit.

6 Power On/Off

Power On: When you press and hold the power button for 3-4 seconds, the LiLz Cam will power on. The status LED will blink blue once. Simultaneously, the communication status LED will blink blue for about one minute during initialization and then turn off. After that, please press the power button briefly and ensure that the status LED blink blue once, indicating that the power is on.

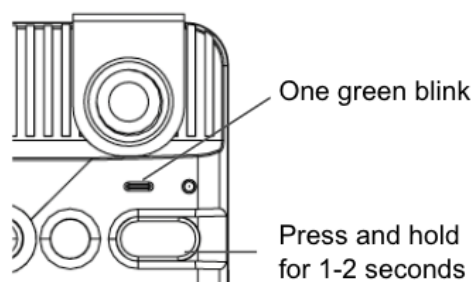


Power Off: When you press and hold the power button for 3-4 seconds, the status LED will blink red once, indicating that the power is turning off. After that, please press the power button briefly and ensure that the status LED does not light up, indicating that the power is off.



7 Configuring Shooting Conditions

The shooting conditions of the LiLz Cam can be configured using the LiLz Cam App. Press and hold the power button on the camera device for about one second until the communication status LED blinks green once. The camera device will then switch to a connection mode to communicate with the LiLz Cam App.



To login to the LiLz Cam App, you will need the ID and password for the LiLz Gauge. For more information, please refer to the support page.

Support page: <https://support.lilz.jp/hc/en-001>

Adjustable shooting conditions:

Flash Settings	<p>Always Flash: Flash is used in every photo.</p> <p>Automatic Flash: Only uses the flash when brightness is below 30 lux (a very dimly lit room).</p>
Flash Type	<p>Close-range: One LED</p> <p>Medium-range (Standard): Three LEDs</p> <p>Long-range: Six LEDs</p>
Exposure Compensation	<p>Exposure value (EV) can be adjusted from EV -3 to EV +3.</p> <p>You can also select a different type of exposure compensation for when it is dark (less than 30 lux). This is used for photos where the gauges end up being overexposed.</p>
Cropping	<p>You can crop high-resolution or standard-resolution photos before sending them to decrease the file size.</p> <p>High-resolution photos: Can be cropped as standard-resolution (1296 x 960) and low-resolution (640 x 480) images.</p> <p>Standard-resolution photos: Can be cropped as low-resolution (640 x 480) images.</p> <p>Low-resolution photos: Cannot be cropped.</p>
Scheduled Photo Times	<p>Here you can choose when you want photos to be taken. For example, twice per day at 9:00 and 12:00 or every 30 minutes.</p>

Notice: You cannot change the shooting conditions without the use of the LiLz Cam App.

8 Installing LiLz Cam

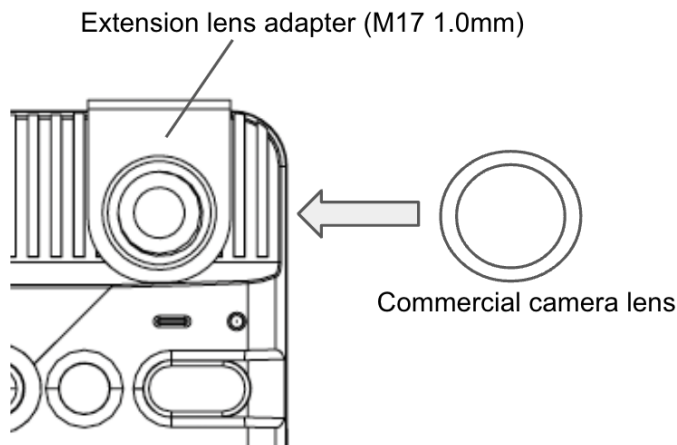
To install LiLz Cam, you can attach a commercial camera mount to any of the four mounting holes on the main body. The mounting holes of the camera are 1/4-20 UNC and have a depth of 6mm. Please connect a camera mount that matches this size.

Caution: If the LiLz Cam is installed in a place with vibrations, the body might be damaged depending on how it is installed.

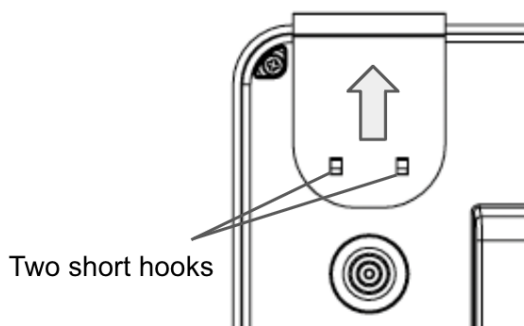
Caution: When installing in a high place, always connect a fall prevention wire for safety.

9 Attaching an Extension Lens

You can attach a commercial camera lens with M17 1.0mm to the extension lens adapter.



The extension lens adapter is initially attached to the main body. However, it can be removed when not in use. To remove it, you can simply lift the two short hooks on the back of the main body.



10 Care and Handling

- If the LiLz Cam is not to be used for an extended period of time, avoid high temperatures and humidity, and store it in a well-ventilated indoor location.
- If the LiLz Cam lens or magnetic contact point becomes dirty, wipe it with a dry cloth.
- If the magnetic contact point is not to be used for an extended period of time, protect it by affixing the included magnetic contact protection seal. Especially when installing outdoors, it is recommended to affix the seal to prevent corrosion of the magnetic contact area.

11 Troubleshooting

1. The captured images are not being uploaded at all

- The location of the LiLz Cam might be in an area with a very weak LTE base station signal strength. Please change the installation location to a place with a stronger signal strength.
- The LiLz Cam might be off. Press the power button briefly and ensure that the status LED blinks blue once, indicating that the power is on.
- The battery level of the LiLz Cam may have reached zero. You can check the battery level using the LiLz Gauge or the LiLz Cam App. However, if the battery level is zero, please charge it.

2. The captured images are not being uploaded as scheduled

- The location of the LiLz Cam may be in an area with weak LTE base station signal strength. Please change the installation location to a place with stronger signal strength.

3. The captured images are gradually shifting

- It is likely that the LiLz Cam is not fixed well enough and that it is moving due to vibrations. Please check the installation conditions.

4. The captured images are blurry

- If the LiLz Cam is installed outdoors, raindrops may have adhered to the lens. In this case, the raindrop attached to the lens will gradually dry, and the image quality will gradually improve. To avoid raindrop adherence, the installation of an umbrella or something similar above the main body is recommended.
- If an extension lens is attached to the extension lens adapter, the lens may not be securely fitted, which could result in blurry images. Please check the lens attachment conditions.

12 Trademarks

- iOS is the name of the operating system by Apple Inc. The iOS trademark is used under a license from Cisco Systems, Inc.
- The Bluetooth® word mark are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by LiLz Inc. is under license.

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