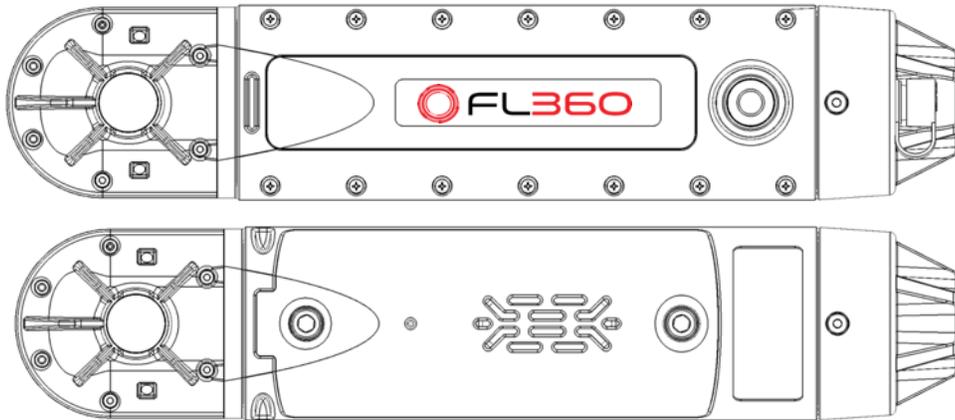


## FIRSTLOOK360 Camera



## User Manual

v.3.6

# TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
OVERVIEW.....	2
GENERAL PRECAUTIONS.....	3
KIT CONTENTS.....	6
FL360 CAMERA OVERVIEW.....	7
FL360 LED INDICATOR – MULTI-FUNCTION.....	8
BATTERY LIDS.....	9
CHARGING PROCEDURES.....	11
MOUNTING OPTIONS.....	14
FIRST TIME TABLET SETUP.....	15
GETTING STARTED.....	16
FL360 APP OVERVIEW.....	23
BATTERY HANDLING.....	34
ALTERNATE POWER.....	35
KIT ACCESSORIES.....	36
CARE & STORAGE.....	39
FL360 SPECIFICATIONS.....	40
SERVICE.....	42
WARRANTY.....	43

# OVERVIEW

## FIRSTLOOK360 Technical Rescue Camera

The FIRSTLOOK360 (hereafter referred to as FL360) is a live-streaming 360° multipurpose technical rescue camera. It is designed to advance rescue capabilities at emergency scenes.

FL360 provides a completely new dimension in imaging technology, giving rescuers the ability to harness high-definition, streaming video that can be transmitted via wireless or wired connections to a mobile device. The complete spherical image taken by FL360 allows the rescue technician to quickly view any space in its entirety.

FL360 has the capability to record 360° video, take screenshots, and communicate via two-way audio. All recorded media is digitally overlaid on a map, and is time-, date-, and GPS-stamped.

This manual provides information for the safe and proper operation and maintenance of the FL360. Please read the complete user manual before operating this device. If you have any questions regarding the operation of FL360 or have suggestions for its improvement, please contact us at:

Phone: +1 (604) 259-1579 (Canada)

Email: [info@agilitycorp.com](mailto:info@agilitycorp.com)

*Ensure you have the latest version of the user manual. Please scan the QR code below or follow the link:*  
**<http://manual.firstlook360.com>**



# GENERAL PRECAUTIONS

## Read me first

- Please read this manual before using FL360 to ensure safe and proper usage of the device. Note that images may differ in appearance from the actual product, and that content is subject to change without prior notice. Visit [www.agilitycorp.com/firstlook360](http://www.agilitycorp.com/firstlook360) to view the latest information, downloads, and more concerning FL360.
- Please note that the FL360 camera and app have been optimized for the tablet included in the kit. Please contact us prior to attempted usage of a different, unsupported device.
- This product includes certain free and open source software. To see the free and/or open source licenses, please refer to the licenses section in the FL360 app.
- FL360 is designed to work for a variety of technical rescue applications and conditions. It is important to understand that even though the camera was built to withstand harsh conditions, it can be damaged if not properly cared for.
- FCC Compliance Statement (Class A): 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.
- CAN ICES-3 (A)/NMB-3(A) (Canada): This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled: "Digital Apparatus," ICES-003 of the Canadian Department of Communications. This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
- Contains FCC ID: 2ALXI-SOMWB1

## Usage Precautions

The following precautions should be taken in order to prevent damage or misuse:

- The recommended continuous ambient operating temperature for the FL360 ranges from -10° C to 60° C. The system is designed to operate at this temperature indefinitely. If necessary, however, the system can be operated at higher or lower temperatures for short periods of time.  
Note that at temperatures below 0° C, changes in system operation may occur.
- Avoid leaving FL360 in direct sunlight when not in use.
- Never use the provided coiled tethering cable to support the full weight of the camera. Use rescue rope and the provided eye hook as a means to lower FL360 into a space.
- Do not expose the device to physical stress or impact.
- Always use manufacturer-approved batteries, chargers, accessories, and supplies only.

**CAUTION:** Changes or modifications to this equipment not expressly approved by the manufacturer will void the warranty and could void the user's authority to operate the equipment.

## Safety Precautions

- Only use the FL360 system in a safe manner.
- It is important to understand and follow all standard operating procedures, safety precautions and practices when conducting rescue operations of any kind.
- Rescue Personnel should always wear appropriate personal protective equipment when conducting operations.
- Operating at the scene of a structure collapse is inherently dangerous. Rescuers require skill, experience, training and adherence to their organization's safety protocols and procedures to minimize risk and work safely and successfully in this environment.
- Rescue personnel should address any safety concerns to their Incident Commander/Safety Officer and follow their superior's instructions while working at the rescue scene.
- Rescuers that have not been appropriately trained or have insufficient experience should not attempt activities that could result in injury to themselves or others.

## Heat Precautions

The FL360 Camera heatsink (see picture below) will become warm when operated for long periods or in areas with limited airflow. This is normal as the on-board processor within the camera uses the heatsink to dissipate heat in order to ensure smooth and uninterrupted operation of FL360.



*Heatsink*

The maximum recommended continuous ambient operating temperature for the FL360 is 140° F (60° C). The camera is designed to operate at this temperature indefinitely. The system can be operated at higher temperatures when necessary, but only for short periods of time.

To prevent overexposure to heat, avoid leaving the system in direct sunlight when not in use.

## Electrical Safety

The FL360 Camera will conduct electricity. Please do not operate the camera in the vicinity of or during an electrical storm. Avoid contact with any live sources of electrical power. Ensure that the working area is safe, and all sources of power have been disconnected or made safe before conducting rescue operations. Take all precautions necessary to avoid electrocution, which could result in serious injury or death.

## Hazardous Atmospheres

The FL360 Camera is not certified for use in atmospheres that contain flammable, combustible, conductive or explosive agents; or in atmospheres that contain contaminants such as fumes, dusts, mists etc. Please ensure that the working environment is free of flammable gases or liquids before operating the camera. Operating the camera within these hazardous environments could cause an explosion.

It is important to follow all safety protocols and procedures relating to potentially hazardous atmospheres and areas.

## Batteries and Battery Chargers - Warnings

The usage of batteries is at your own risk. Before handling, ensure any user has appropriate understanding of the charging, discharging, and installing of lithium ion batteries. Agility Technologies Corporation is not responsible for any damage caused by misuse or mishandling Li-ion batteries and/or chargers.

Make sure to:

- Only use approved Battery Cells recommended specifically by the manufacturer for use in the FL360. Failure to do so could damage the camera or cause some or all of the camera functions to fail. Each FL360 Battery lithium ion cell is equipped with a protection circuit to increase safety and to minimize the potential for risk. Nevertheless, the misuse or mishandling of lithium ion rechargeable batteries can pose a serious risk of personal injury or property damage.
- Use caution when working with lithium ion batteries as they are very sensitive to charging characteristics and may explode or burn if mishandled or misused. For this reason, do not store FL360 batteries (18650) in or near objects that will produce a static electric charge. Very quick pressure changes can cause 18650 batteries to malfunction.
- Always charge on a fireproof surface.
- Charge only in a recommended smart charger designed for this specific type of lithium ion battery.
- Do not overcharge or over-discharge batteries.
- Recharge drained batteries as soon as possible.
- Do not short-circuit batteries.
- Do not mix and match old, new, used, and unused batteries.
- Never leave batteries unattended while charging.
- Always take the batteries out of the camera body when the FL360 Camera is not in use.
- Do not expose batteries to extreme heat or water.
- Do not dispose of batteries in fire. Regulations and laws pertaining to the recycling and disposal of lithium ion batteries vary from country to country as well as by state and local government. Please consult your local jurisdiction regarding appropriate disposal. Note that many retail stores offer free recycling of rechargeable batteries.

**CAUTION:** Under no circumstances are UNPROTECTED lithium-ion cells to be used in the FL360. These could irreparably damage the onboard electronics and image sensors. Damage caused by unauthorized batteries will void the manufacturer's warranty of the FL360.

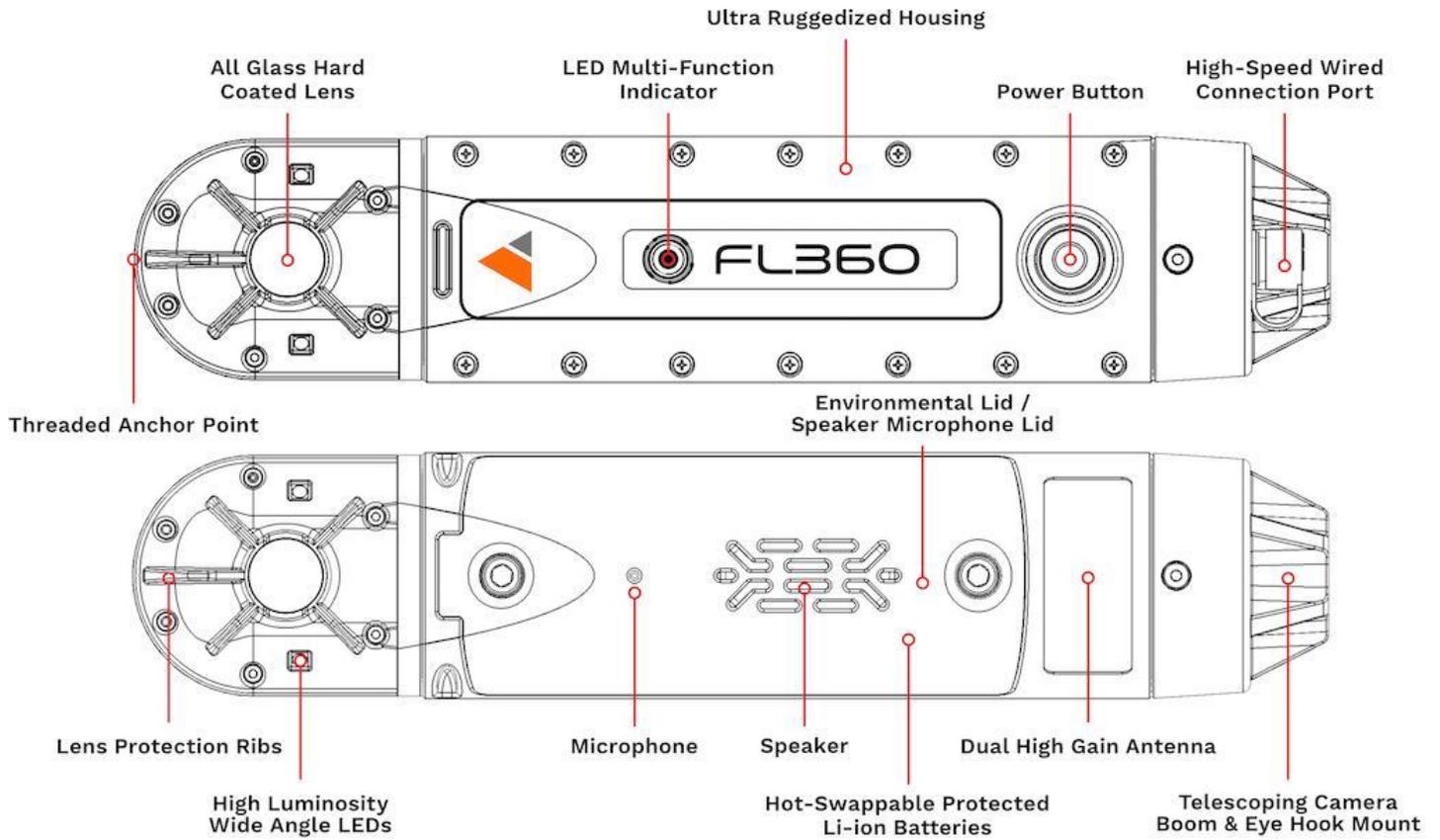
# KIT CONTENTS

ATC USAR TASK FORCE KIT #1	PN#0607-10-001		
FL360 KIT COMPONENTS		PART NUMBER	QTY
			Figure No.
FL360 Camera	0607-69-001	1	1
FL360 Rechargeable Li-ion Battery with Protection Circuit (Single)	0607-52-001	4	2
FL360 Collapsible/Telescoping Camera Boom	0607-50-003	1	3
FL360 Forward Sling Attachment Point	0607-59-005	1	3
FL360 Grip Handle with Camera Support	0607-50-002	1	4
FL360 Rail Mount for Grip Handle	0607-59-006	1	5
FL360 Headset (Behind Head Double Sided)	0607-53-001	1	6
FL360 Smart Battery Holder	0607-52-004	1	7
FL360 Environmental Battery Lid	0607-59-003	1	8
FL360 Speaker Microphone Battery Lid	0607-59-002	1	9
FL360 Battery Compartment Tool	0607-59-004	1	10
FL360 Boom Mount with 1" Ball	0607-51-007	1	11
FL360 Coiled Cable with Connectors	0607-55-002	1	12
FL360 Tethering Cable with Connectors	0607-55-003	1	13
FL360 Multi-Charger for Batteries/Tablet (with Vehicle Charging Adapter)	0607-52-003	1	14
FL360 Power Bank Battery (10,050 mAh)	0607-52-002	1	15
FL360 Two Point Shoulder Sling	0607-50-001	1	16
FL360 Tablet 9.7" Samsung S2 with LTE	0607-51-202	1	17
FL360 Mount for 9.7" Tablet	0607-51-013	1	18
FL360 Tablet Mount Base	0607-51-005	1	19
FL360 Double Socket Mounting Arm	0607-51-006	1	20
FL360 Protective Tablet Cover - 9.7" Black	0607-56-006	1	21
FL360 Tablet Memory Expansion SD (64GB)	0607-51-009	1	22
FL360 Hard Case with Custom Foam Interior	0607-60-001	1	23
FL360 Rear Attachment Eye Hook	0607-59-007	1	24
FL360 CR123A Adapter Tube	0607-52-005	2	25
FL360 Utility Bag	-	1	26
FL360 Sun Hood	0607-51-022	1	(not pictured)

Contents (figure numbers listed above):



# FL360 CAMERA OVERVIEW



# FL360 LED INDICATOR – MULTI-FUNCTION



Power Button	Press and hold - 4 sec	Power ON
Power Button	Press and hold - 4 sec	Power OFF

Multi-function LED colour	Multi-function LED time interval	Description
Blue	Continuous/Solid	Booting up
Red	4 Quick Flash	During boot up, if battery level is too low
Blue-Red	Alternating	Camera booted, waiting for connection to tablet
Green	Every 2 seconds	Battery level greater than 75%
Green	Every second	Battery level between 25% and 75%
Yellow	Every second	Battery level between 10% and 25 %
Red	Every second	Battery level 10% or less - replace batteries
White	Continuous/Solid	Using CR123A Batteries / Battery malfunction when using FL360 Rechargeable Li-ion Batteries - shut down camera and test batteries

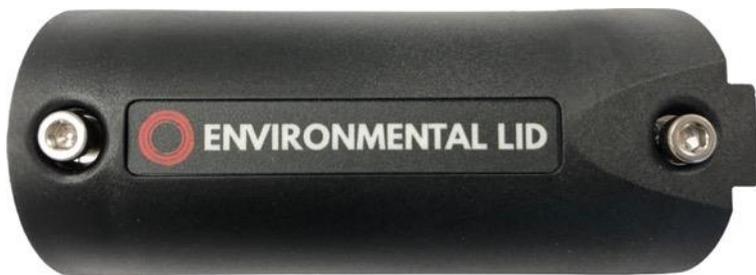
# BATTERY LIDS

## Environmental Battery Lid (0607-59-003)

The Environmental Battery Lid (see picture below) is the go-to lid for the FL360 Camera. This lid is designed to allow the camera to be used for short periods in depth up to 3 meters under water.

- Ensure that the gasket on the interior face of the environmental Lid is in good condition, free from debris, and contains no nicks or cuts that would negatively affect the seal.
- The Environmental Lid is held in place by two captive stainless-steel screws and must be securely and evenly hand-tightened into place using the provided FL360 Battery Compartment Tool.

**WARNING:** DO NOT over-tighten the screws, or the camera may be damaged.



*Environmental Battery Lid*

## Speaker Microphone Battery Lid (0607-59-002)

The Speaker Microphone Battery Lid (see picture below) incorporates a speaker and microphone to allow the two-way audio functionality of the FL360. This lid is held in place by two captive stainless-steel screws and must be hand-tightened securely and evenly into place. The speaker microphone battery lid is water resistant for rain, water spray, and accidental dunking (IP67). If you wish to use the FL360 Camera under water, exchange the Speaker Microphone Battery Lid with the Environmental Battery Lid.

- Ensure that the gasket on the interior face of the Speaker Microphone Battery Lid is in good condition, free from debris, and contains no nicks or cuts that would negatively affect the seal.
- Flush out any debris from the speaker grill by removing it from the camera and running it under a flow of clean water. Shake out all water from the lid and allow to dry thoroughly before reinstalling.

**WARNING:** Do not stick anything into the speaker grill or microphone port, as doing so might puncture the diaphragm causing a leak which will damage the FL360 electronics.



*Speaker Microphone Battery Lid – exterior face*



*Speaker Microphone Battery Lid – interior face*

# CHARGING PROCEDURES

## Charging the tablet and power bank

The USB A port labeled “SMART” on the rear of the charger will charge the tablet or Power bank when connected via their corresponding charging cable. The FL360 Multi-Charger will beep, and the tablet will indicate it is being charged. Please note that when connected, the level of charge will be visible on the tablet, not on the display of the Multi-Charger.

## Charging FL360 Batteries

Plug the provided FL360 Multi-Charger into a power source.

Insert the FL360 Li-ion protected batteries into the slots marked CH1 thru CH4 of the FL360 Multi-Charger, observing correct polarity. An alarm will sound if a battery is installed incorrectly, and “Err” will show on the display.

To quick-charge 2 batteries, place them in the outside battery slots (bays CH1 and CH4), and press the “Current/Refresh” button until the display reads 2.0 Amps and the LEDs are Green.

**TIP:** It is good practice to check what charging current has been selected on the read-out at the beginning of the charge cycle.

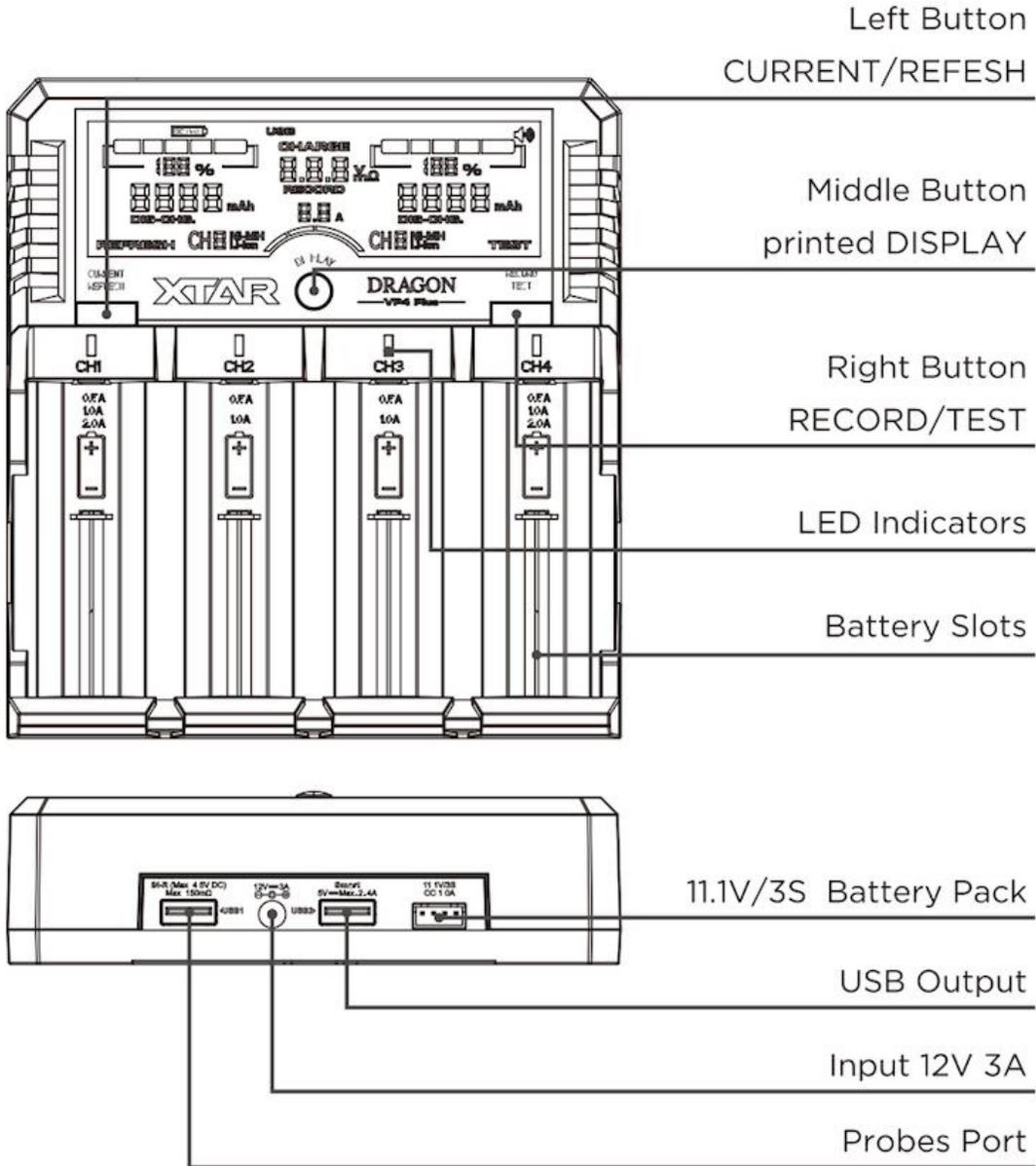
Battery Slot Number	Charging Current in Amps	Charge Time
CH1	.5 / 1.0 / 2.0	6 hours / 3 hours / 1.5 hours
CH2	.5 / 1.0	6 hours / 3 hours
CH3	.5 / 1.0	6 hours / 3 hours
CH4	.5 / 1.0 / 2.0	6 hours / 3 hours / 1.5 hours

PRESS “Current Refresh” button to change amperage settings

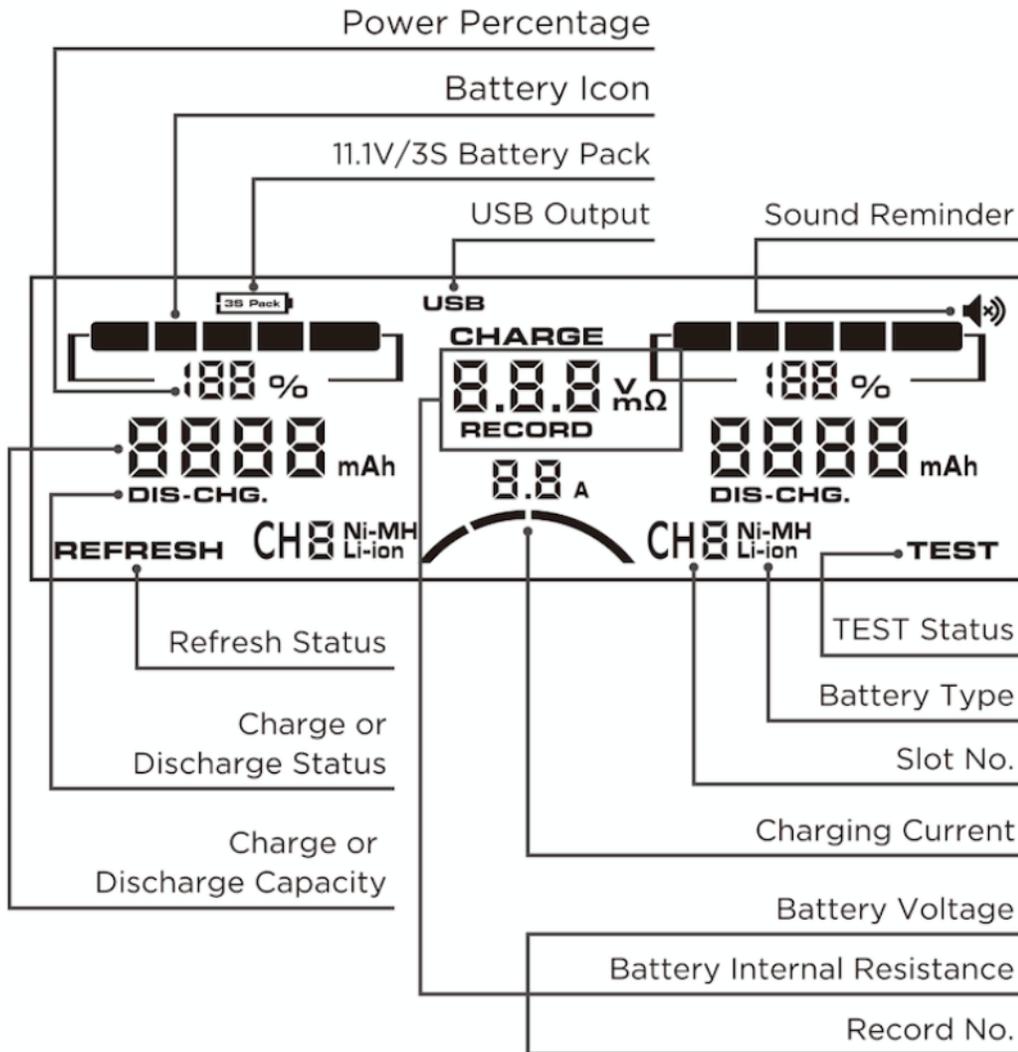
LED Colour	Function
Red	Charging
Blue	Discharging
Green	Charged

**CAUTION:** If you press and hold the “Current/Refresh” button until the LED turns BLUE, this means you have enabled Battery Refresh and the FL360 Multi-Charger will discharge all the Batteries before it starts charging them again. This takes a considerable length of time. To disable this feature, press and hold the “Current Refresh” button, and the LEDs will change to Green and then to Red, showing the Batteries are being charged.

# Controls and Connections



## FL360 Multi-Charger Display



## FL360 Multi-Charger Accessories

**Vehicle Adapter** - Plug into a vehicle power port or cigarette lighter, then into the rear of the Multi-charger.

**Test Probes** - Used to test the internal resistance and voltage of a battery.

### Measuring internal resistance and voltage

Insert the Probe connector into the IN-R Connection on the rear of the Multi-charger.

Touch the Positive and negative Probe tips together to enter battery test mode.

Observing battery polarity (Red + Positive) and (Black - Negative), touch the probe tips to the respective ends of the battery.

The display will cycle between the battery voltage and the internal resistance of the battery in milliohms.

These probes allow for the condition testing of virtually any Li-ion or NiMH battery.

**TIP:** To prevent discharging, it is recommended to remove the Batteries from the FL360 Multi-Charger as soon as they reach full capacity. Always store FL360 Batteries in the FL360 Smart Battery Holder.

# MOUNTING OPTIONS

## Boom Mount

The operator can increase the reach of the FL360 Camera by mounting it onto the FL360 Collapsible/Telescoping Camera Boom. Thread the FL360 Camera onto the FL360 Collapsible/Telescoping Camera Boom. For correct orientation, please make sure that the power button faces right as viewed from the rear when the boom is resting on the support legs (fig 1).



*Figure 1: FL360 mounted onto Collapsible/Telescoping Camera Boom*

## Eye Hook Mount

The FL360 Rear Attachment Eye Hook threads into the rear of the FL360 Camera (fig 2). This large 1" eye allows the user to operate the camera using standard rope equipment and carabiners to secure the camera in position, lower it into a void space, or access a hard to reach viewing area.



*Figure 2: FL360 Rear Attachment Eye Hook*

# FIRST TIME TABLET SETUP

## Internet Connection

When turned on for the first time, the tablet will need to be connected to the Google Play Store to download, install, and access critical updates of the FL360 App. For this first-time configuration, an internet connection is required. Make sure to use a Wi-Fi network that has a reliable internet connection.

Please use the following steps to connect to a Wi-Fi network:

1. Open Settings by tapping on the gear icon (fig 1).
2. Tap “Connections” > Wi-Fi.
3. Turn Wi-Fi on.
4. Tap on a network to connect to it.



Figure 1:  
Settings gear icon

**TIP:** Swipe down from the top of the screen to quickly access Wi-Fi settings. Here, you can turn the Wi-Fi settings on or off simply by tapping the Wi-Fi icon in the pull-down menu.

## Register Google Account

To download FL360 App updates from the Google Play Store, a Google Account is required. Please use an existing Google Account or register a new one.

1. Open Settings by tapping on the gear icon.
2. Tap “Accounts.”
3. Tap the plus icon in the top right corner to add a new account.
4. Tap “Google.”

Please either login with your existing Google Account, or tap “Or create a new account” to create a new account and follow the instructions on the screen.

## Download the FL360 App

1. Log into the Google Play store with your Google Account.
2. Search for “FL360.”
3. Tap the FL360 App (names “FL360”) and select “Install.”

## **WARNING: SIM CARD INSTALLATION**

Because of a security measure inherent to the operation of the supplied SAMSUNG Galaxy Tab S2 tablet, inserting a SIM card into the tablet will initiate a factory reset of the device. This reset will cause all existing data such as apps, recorded images, and videos to be erased.

If you intend to use a SIM card in the tablet, prior to doing so, please go to the “Settings” tab in the FL360 App and toggle the BACK UP files to SD CARD setting. Doing this will allow you to save your FL360 recorded videos and images. Note that after completing this step, and after inserting the SIM card, you will be required go to the Google play store to download and re-install the FL360 application.

# GETTING STARTED

## Operation Mode

FL360 has two operational modes: wireless and wired. The wireless mode is the preferred method as it allows the operator(s) more freedom of movement. Use the wired mode if the signal quality of the wireless mode is adversely affected by interference of structures or competing wireless signals.

## Wireless Operation

### Step 1

Ensure all FL360 batteries and the tablet are fully charged. See CHARGING PROCEDURES on page 11 for detailed instructions.

### Step 2

Once the batteries are fully charged, take the provided FL360 Battery Compartment Tool (fig 1) (or any 4mm hex socket tool), unscrew both 4mm screws, and remove the battery lid from the FL360 Camera housing (fig 2).



Figure 1: FL360 Battery Compartment Tool



Figure 2: unscrew the 4mm screws on the Battery Lid

### Step 3

Insert two (2) fully charged FL360 Batteries over the orange ribbon into the camera, while carefully observing polarity by lining up the red (positive) side of the FL360 Battery with the positive terminal in the battery compartment (fig 3, 4 & 5). The FL360 Batteries should be inserted top of the orange ribbon to allow for easy battery removal. Tuck the excess ribbon back in between the batteries (fig 6) to avoid interference with the sealing gasket of the battery lid.



Figure 3



Figure 4



Figure 5



Figure 6

**NOTE:** Always remove FL360 Rechargeable Li-ion Batteries after use. Batteries left in the FL360 Camera batteries will discharge even when the camera has been turned off.

#### Step 4

Install the Battery Lid back onto the camera.

Align the Battery Lid with the camera housing (fig 7) and tighten both screws securely and evenly using the provided FL360 Battery Compartment Tool. Spin the tool until the screws are seated, then turn one extra full rotation.



Figure 7: align the Battery Lid with the camera housing

**CAUTION:** DO NOT over-tighten the screws. The brass inserts in the camera housing could be damaged by doing so.

#### Step 5

Press and hold the camera power button for 4 seconds until the multifunction LED turns Blue, indicating the camera is powering up. The camera can take 30-40 seconds to complete the initial boot sequence. After finishing booting up, the multifunction LED will indicate the charge level of the battery by flashing three times in green, yellow, or red. (Green meaning full charge, yellow meaning partial charge, red meaning insufficient charge. Refer to FL360 LED INDICATOR – MULTI-FUNCTION on page 8 for details.) Once the boot sequence is completed, the LED will flash Red/Blue to indicate the camera is ready to be paired with the supplied tablet.

#### Step 6

Power on the tablet and allow it to boot up by pressing and holding the power button until the screen lights up (this step can be done simultaneously with booting up the FL360 Camera).

#### Step 7

Tap the FL360 App icon (fig 8) on the tablet to open it.



Figure 8:  
FL360 App icon

Once the app is open, tap and hold the red Wi-Fi icon (fig 9) to connect to the FL360 Camera (this process can take a few seconds).

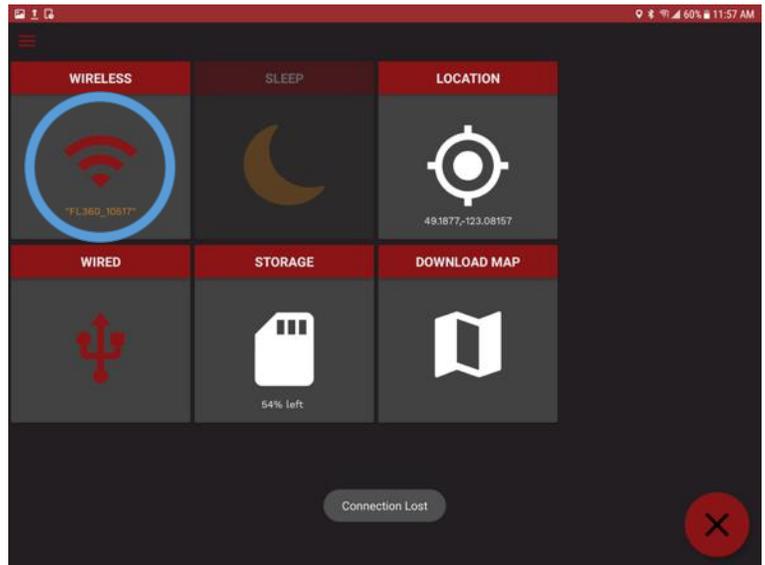


Figure 9: tap and hold the Wi-Fi icon

Select the proper camera (fig 10) (viz. 'FL360\_xxxxx', making sure the number after "FL360\_" corresponds with the serial number on the camera), then tap "connect".

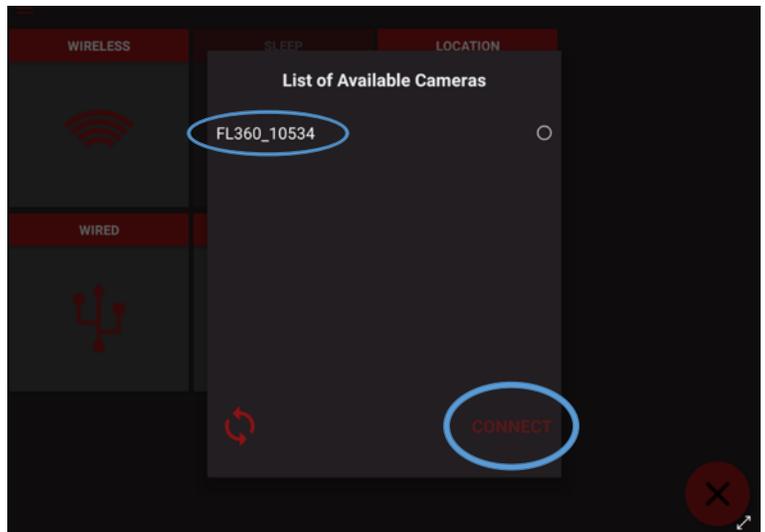


Figure 10: select the proper camera, then tap "connect"

Once the camera is connected the Wi-Fi icon will turn green (fig 11).

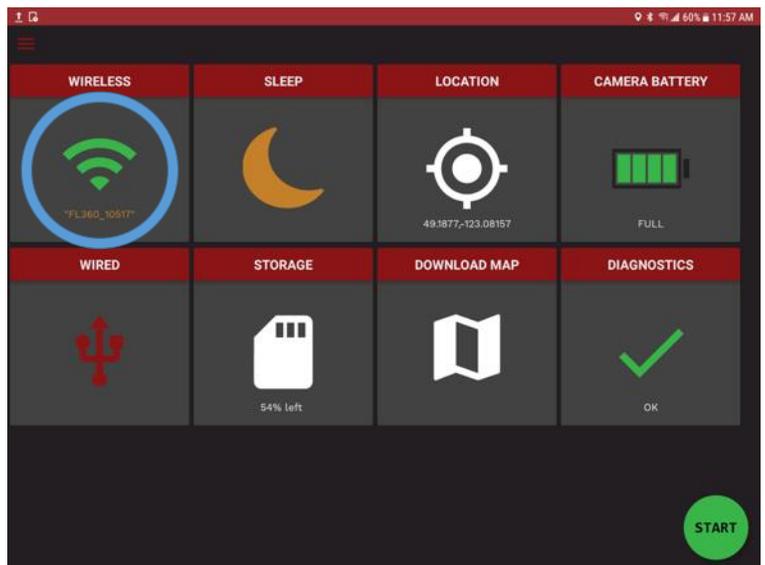


Figure 11: a green Wi-Fi icon indicates the camera has been connected

## Step 8

To start live-streaming, tap the start icon on the bottom right of the screen (fig 12).

You will be taken to the Camera Control Screen where the camera will stream full 360°. See FL360 APP OVERVIEW on page 23 for more details.

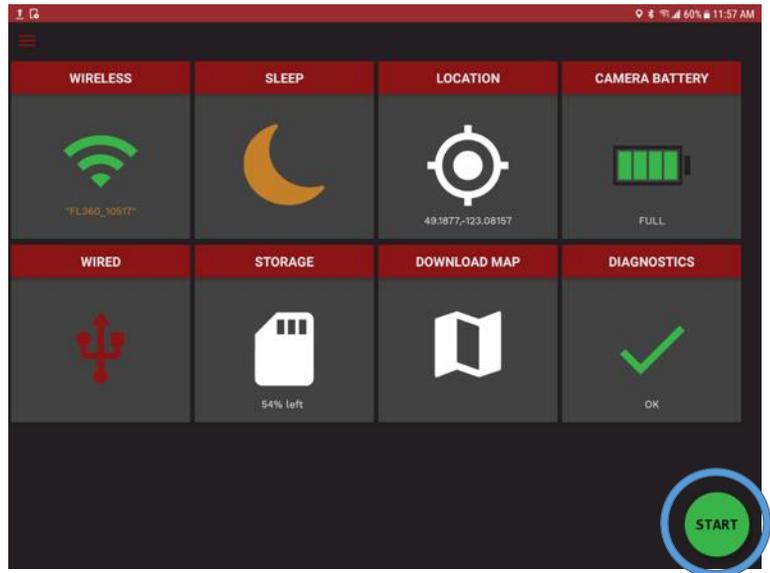


Figure 12: tap the start icon to start live-streaming

## Step 9 (after usage of camera)

To power off the camera, press and hold the camera power button for 4 seconds until the multifunction LED turns off. Remember to always remove the FL360 Rechargeable Li-ion Batteries from the camera after use.

## After a factory reset OR if you press “Forget network”

If the Tablet is reset to factory settings, the pairing of the FL360 Camera to the tablet requires a one-time Wi-Fi connection configuration. Navigate to the main tablet settings and tap the gear icon (fig 13). Tap Connections, tap Wi-Fi, and tap the FL360 Camera network to connect.

You will be asked for a Password:

**The default password is FL360123 (case sensitive)**

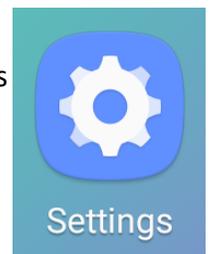


Figure 13: Settings gear icon

Upon successful connection, “Connected” will be displayed in the camera networks when you press the wireless connection icon on the Home screen of the FL360 App.

Alternatively swipe your finger from the top of the screen to access the pull-down menu. Tap and hold the Wi-Fi icon to show available networks. Tap the FL360 Camera network, enter the password if asked, and connect.

## Wired Operation

Use this mode if the wireless signal between the FL360 Camera and Tablet is compromised.

### Step 1-6

Repeat steps 1-6 from the wireless mode operation described above.

### Step 7

Thread the camera onto the FL360 Collapsible/Telescoping Camera Boom.

### Step 8

To install the coiled cable, collapse the telescoping boom. Insert the circular camera connector into the opening at the rear of the boom pole (fig 14).



*Figure 14: insert coiled cable into the rear of the boom pole*

### Step 9

Slowly twist the coiled cable clockwise while at the same time pushing it toward the camera attachment point. When the circular connector is visible in the slot of the pole coupler (fig 15), pull it out and connect it to the port at the rear of the FL360 Camera (fig 16). The connector has an orientation notch, so carefully rotate the connector and apply slight pressure until you feel it click into place.



*Figure 15: circular connector has become visible in the slot of the pole coupler*



*Figure 16: circular connector connected to camera port*

## Step 9

Connect the tablet cable to the end of the coiled cable (fig 17). Twist to secure (fig 18). The right-angled connectors naturally route the cable forward on the boom (fig 18 & 19). Plug the right-angled USB connector into the tablet (fig 20). Mount the tablet as desired (fig 21).



Figure 17: twist to secure tablet cable to the end of the coiled cable



Figure 18: the right-angled cables route forward on the boom



Figure 19: the cables nestle into the rear of the boom when the boom is extended



Figure 20: plug the USB connector into the tablet



Figure 21: tablet mounted onto the boom

## Step 10

Open the FL360 App and tap the USB tethering icon (fig 22).

The app will take you to the Mobile Hotspot and Tethering Settings section within the tablet.

TURN ON the USB Tethering setting in this section (fig 23). Tap the USB tethering icon to finish connecting to the camera. The USB Tethering icon will turn green when it has finished connecting.

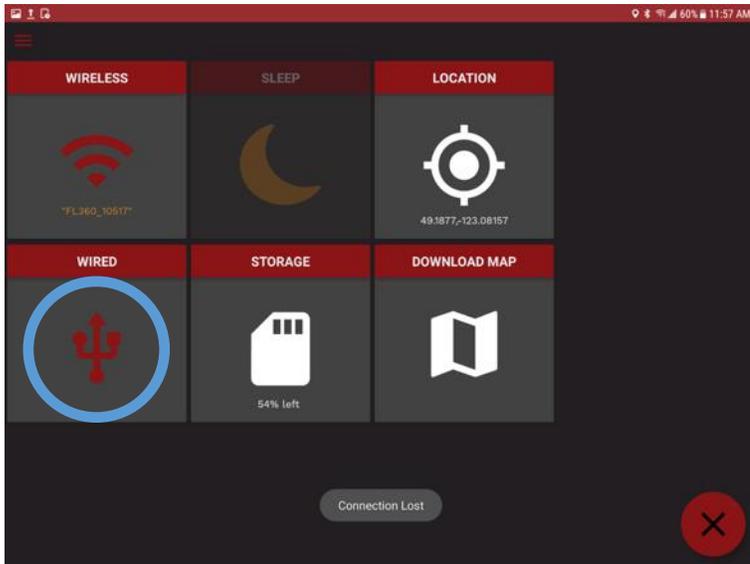


Figure 22: tap the USB tethering icon to open the tablet's Mobile Hotspot and Tethering settings

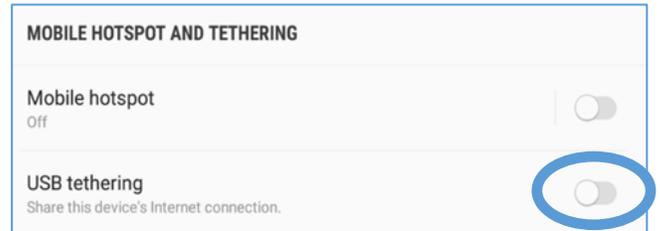


Figure 23: turn on USB tethering

## Step 11

To start live-streaming, press the start icon (fig 24).

You will be taken to the Camera Control Screen where the camera will stream full 360°. See FL360 APP OVERVIEW on page 23 for more details.

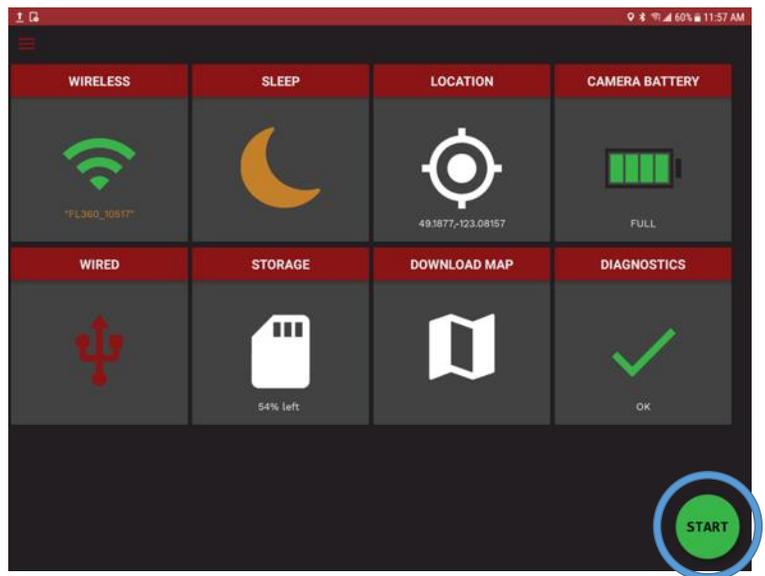
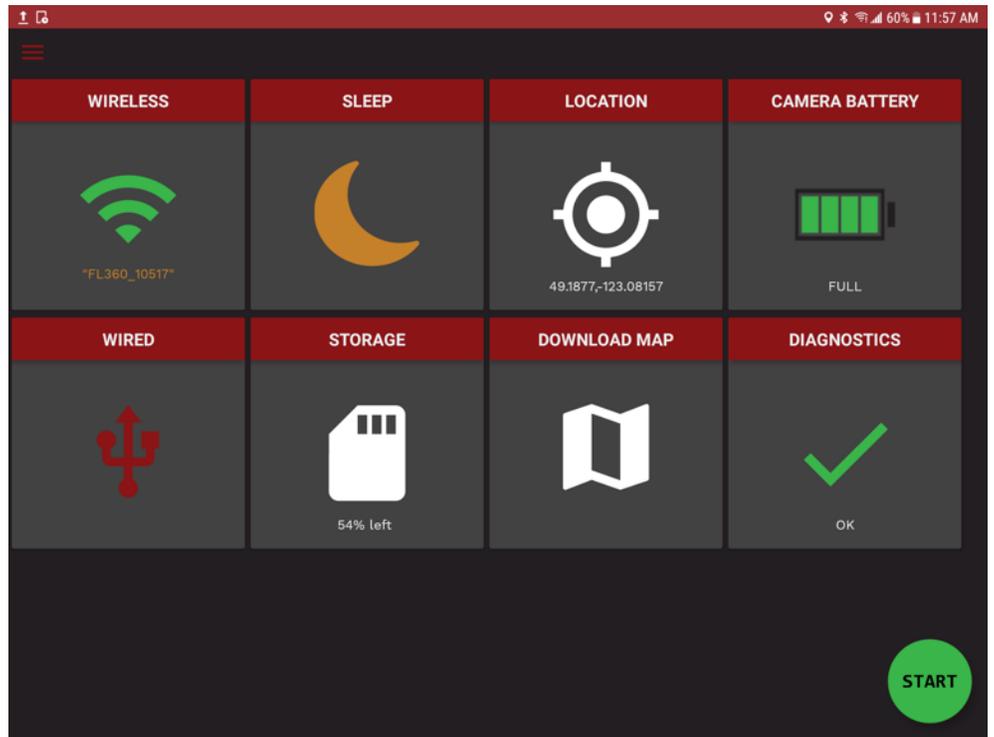


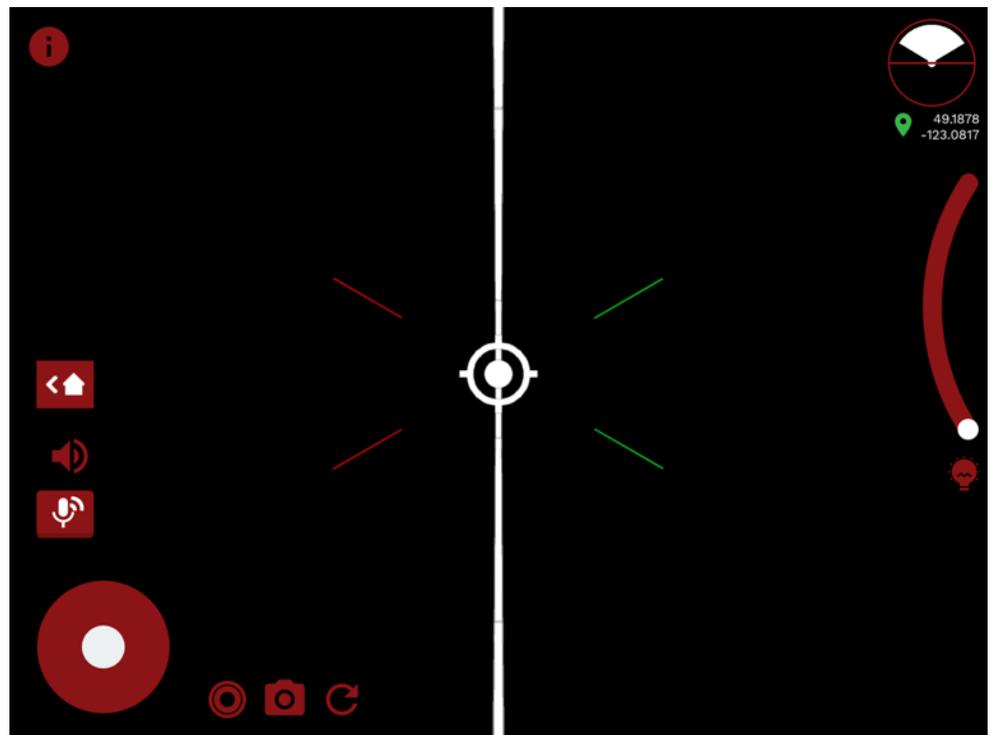
Figure 24: press the start icon to start live-streaming

# FL360 APP OVERVIEW

Home Screen



Camera Control Screen



# Camera Control Screen

## Information Overlay

Tap the info icon on the top left of the screen (fig 1) to activate the instructional overlays in the Camera Control Screen (fig 2).

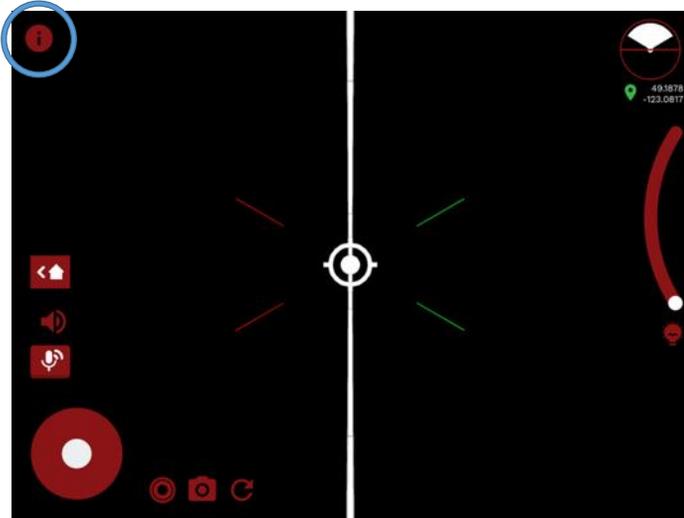


Figure 1: tap the info icon to activate the instructional overlays

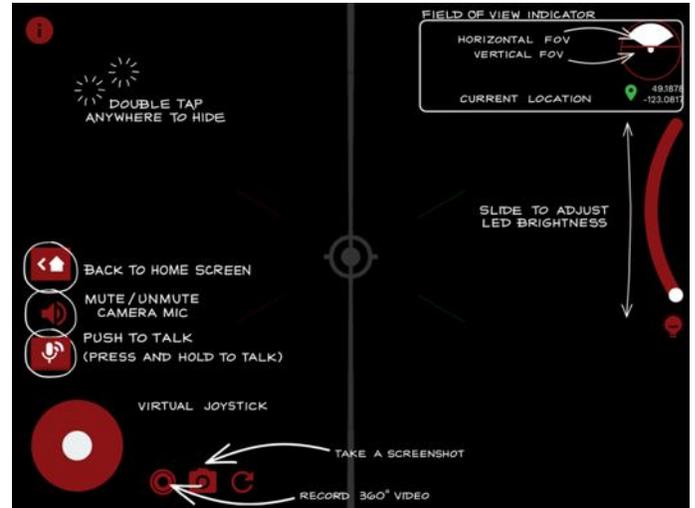


Figure 2: Camera Control Screens with instructional overlays visible

## Home

The Home button (fig 3) is located on the left side of the Camera Control Screen. Tap the home button at any time to return to the home screen.

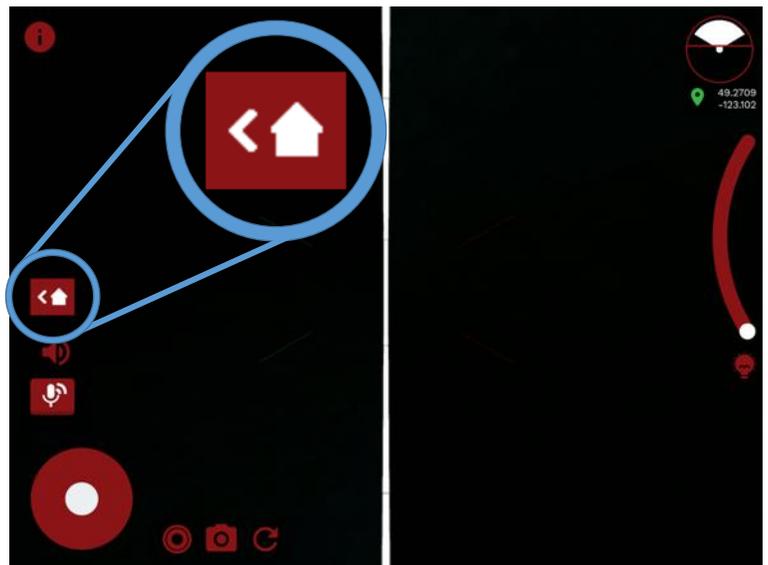


Figure 3: Home button

## Microphone Mute

The Microphone Mute button (fig 4) is displayed on the left side of the Camera Control Screen. Tap the Microphone Mute button to mute the FL360 Camera microphone. This is a useful feature that can be activated during positioning of the camera, so the operator avoids having to listen to scraping noises. The mute feature will automatically turn off after pressing the PTT button.

**TIP:** go to the user settings menu to preset the default condition for the mute feature.

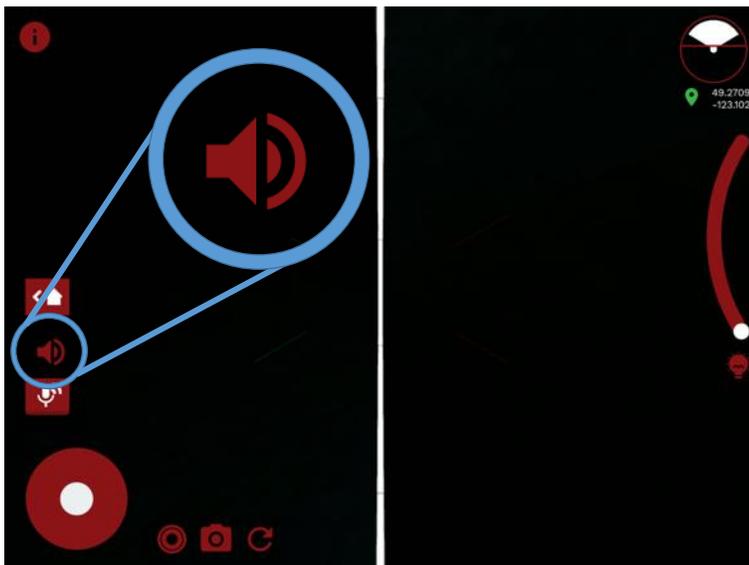


Figure 4: Microphone Mute button

## Push-to-Talk (PTT)

The PTT button (fig 5) is displayed on the left side of the Camera Control Screen. Tap and hold the PTT button to communicate through the speaker on the camera.

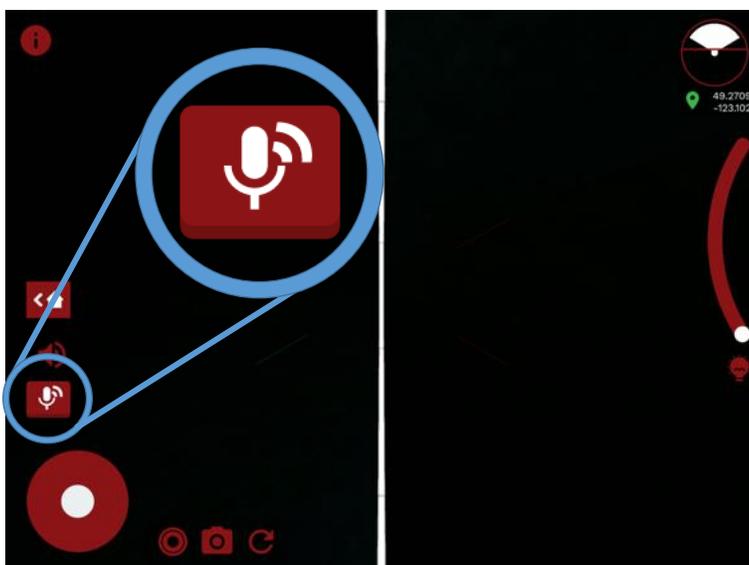


Figure 5: Push-to-Talk button

## Virtual Joystick

The Virtual Joystick (fig 6) is located in the bottom left corner of the Camera Control Screen. It allows one-handed operation while viewing spaces. Press and hold the white dot, then move it within the red circle in the direction you wish to view. Tapping the virtual joystick once will re-orientate the image so the camera view is back in the direction of the default forward view.

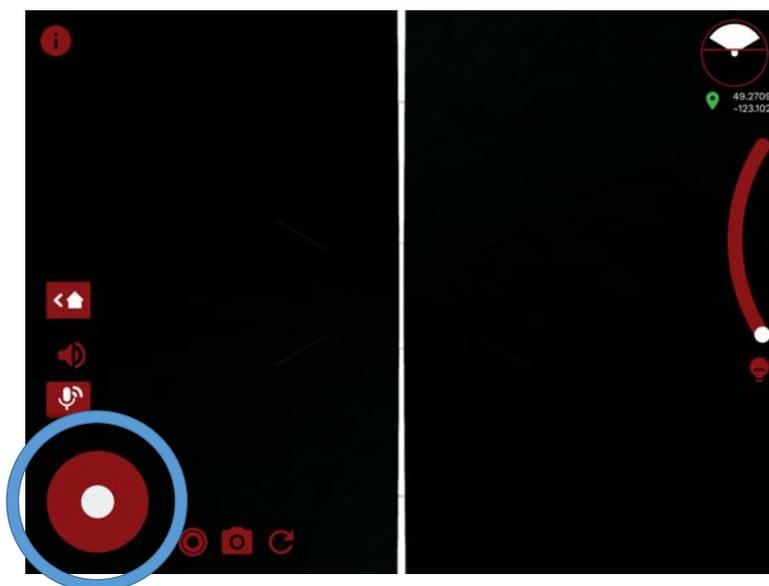


Figure 6: Virtual Joystick

## Record Video

The Record Video icon (fig 7) is displayed at the bottom on the Camera Control Screen. This button allows the user to record 360° video with two-way audio, as well as date, time, and GPS coordinates. In addition, all video recorded is overlaid on a map to display the location of the recorded video(s). To start recording, simply tap the Record Video icon. The icon will pulsate and a recording timer will be displayed while recording. Tap the icon again to stop recording. Videos are stored on the tablet's internal storage.

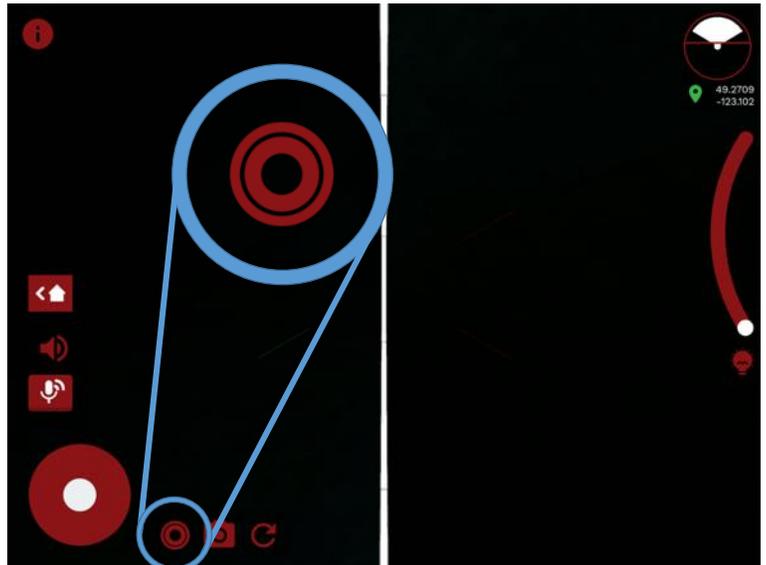


Figure 7: Record Video icon

## Screen Shot

The Screen Shot button (fig 8) is displayed at the bottom of the Camera Control Screen. Tapping this button allows the user to take a screenshot of the image visible on the Tablet's screen. Each screenshot is date, time, and GPS stamped. Screen shots are stored in the tablet's internal storage.

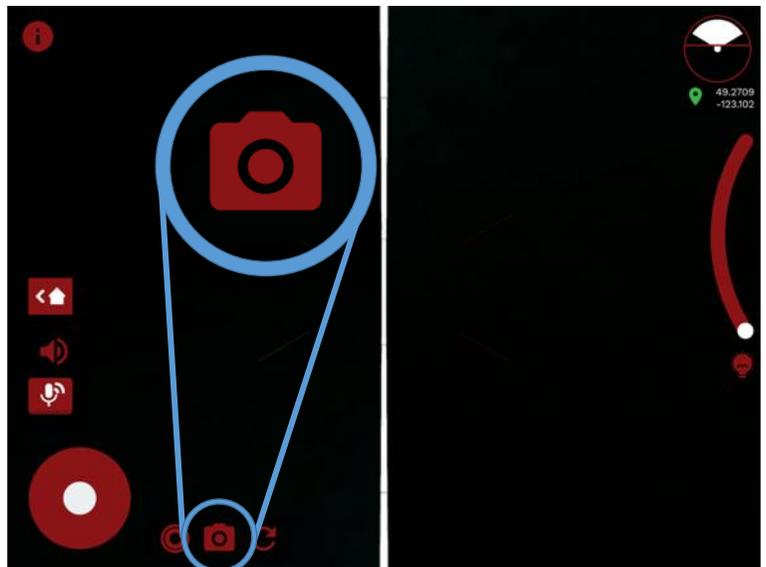


Figure 8: Screen Shot button

## Refresh

The Refresh button (fig 9) is displayed at the bottom of the Camera Controls Screen. Tapping this button refreshes the video output of the camera. It is a useful feature in rare cases when video lag builds up or if the video starts freezing. Using this button does not affect the recorded videos in anyway, and thus it is safe to use while recording.

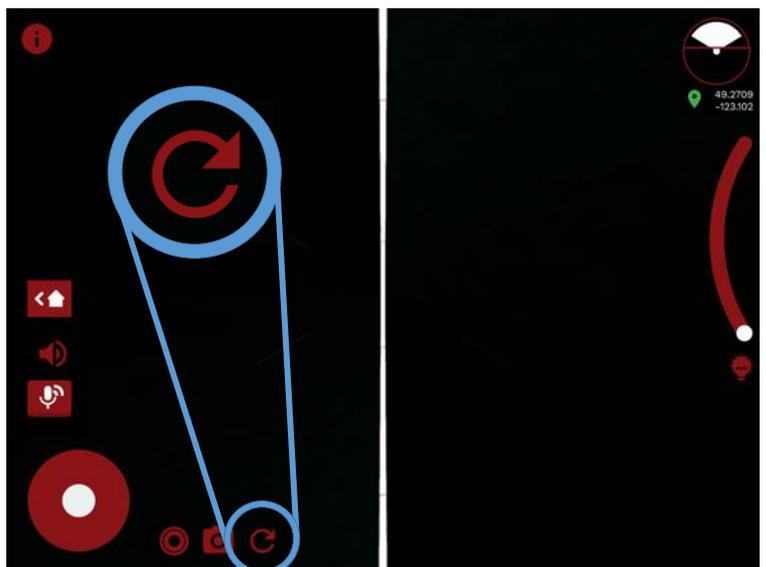


Figure 9: Refresh button

## Meridian Line & Forward Pointer

The Meridian Line (fig 10) is the division point between the FL360's two camera lenses.

It supplements the FoV indicator by providing the operator with an additional guide to orientate oneself within a space.

Additionally, the forward pointer marked with a bull's eye provides a spatial reference point that is on the same axis as the telescoping boom. The rear view of the camera is marked with an "X".

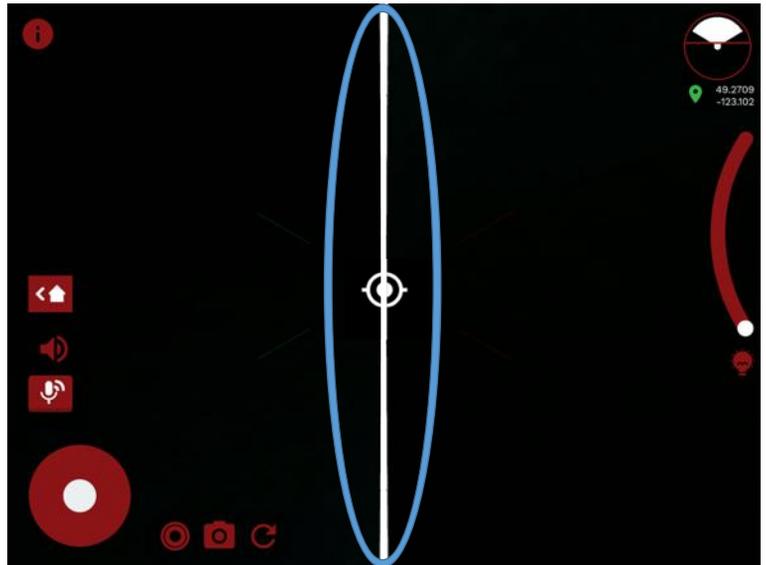


Figure 10: Meridian Line and Forward Pointer

## Field of View Indicator (FoV)

The FoV indicator (fig 11), displayed on the top right of the Camera Control Screen, is designed to provide spatial orientation to the operator.

The FoV indicator has two components - a horizontal FoV indicator and a vertical FoV indicator. The horizontal FoV is represented by the white sector and indicates the angle of the horizontal field of view as well as the total magnitude of the field of view.

The vertical FoV is represented by the red center line and indicates the angle of the vertical field of view relative to the telescoping pole.

When looking straight ahead, the FoV indicator will appear as in figure 11.

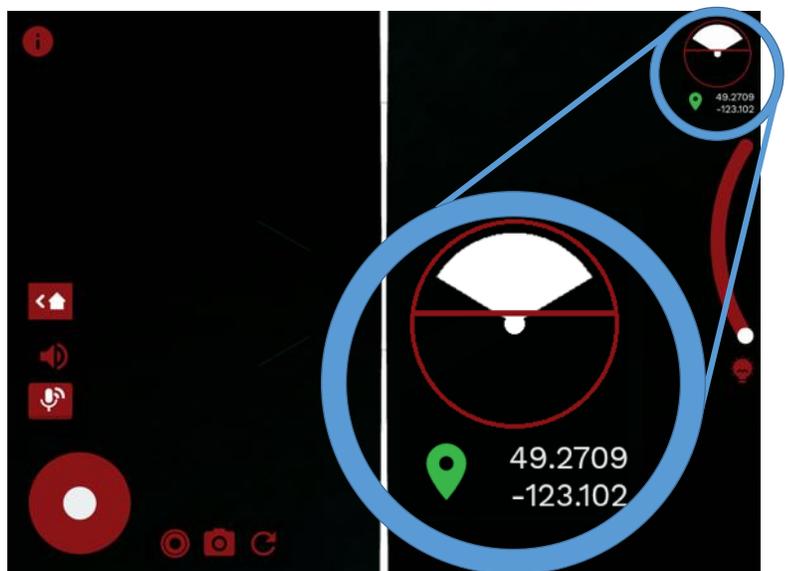


Figure 11: Field of View indicator

**TIP:** tap the FoV indicator to return the view back to the default forward orientation.

## Illumination LED Slider

The Illumination LED Slider (fig 12) is located at the far right of the Camera Control Screen. This slider allows the user to set the intensity of the illumination LEDs by sliding a finger up and down its arc. Tapping the LED icon will set the LEDs to full brightness or switch them off. As you adjust the slider you will experience tactile and visual feedback on the tablet.

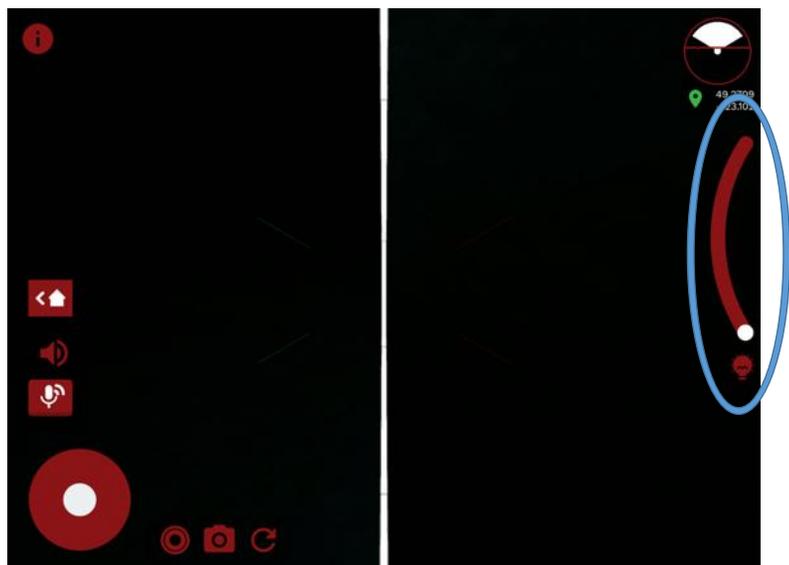


Figure 12: Illumination LED Slider

## FL360 Settings - Slide Out Menu

To access FL360 settings, press the hamburger icon (fig 13) located at the top left of the diagnostics screen or simply slide your finger from the left side of the tablet in towards the center of the screen to access the settings menu (fig 14).

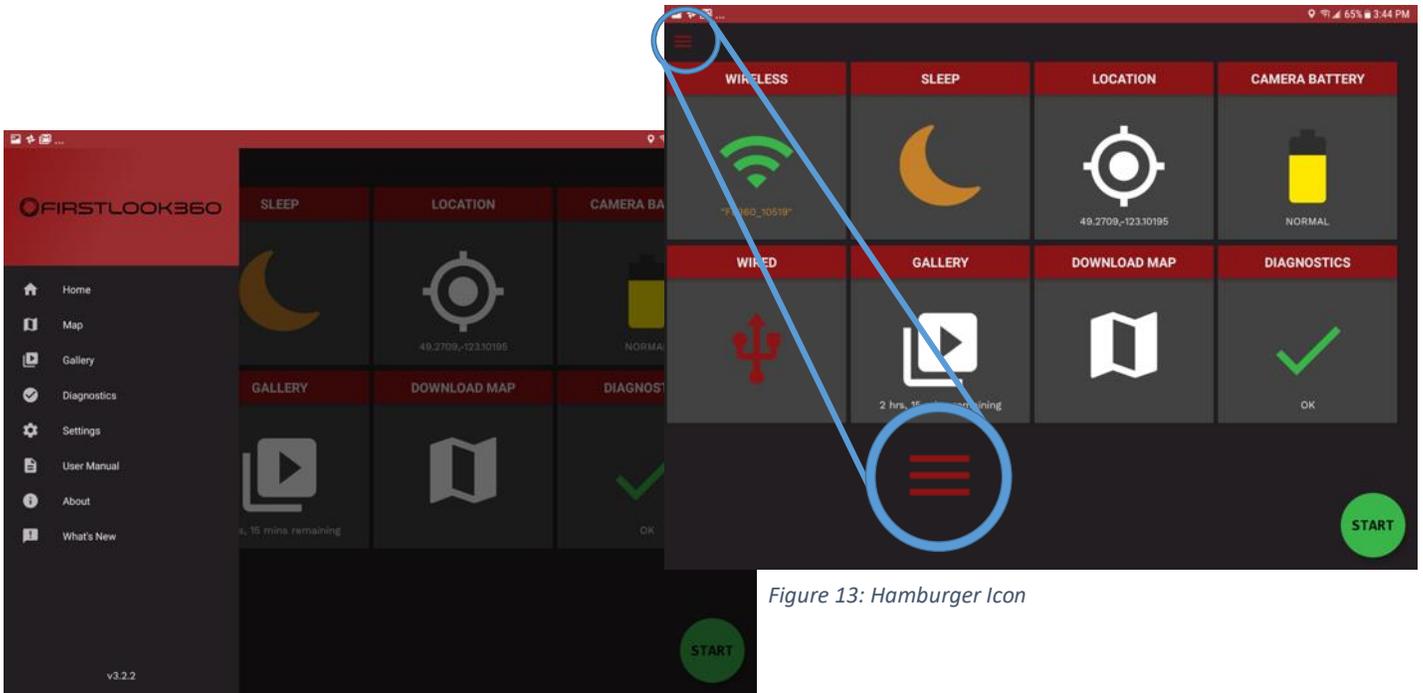


Figure 13: Hamburger Icon

Figure 14: Settings Menu

## Pinch and Zoom

The pinch/zoom gesture (fig 15) allows the operator to digitally zoom in or out of a live stream, video, or image. To zoom out, place two fingers on the tablet screen and pinch them together while touching the screen. To zoom in, place two fingers on the tablet and separate your fingers from each other while touching the screen.



Figure 15: pinch/zoom gesture

## Searching the Spherical image

Searching a space can be accomplished in a number of ways:

### 1. Camera Control Screen

In live-streaming mode the FL360 Camera streams what it sees to the tablet (fig 16). Note that you may experience an approximately 0.5 second delay or latency as the Tablet processes, decodes, and stitches together the spherical image. Use a finger on the tablet's screen to move around the spherical image. Alternatively, the virtual joystick can be used for single-handed operation.

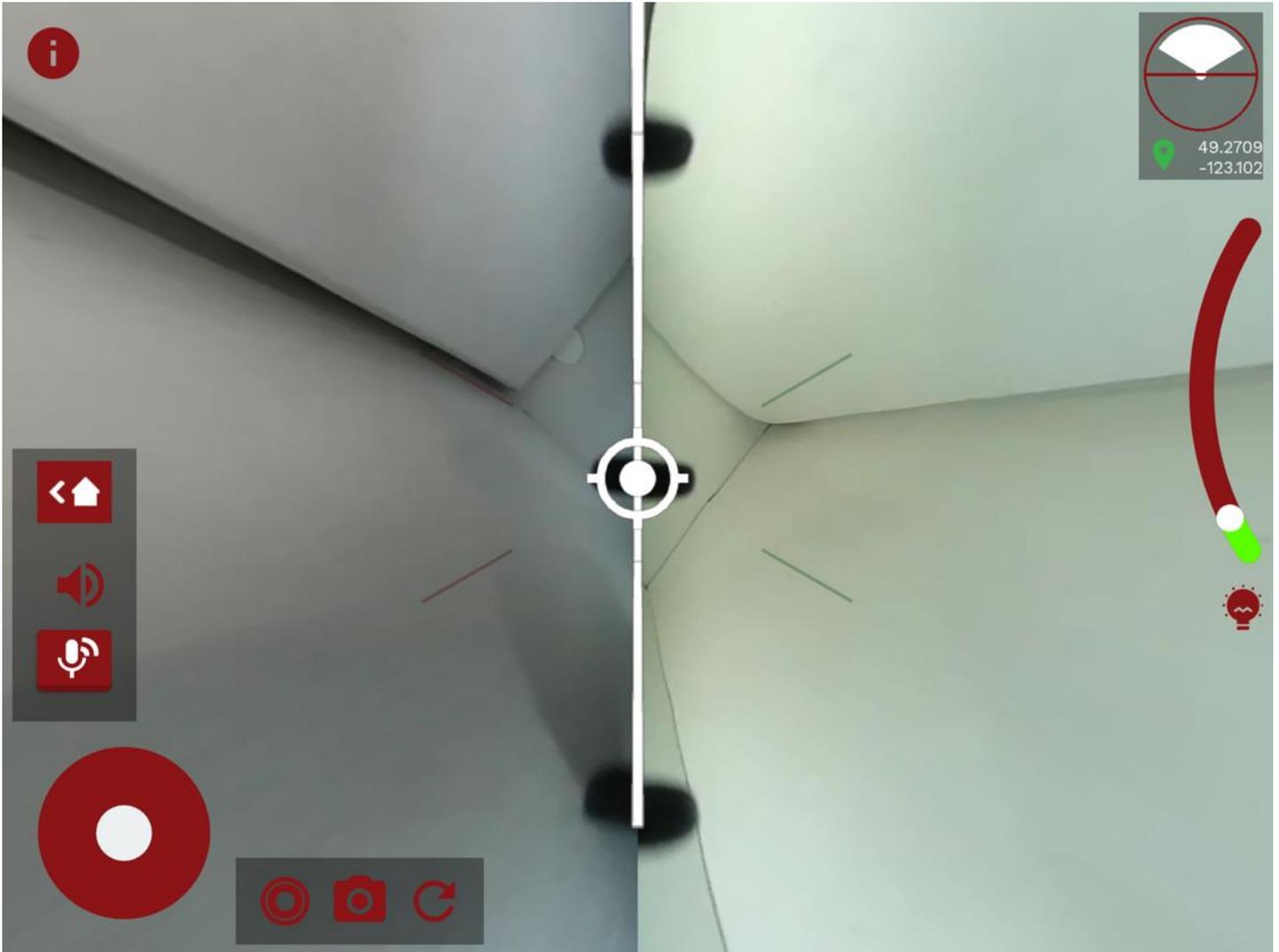


Figure 16: live-streaming mode

### 2. Recorded video stream

If a space requires a precarious position or is difficult to access, the operator has an option to record the live stream by pressing the Record button. The 360-degree spherical recording can be thoroughly reviewed at any time after moving to a safer location. An alternative would be to share the images with a team member or someone off-site to conduct a more detailed search to ensure nothing was missed. Conveniently, all the recordings are data tagged with time, date, device ID, and GPS location.

### 3. Map View

Multiple videos taken at the same location will appear on the map as a cluster with the number of videos and images recorded. Tap the cluster to view all the videos in the selected location. The cluster will open up into a thumbnail gallery. Click on the thumbnail to view a specific video or image.

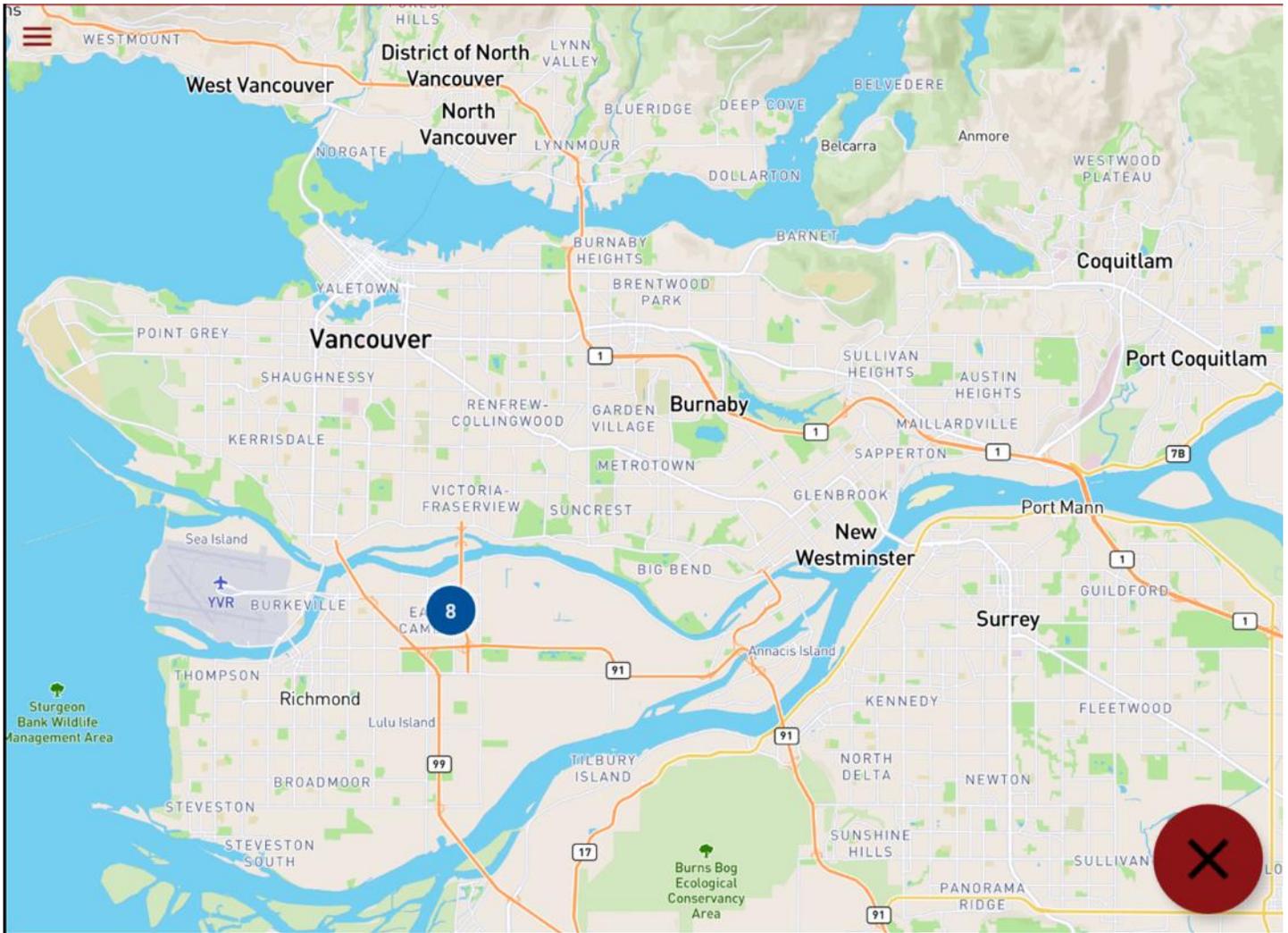


Figure 17: map view, showing a cluster of 8 images/videos taken at the same location. Tap the number to view the images/videos.

## Gallery / Viewer

### Screenshot images

The gallery (found in the setting menu) allows you to preview all screenshots taken via the screenshot icon. Screenshots are captured images of what is visible on the screen only, not full 360°spherical images. It is possible to take and save a screenshot in any mode; recording, live-streaming, or playing back.

### Video

Video is recorded in a proprietary 360-degree format that allows full 360-degree playback of the entire space and allows the user to search as if you would in a live scenario. This is helpful during training exercises and while getting comfortable searching using the FL360. Recorded videos are stored in the Gallery under the Videos tab (fig 18). Tap the “i” for meta data information captured with the videos for Time, Date, Location, Device identification, File Size etc. under this tab you also have the option to delete the video.

Tapping the location icon will take you to the Mapping screen and show you the location where the video was taken. Multiple videos taken in the same location are shown in a cluster.

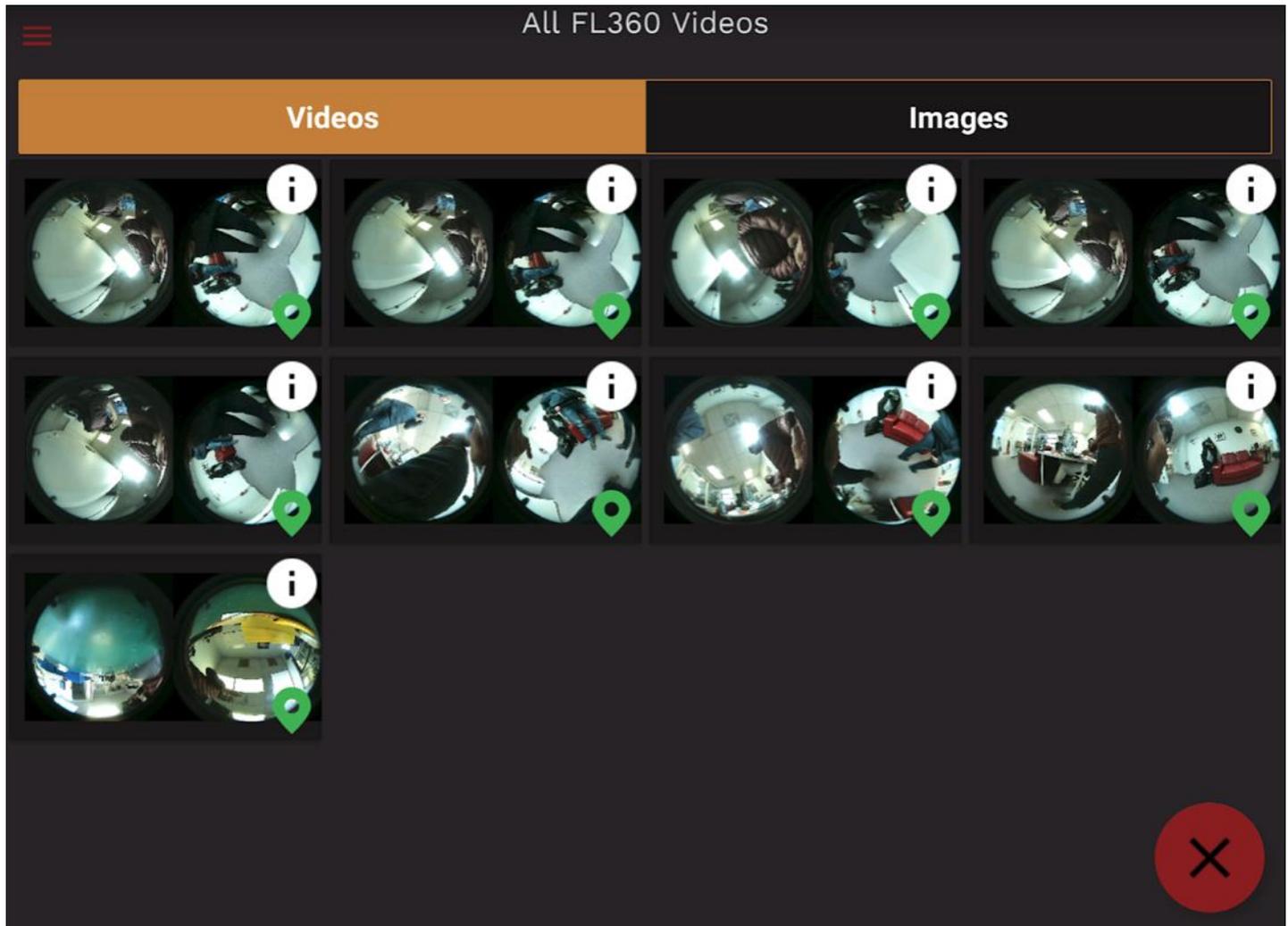


Figure 18: recorded videos can be found in the Gallery under the Videos tab.

## Gallery Playback Controls

While playing back a video, several controls show up in the bottom of the screen (fig 19):

1. **Screenshot button** – Allows the user to take a screenshot while playing back a video
2. **Information button** – Displays stored meta data time date location and device ID
3. **Slider bar/Play/Pause** – Allows the user to play, pause, rewind, or fast forward recordings
4. **Share button** – Allows the user to share your videos or screenshots
5. **Loop button** – Enables 360 videos to play and loop indefinitely

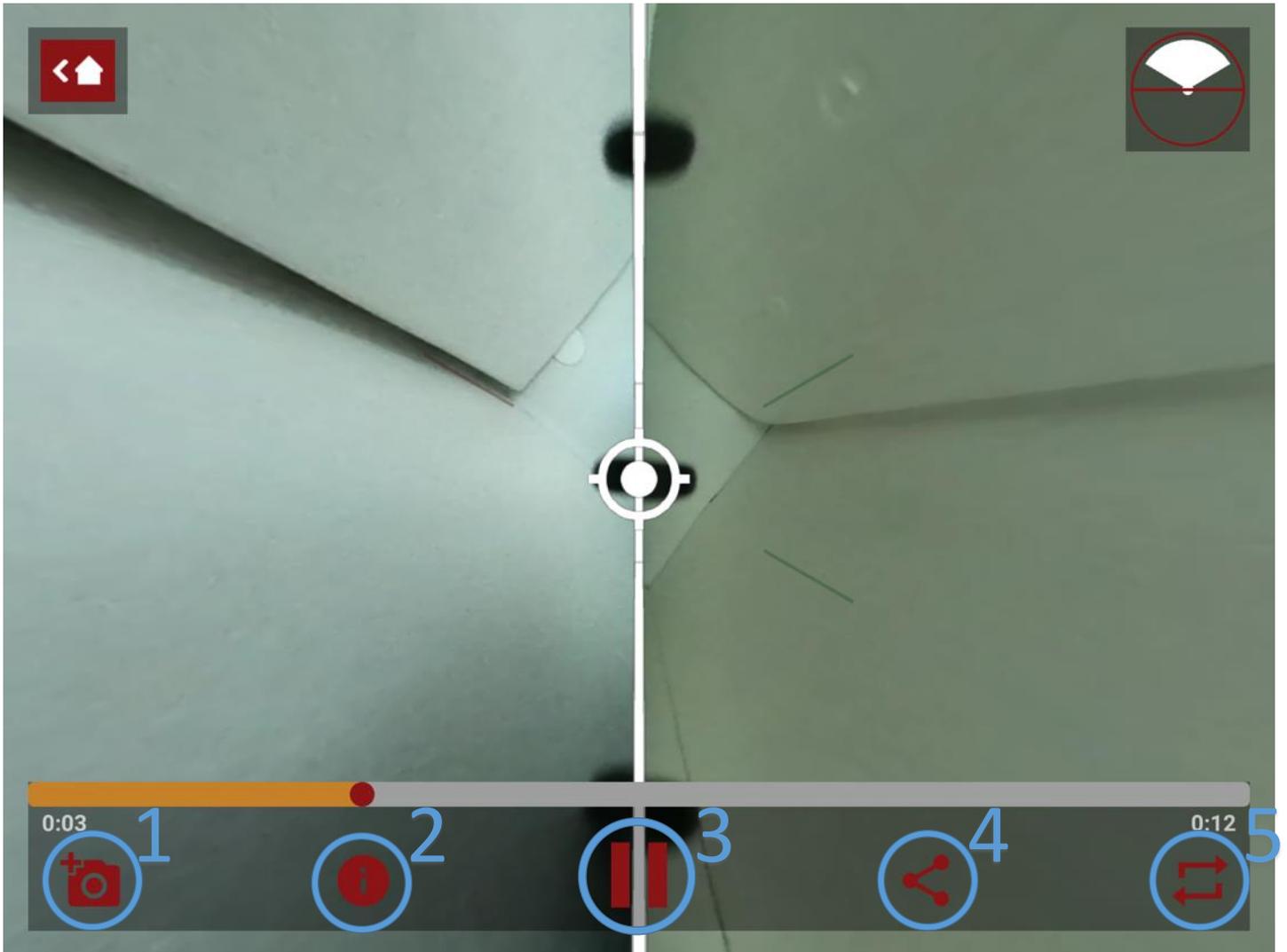


Figure 19: Gallery Playback Controls

## Status Page

The Status page (fig 20) displays automated Checks of major systems onboard the FL360 rescue camera.

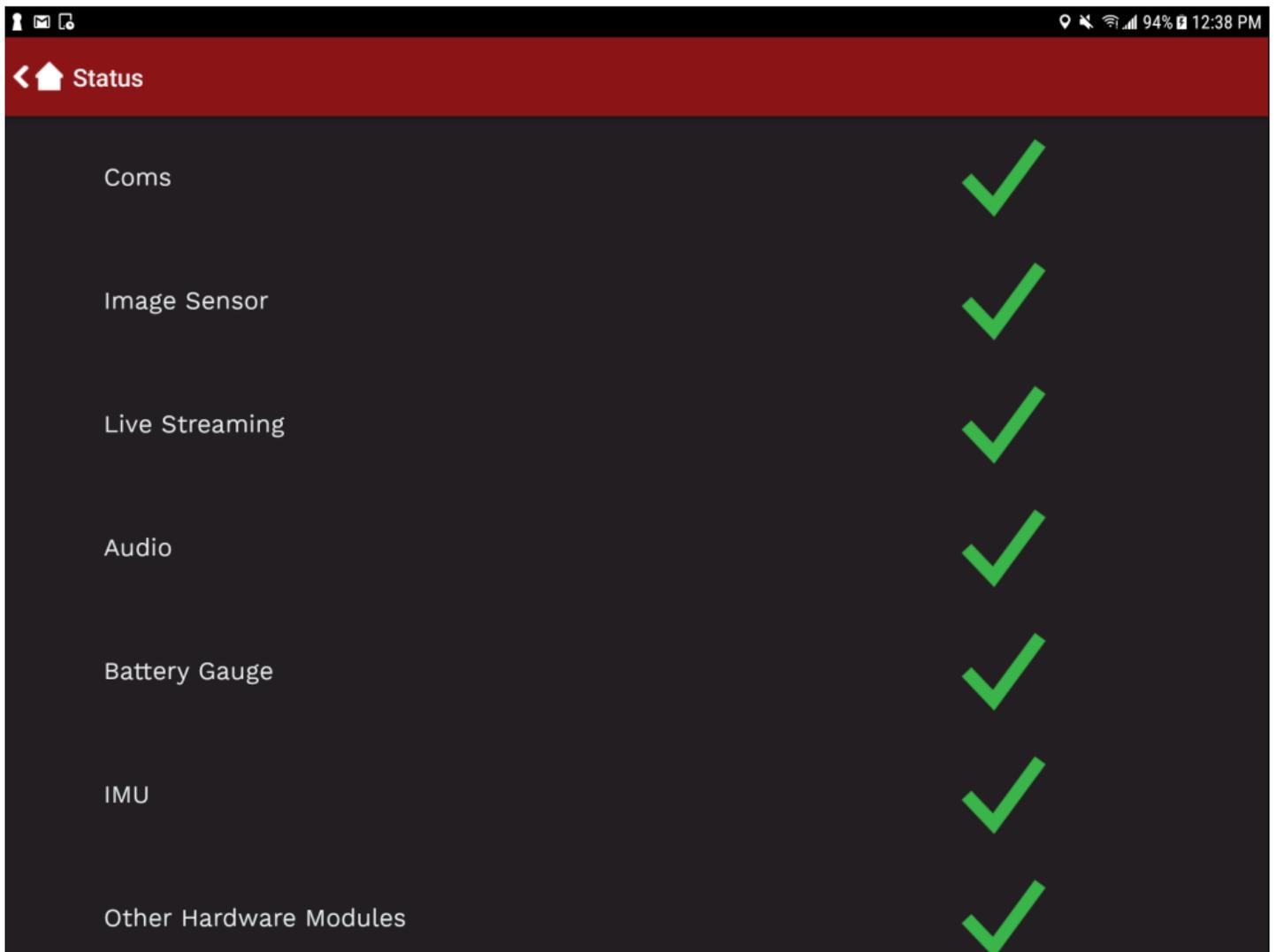


Figure 20: Status Page

Scroll down for more information such as firmware version number, CPU temperature etc.  
If any of the Checks show as negative, please contact support (see page 42 for service information).

# BATTERY HANDLING

## FL360 Rechargeable Li-ion Battery with Protection Circuit

The FL360 Camera uses lithium-ion protected circuit 18650 batteries.  
Fully charged FL360 batteries will typically last 4-6 hours, depending on use.  
Keep batteries away from fire or other sources of heat above 80° C.  
Storage Temperature: -10° C to 40° C

## Hot Swapping

Batteries may be replaced one by one while the FL360 is operating. To do this, unscrew the FL360 Speaker/Mic Lid and begin to replace each battery separately with a fully charged replacement. Once complete, make sure to correctly install the FL360 Speaker/Mic Lid or FL360 Environmental Lid.

## FL360 Smart Battery Holder (0607-52-004)

The smart battery holder is included in the kit to provide an additional layer of safety when transporting extra batteries on a person. The smart holder helps to prevent unintentional shorting of the battery contacts. It can also provide a handy method for keeping track of which batteries are charged and which batteries are discharged. To minimize discharging when not in use, it is recommended to always store FL360 Rechargeable Li-ion Batteries in the FL360 Smart Battery Holder.

RED end visible = Charged (fig 1) - BLACK end visible = Discharged (fig 2)



Figure 1



Figure 2

# ALTERNATE POWER

## CR123A lithium battery - Adapter Tubes (0607-52-005)

The FL360 Camera will operate using 4x CR123A lithium batteries as an alternative emergency power source. Each ATC USAR Kit comes with a set of 2 adapter tubes. Each tube holds 2x CR123A Batteries (fig 3).

**CAUTION:** when putting the CR123A lithium batteries in the adapter tubes, make sure that the batteries are correctly orientated and observe correct polarity. Make sure that polarity markings on the adapter tube, batteries, and FL360 are aligned (fig 4).

**WARNING:** DO NOT USE CR123 Lithium-Ion batteries. Please note that the higher voltage of the Lithium Ion cells could damage the camera's circuitry. Make sure to check the Battery type before using the adaptor tubes. Understand the difference between Lithium and Lithium-Ion batteries. Physical Cell size is the same, but the chemistry is very different.

**BEWARE:** Use of Lithium Ion batteries will void warranty.



*Figure 3: four CR123A lithium batteries inserted into two adapter tubes*



*Figure 4: CR123A lithium batteries inside adapter tubes properly inserted into the FL360*

# KIT ACCESSORIES

## FL360 Collapsible/Telescoping Camera Boom (0607-50-003)

The Collapsible/Telescoping Camera Boom (fig 1) is made of high-grade aluminum construction and has 5 sections incorporated into the design, allowing it to extend from 2.4ft (73.15cm) to 9.5ft (289.56cm).

Step 1: To extend the boom, twist the section locking collars counterclockwise to loosen, extend the boom, then rotate the locking collars clockwise to tighten.

Step 2: Start with the thinnest section of the boom closest to the camera and work your way back to the thickest section of the boom.

Step 3: To collapse, reverse the above procedure.



Figure 1: Collapsible/Telescoping Camera Boom shown fully collapsed

## FL360 Two-Point Shoulder Sling (0607-50-001)

The two-point shoulder sling is fully adjustable to accommodate virtually any size person. The sling gives users the ability to free up their hands while carrying the FL360 Collapsible/Telescoping Camera Boom with or without FL360 Camera and other equipment.

Option 1: Typical Attachment – Attach the clips located at either end of the sling to the attachment points on the red rear pole coupling and the d-ring located on the FL360 Collapsible/Telescoping Camera Boom (fig 2&3).

Option 2: Single Point - Clip both ends of the sling to the d-ring (fig 4).



Figures 2&3: typical attachment on both d-ring and rear pole coupling



Figure 4: single-point attachment of both ends on d-ring only

## FL360 Grip Handle with Camera Support (0607-50-002)

The FL360 Grip Handle with Camera Support (fig 5) is designed to provide the operator with an ergonomically designed grip to maneuver and steady the boom pole when probing in void spaces. The spring-loaded legs allow the operator to temporarily set down the FL360 Collapsible/Telescoping Camera Boom and keep the FL360 Camera and tablet free from dirt or other debris.

Installation:

- Line up the horizontal tightening bar with one of the slots of the FL360 Collapsible/Telescoping Camera Boom rail mount.
- Adjust the quick release lever to that it's tight enough to fasten and release.
- To extend the support legs out the handle, press the quick release button located on the forward side of the handle. Be careful as the legs release very quickly.
- To retract the legs, gather both legs together and, using the palm of your hand, push them into the hand grip until they click securely back into place.



Figure 5: FL360 Grip Handle with Camera Support

**TIP:** The grip can be removed to extend the reach of the pole. Open the quick release and remove the grip.

## Sun Hood (0607-51-022)

To install the Sun Hood, take the tablet out of the mount. Unfold the Sun Hood (fig 6) and attach it to the tablet by sliding the rubber elastics around either side of the tablet. Note that the tablet with hood attached (fig 7) can be reinserted into the mount if desired.



Figure 6: unfolded Sun Hood



Figure 7: Sun Hood attached to tablet

## Tablet Mounting Hardware (0607-51-013, 0607-51-005, 0607-51-006, 0607-51-007) (fig 8)

The supplied spring-loaded tablet mount is designed to secure the portable tablet and its protective silicone cover to the FL360 Collapsible/Telescoping Camera Boom. The double socket ball mount makes the adjustment virtually infinite.

Loosen the knob on the double socket ball mount and insert it between the ball mount on the back of the tablet mount and the ball mount on the camera boom. Tighten the knob to secure it into the desired position.

To remove the tablet from the mount, spread apart the cupped ends and lift from the mount. Reverse the procedure to reinstall.

TABLET MOUNT HEAVY DUTY CASE



ROUND PLATE WITH 1" BALL



DOUBLE SOCKET ARM



BOOM POLE MOUNT WITH 1" BALL



Figure 8: tablet mounting hardware: tablet mount case, round plate with ball, double socket arm, and boom pole mount with ball

## FL360 Rear Attachment Eye Hook (0607-59-007)

The FL360 Rear Attachment Eye Hook threads into the rear of the FL360 camera body. This large 1" eye allows the user to operate the camera using standard rope equipment and carabiners to secure the camera in position, lower it into a void space, or access a hard to reach viewing area. See also MOUNTING OPTIONS on page 14.

## FL360 Headset (Behind Head Double Sided) (0607-53-001)

The FL360 Headset has been constructed with comfort and noise isolation in mind. The headset comes with a 90 degree 3.5mm connector to avoid accidental unplugging. The headset consists of a flexible boom-mounted noise-cancelling microphone, quality audio speakers and gel ear-seals built into a rugged behind-the-head headset. The FL360 Headset is compatible with a variety of protective head gear.

**NOTE:** PTT button use on the FL360 Headset:

The PTT button on the headset operates only in **toggle** mode. Toggle is different than traditional PTT in that you must tap the PTT button once to engage or start transmitting and tap it again to disengage or stop transmitting. This is used in conjunction with the Speaker Microphone Battery Lid on the FL360 to communication from the FL360 App to the FL360 Camera.

# CARE & STORAGE

## Care - FL360 Camera and Tablet

- Please keep lenses clean and free from dirt and fingerprints to avoid degrading picture quality.
- To clean the screen on your tablet, use a soft, lint-free cloth. We suggest you use microfiber cloths. Never use a paper towel or other paper-based towels as they can leave scratches on the screen.
- When dust or dirt does get on the lens, avoid direct contact with fingers, and either use a camera lens blower to blow off particles, or a soft camera lens cloth to gently wipe the lens.
- Never disassemble the FL360, as this is both dangerous and will void warranty.
- If the camera exterior becomes dirty, dry wipe the exterior using a soft cloth such as a microfiber cloth, or wet wipe using a well-wrung out cloth. Do not use solvents, as doing so may cause the external surface to deteriorate.

## Storage - FL360 Camera, Tablet, and Batteries

- Please avoid using or storing your FL360 Camera and tablet in the following kinds of places, as this may damage the camera.
  - Places with extreme high temperature, high humidity, or rapid changes in humidity or temperature.
  - Places with large amounts of sand or dust.
  - Places where FL360 Camera or parts will be in contact with chemicals.
  - Places where strong magnetism is emitted (next to monitors, transformers, magnets, etc.).
- Always store your FL360 Camera and tablet in the provided case.
- Always store the FL360 Rechargeable Li-ion Batteries in the FL360 Smart Battery Holder when not in use.
- Be sure to charge the battery before initial use, as it is not fully charged at the time of dispatch.
- Due to the characteristics of the battery, use in cold areas will shorten the usage time even if the battery is sufficiently charged.
- If storing for a long time, charge the battery for around 30 minutes once every year.
- Do not recharge immediately after charging has been completed.
- Charge in an area with an ambient temperature between 10°C and 40°C. Charging in cold or hot areas may cause the battery to deteriorate or prevent sufficient charging.

# FL360 SPECIFICATIONS

## Camera

### Optical

Object Distance	Approx. 1cm - $\infty$ from camera lens
Exposure Control	Individual AE per sensor
Image Sensor	3.4 MP 1/3" CMOS sensor (2.2um pixels)
Lens	f/2.0 (9-Glass)
Field of View	360° Effective Coverage 2x200° (HxVxD)

### General

Live-Streaming Resolution	960s HD - Dual 960p @ 30fps (1920x960)
Video Frame Rate	30 fps
Recording Medium	Tablet Storage (microSD expandable to 256GB)
Batteries	Removable Hot Swappable Batteries - 6800mAH (2x18650 Protected Batteries)
Alternative Power Source	4x CR123A Lithium (2 FL360 CR123A Adapter Tube included)
Operating Temperature Range	-10 °C >--< 60°C
Audio	Speaker and microphone (2-way communication)
Wireless Connectivity	Wi-Fi 802.11n MIMO (Dual Antennas) 2.4GHz
Wired (Coiled Cable)	Expanded length telescoping tube - 10 ft

## **Mechanical**

Camera Diameter	1.95"
Mechanical Dimensions	10" x 1.95" ø
Construction	Aircraft Grade Aluminum (6061) and UHMW Nylon glass reinforced
Water & Dust Immersion Rating	IP68 Rated (with FL360 Environmental Lid) Protected from immersion in water with a depth of 3 meters
Anchor Points	Dual Anchor Points: Rear 3/18-16 UNC – Front 10-32UNF

## **Tablet (ATC USAR Kit)**

Display	9.7" 2048x1536 (QXGA) sAMOLED
Processor	1.9GHz Quad + 1.3GHz Quad
Storage	32/64GB + MicroSD up to 256 GB
Wireless Connectivity	Wi-Fi 802.11 a/b/g/n/ac MIMO (2.4GHz/5GHz)
Rugged	Ruggedized Case
Battery	5,870mAh
OS	Android

# SERVICE

If your FL360 system requires service, or you have questions about the operation of FL360, please contact Agility Technologies at +1 604 259-1579 or email us at [service@agilitycorp.com](mailto:service@agilitycorp.com). Always contact us prior to shipping any items. The Information on the Return Authorization Form and the corresponding RMA Number allow us to service you faster.

Before returning your FL360 system, please make sure to do the following:

1. Call or email us for a Return Authorization Number (RMA).
2. Describe the problem and ship only the parts requested by the service manager.
3. Include a copy of the RMA form in the box and print the RMA number clearly on the exterior of the shipping container.
4. Insure your camera during shipment.
5. Make sure to include contact information, return address, and a description of the reason for the return.
6. On the customs form please make sure to include: "Country of Origin Canada – RMA return manufacturer for repair."
7. Customers are required to pay for shipping to and from the Agility office. For service under warranty, items will be shipped back free of charge.

## Service Centre Location

Agility Technologies Corp.  
12651 Vickers Way  
Richmond, BC, V6V 1J2  
Canada

Phone: +1 604 259-1579  
email: [service@agilitycorp.com](mailto:service@agilitycorp.com)

# WARRANTY

All Agility FL360 (FIRSTLOOK360) products and accessories are warranted to be free from any defects in material and workmanship under operational use for a period of 2 years. This does not include damage caused by misuse, negligence, or abuse. No other warranties are expressed or implied. See website for more details.

## **Made in Canada**

FL360 is designed, developed, and assembled in Canada using a combination of locally sourced and imported materials and components. Agility Technologies follows the Canadian competition bureau enforcement guidelines.