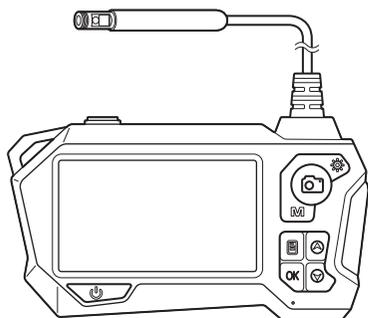


360-DEG ROTATING DUAL CAMERA BORE SCOPE

E902-RD / E905-RD / E910-RD

Thank you for purchasing the 360-DEG ROTATING DUAL CAMERA BORE SCOPE.
Please read this manual thoroughly before use and follow the directions to ensure proper operation and a long service life.



- Built in monitor for real time viewing of image.
- Camera is IP68 rated for waterproof and dust protection.
- Dual camera head can rotate 360°; no side view adapter is needed.
- 1920×1080 video and still images at can be saved to microSD card.
- Rugged industrial quality borescope for inspecting interior of hard to reach places.

SPECIFICATIONS

Model No.	E902-RD / E905-RD / E910-RD	Camera Cable Size	Camera : ~ \varnothing 9mm Cable : ~ \varnothing 4.5mm
Interface	USB-C	Camera Cable Length	E902-RD : 2m E905-RD : 5m E910-RD : 10m
Memory Card	microSD Card (up to 128GB, Class10 or above)	Camera Light	Front : 8x white LED Side : 1x white LED Main Unit : 4x white LED
File Formats	Still Image : JPEG Video : AVI (Resolution : 1920×1080)	Battery	Dedicated lithium-ion battery ※Continuous use time : ~ 3 hr.
Storage Capacity ※For 32GB SD card	Still : ~280,000 images (2592×1944) Video : ~180 min. (1920×1080)	Operating Temp. Range	Camera Lens : 0°C~90°C Main Unit : 5°C~40°C
LCD Display	4.5" IPS	Body Dimensions	~175mm×100mm×36mm
Camera Water・Dust Protect.	IP68 compliant, oil resistant	Weight	~310g
Camera Field of View	~70°		
Camera Focal Length	~15~30mm		

■ SAFETY

[BEFORE USE]

- This is a precision instrument, please handle with care and do not subject to strong forces or shocks during transport or while in use.
- Before first use, fully charge the battery using the provided USB cable. If the battery is low the instrument may not function properly when first turned on.
- Inspect the Camera Cable before use to make sure it is not damaged.

[DURING USE]

- Do not use in direct sunlight.
- Use care when bending cable and never use force on cable.
- Cable end with Camera will become hot during use, please use caution.
- Always turn power OFF before removing the microSD card. Removing card while instrument is saving images may corrupt the data files.
- Do not use inside hazardous environments, such as inside oil tanks.
- Keep instrument away from magnets or equipment that generates strong electric fields as this may distort the images or corrupt recorded data.
- Use only for intended purpose.
- Not for use in aircraft or medical applications.

[AFTER USE]

- Do not disassemble the Main Unit or modify, it may cause damage or malfunction to the instrument.
- Do not use harsh cleaners or chemicals to clean instrument.
- Keep Camera and Lens clean from fingerprints or dirt.
- Clean the Camera and Lens surfaces by wiping with a soft cotton cloth moistened with alcohol.
- To clean the Display, use a standard display cleaning cloth to gently wipe the surface.
- Do not press hard against the Display as it may cause damage or affect image uniformity.
- Display is manufactured to the highest quality standards, but occasionally a dead pixel or a stuck pixel may appear on the screen. This is not a malfunction and will not affect recorded image quality. Please continue to use the Instrument as is.
- When not in use please store in low humidity environment to avoid mold growth on optical components.

■ TROUBLESHOOTING

Q. Image does not appear on monitor when the power is turned ON.

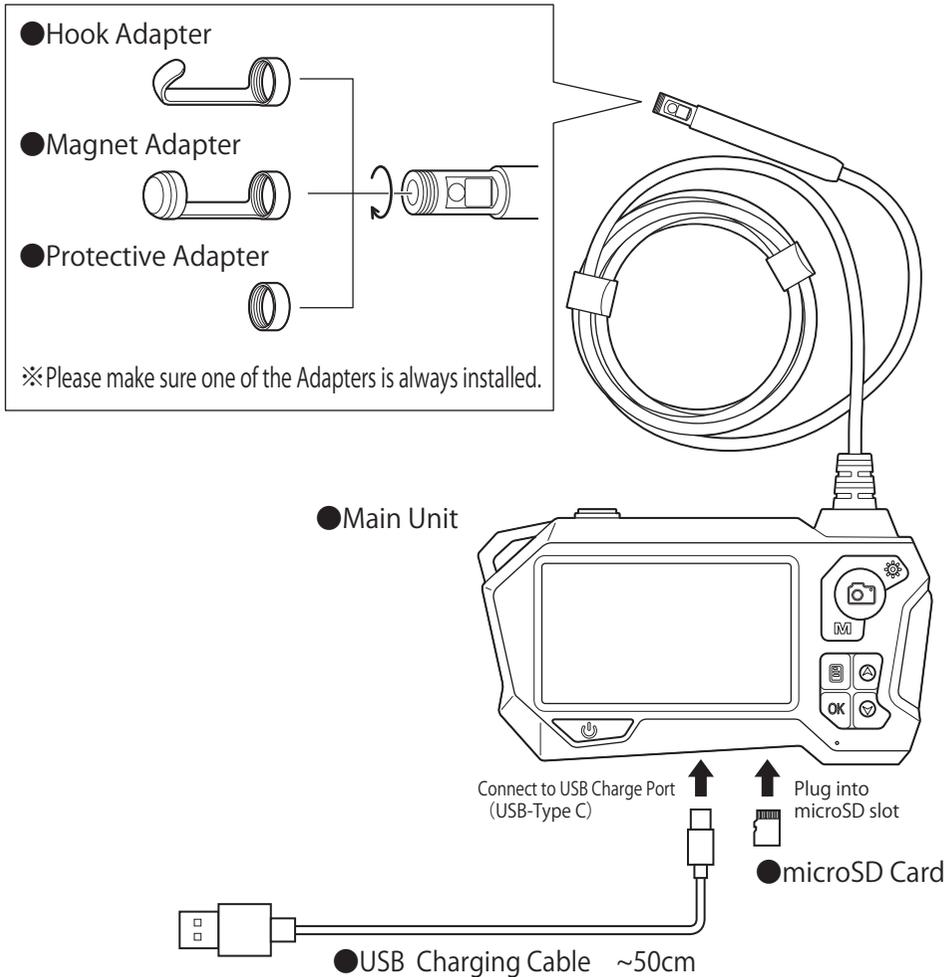
A. The battery may be low. Please charge the battery.

Q. Does not record still images or video.

A. Check that microSD card is installed. Also, if microSD card is not the appropriate type the instrument will be unable to save images or video.

■ UNPACKING · ASSEMBLY

After unpacking, please confirm that all the following items are included and choose the appropriate Adapter for installation on the Camera tip.

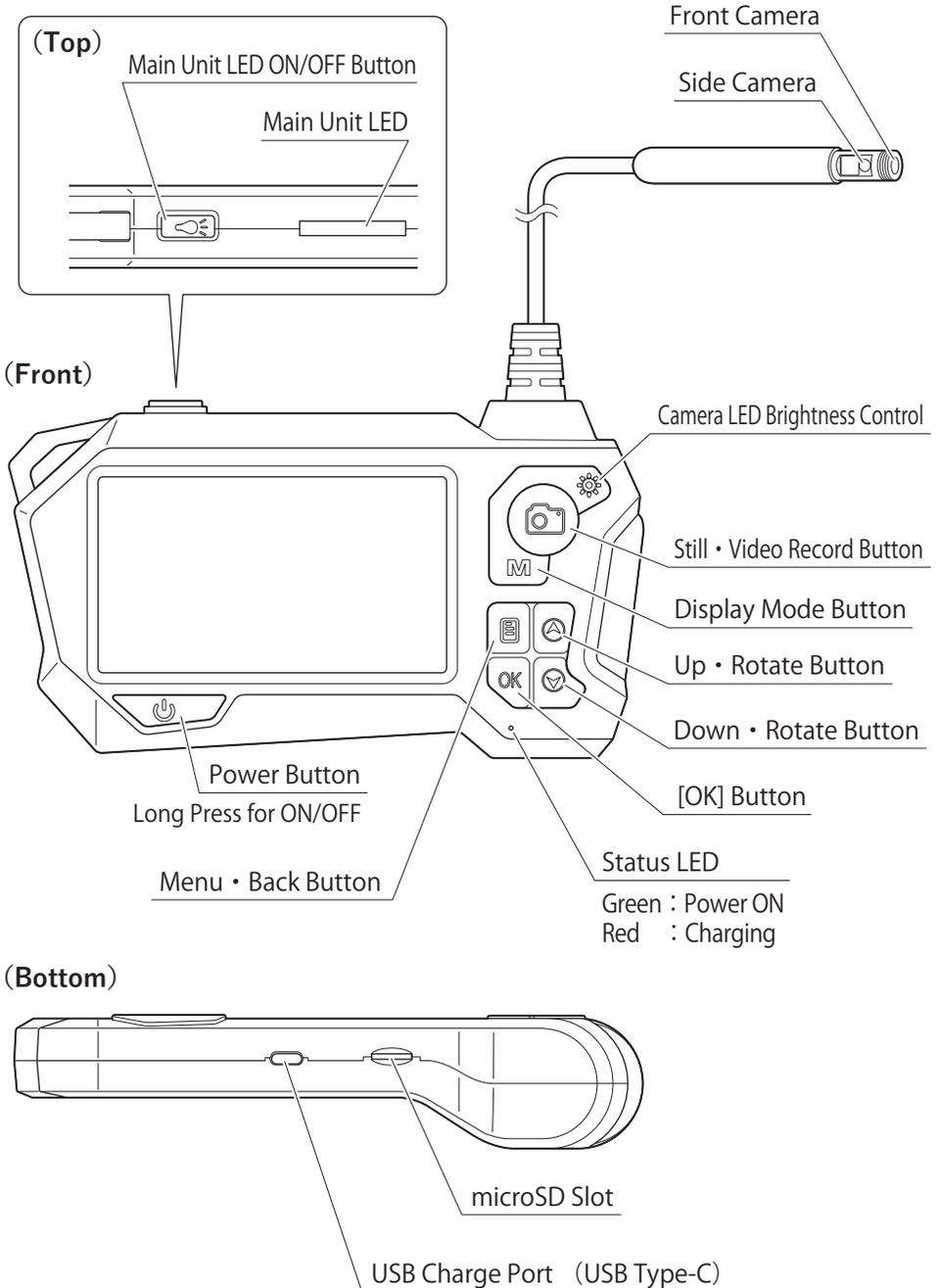


■ Additional Accessories:

- User Manual
- Storage Case

※ If any accessories are missing do not use the product; contact distributor or place of purchase.

■ PART IDENTIFICATION



■ MODES · BUTTON FUNCTIONS

※Refer to P5 for part names.

Instrument has three operation modes and button function depends on current mode.

BUTTON	PREVIEW MODE	PLAYBACK MODE	MENU MODE
	Display real time video · Capture video & still images	View stored images & video from memory card.	Chang settings
Menu / Back Button 	Switch to Menu Mode	Short press : Return to Preview Mode. Long press : Delete file; Display properties	—
Up / Rotate 	Rotate Camera right	Previous image / video	Select (highlight) menu item.
OK 	—	Video play / pause	Confirm selection
Down / Rotate 	Rotate Camera left	Next image / video	Select (highlight) menu item.
Camera 	Short press : Still image Long press : Video record When recording: Short press : Record stop	—	—
Display Mode 	Press to change mode: (sequence) [Front/Side (dual)] → [Front] → [Side] →	—	Return to Preview Mode.
Camera LED Brightness 	Switch between 3 levels	—	—
Power 	Press and hold : Main Unit ON/OFF	Press and hold : Main Unit ON/OFF	Press and hold : Main Unit ON/OFF
Main Unit LED ON/OFF 	Main Unit LED ON/OFF	Main Unit LED ON/OFF	Main Unit LED ON/OFF

HOW TO USE

※Refer tp P5 for part names.

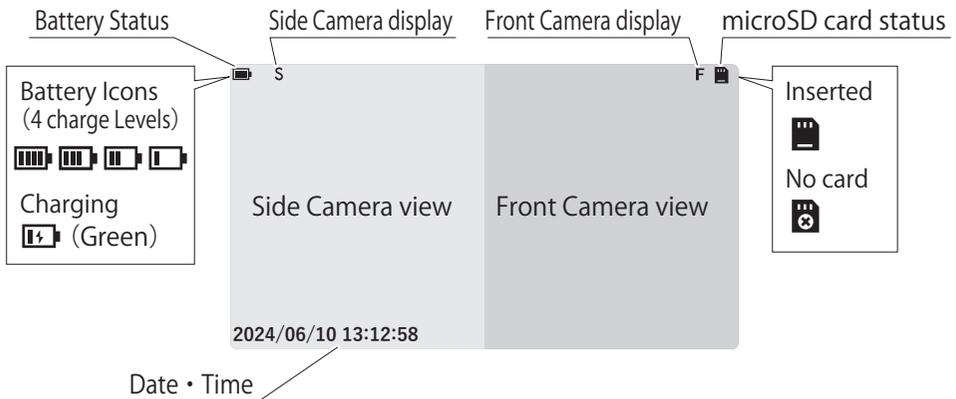
Power ON

Press and hold **Power Button** .
Green Status LED will light.



Upon startup, the 「 Sesika

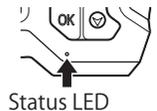
●Screen (shown below with dual Display Mode selected)



Power OFF

When Power is ON, press and hold the **Power Button**  to turn power OFF and Status LED will go out.

Status LED will turn RED when charging using the USB Charging Cable.



Setting Display Language

When system is reset (see P10) the display language will be reset to English. Please set to desired language before use.

- ① Press and hold the **Power Button** to turn the power ON.
- ② Press the **Menu Button** .
- ③ Press the  **Button** to select 「Language Setting」 from the menu and press the **[OK] Button** to confirm.
- ④ Select the desired language and press the **[OK] Button** to Confirm your choice. Once selected, the language used for display will be updated.

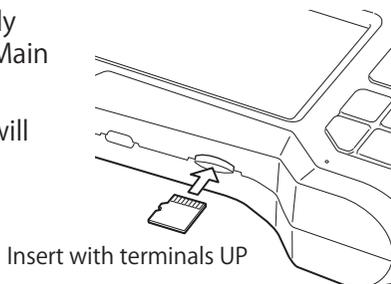
CAMERA ROTATION

Up / Rotate Button  rotates the camera right, the Down / Rotate Button  rotates the camera left.

microSD Card

Insert the included microSD card, or commercially available one into the microSD Card slot on the Main Unit until you hear a click.

※A second push will cause a click and the card will eject for removal.



※Image and video files are numbered in sequential order.

Still image file name → 「PHO□□□□□.jpg」

Video file name → 「MOV□□□□□.avi」

※Files will be saved on microSD Card in the following folders:



「PH00000. jpg」
「PH000001. jpg」



「MOV00000. avi」
「MOV000001. avi」

CAPTURING STILL IMAGES

A short press on the **Camera Button**  will capture a still image and save to the microSD Card.

CAPTURING VIDEO

①A long press on the **Camera Button**  will begin recording video.

②Press on the **Camera Button**  again to end recording and save the video to the microSD Card.

※If recording continues for more than 10 minutes the file will automatically be divided into parts.

VIEWING SAVED IMAGES

- ① Press the **Menu Button**  to enter Menu Mode.
- ② Select 「Photo」 on the menu and press the **[OK] Button** to confirm.
- ③ The Display will enter Playback Mode and the most recent still image will be displayed. You can view the various images on the SD Card using the  and  buttons.
- ④ Return to Preview Mode by pressing the **Menu Button** .

VIEWING SAVED VIDEO.

- ① Press the **Menu Button**  to enter Menu Mode.
- ② Select 「Video」 from the menu and press the **[OK] Button** to confirm.
The Display will enter Playback Mode and the most recent video file will be displayed.
- ③ Use the  and  buttons to select the desired file and press the **[OK] Button** to play the video. Press the **[OK] Button** again to pause playback.
- ④ Return to Preview Mode by pressing the **Menu Button** .

DELETING SAVED FILES

- ① Switch to Playback Mode and display the still image or video you want to delete.
- ② Press and hold the **Menu Button** .
- ③ Select 「Delete」 and press the **[OK] Button**.

DELETING ALL SAVED DATA

- ① While in Playback Mode, Press and hold the **Menu Button** .
- ② Select 「Delete all」 and press the **[OK] Button**

■ MENU MODE

※Refer to P5 for part names.

Press the **Menu Button**  to enter Menu Mode.
The following items can be viewed or set.

- **Photo**
- **Video**
- **Resolution**
- **Language Setting**
- **Screen brightness**
- **Picture zoom**
- **Screen Flip**
- **Time Setting**
- **Date Tag**
- **Format**
- **Reset System**
- **Storage Space**
- **Version**

【Menu Mode Basic Functions】

Up Button  Down Button 	[OK] Button 	Display Mode Button 
To select a menu item	To confirm selected item	Preview Mode Or, return to previous screen

■ Photo

Plays back the saved still images.

■ Viewing Saved Images P9

■ Video

Plays back video files.

■ Viewing Saved Video P9

■ Resolution

Set the resolution for still images and videos.

1280×720 / 1920×1080 (Default) / 2592×1944

※2592×1944 setting only applies to still images. Video files will be saved as 1920×1080.

■ Language Setting

Set the display language.

■ Screen brightness

Use the Up and Down Buttons (▲▼) to adjust screen to one of the four brightness settings. (Default : Maximum)

■ Picture zoom

Zoom in on the image as displayed in Preview Mode in four steps.
Short press of Up and Down Buttons (▲▼) to adjust. (Default: zoom off)
※ Does not affect how images are saved.

■ Screen Flip

Flips the image displayed in Preview Mode.
Short press of Up and Down Buttons (▲▼) to select view options:
No flip / Flip horizontal / Flip vertical and horizontal / Flip vertical
※Does not affect how images are saved.

■ Time Setting

Set the date and time.

■ Date Tag

Display date and time in Preview Mode. ...Display ...Do not display

■ Format

Format the microSD card.

■ Reset System

Reset the system to factory default settings.

■ Storage Space

Displays the free space and total capacity of the inserted microSD card.

■ Version

Display the firmware version.

■SERVICE

- For service inquiries, or if you have any questions, please contact distributor or place of purchase.
- Please note, manufacturer is unable to respond to inquiries or provide service directly. Please contact distributor or place of purchase.

■LITHIUM ION BATTERY

- If left uncharged for 6 months or more the battery will discharge and lose storage capacity.
For best performance, please charge at least every 6 months or sooner.

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