# Industrial Videoscope
# PRSL300T

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## Safety & Cautions

CE NOTICE

PRSL300T is in conformance with the following standards:

• 2014/30/EU Electromagnetic Compatibility Directive

FCC NOTICE

**FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

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.

RF exposure warning:

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

## NCC NOTICE

取得審驗證明之低功率射頻器材，非經核准，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻器材之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前述合法通信，指依電信管理法規定作業之無線電通信。低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

## RoHS NOTICE

PRSL300T is in conformance with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive. This means that our product is both lead-free and without the hazardous substances either in the manufacturing process or in the final product.

## SAFETY GUIDE

USER MUST PAY ATTENTION TO THE INFORMATION PROVIDED HERE TO ENSURE SAFETY.

We suggest you read the following statements carefully before using the product. If the product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.

**CAUTION** If this product is used without observing the information given under this symbol, it might cause damage to this product.

**CAUTION** BATTERY

- Risk of explosion if battery is replaced by an incorrect type.
- Dispose of used batteries according to the instructions.
- Never replace the battery by yourself.

**CAUTION** CERTAIN SUBSTANCES MAY DAMAGE THE PROBE

- Please refer to chemical resistance below. Contact the store you purchased for unsure chemical solutions for further information.

Chemical Resistance:

- Water
- Brake fluid
- Gasoline
- Diesel fuel
- Transmission fluid

**CAUTION** CERTAIN SUBSTANCES MAY DAMAGE THE PROBE

- Please refer to chemical resistance below. Contact the store you purchased for unsure chemical solutions for further information.

Chemical Resistance:
- Water
- Brake fluid
- Gasoline
- Diesel fuel
- Transmission fluid

**WARNING** If this product is used without observing the information given under this symbol, it might cause injuries or loss of life.

**WARNING** HAZARD ENVIRONMENT

- Do not use this product in explosive environments such as gasoline or alcohol storage tank.

**CAUTION** This product does not support probe hot swap. Please always connect the compatible probe properly before switch on.

Switch off the product before changing the probe.

**WARNING** FLAMMABLE GASES

- Do not use this system near flammable gases.

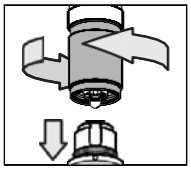
**WARNING** INDUSTRIAL USAGE ONLY

**WARNING** INTENSIVE LIGHT MAY CAUSE EYE INJURY

- Avoid looking at the camera head while LED is on.

## Getting started

1. Ensure that a micro SD card is inserted in the slot.
2. Carefully connect the camera probe as detailed below:



(1) Align the white dots printed on the probe and monitor's connector.

(2) Carefully plug the probe into the monitor.

(3) Tighten the connecting collar to secure the probe connection.

** Connecting the probe to the monitor.

Long press the power button, the logo will appear. The camera image will then appear.

If the battery status icon is showing a low, or if the monitor will not power up, connect the PRSL300T to an AC power source using the supplied AC adapter / charger.

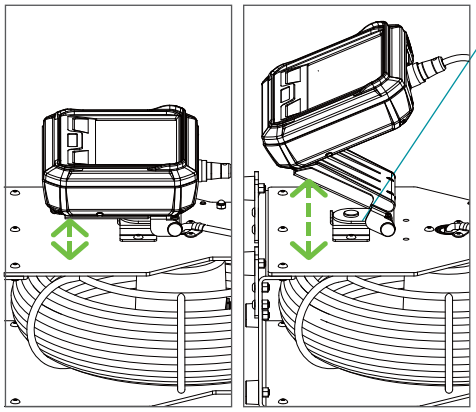
If the screen freezes, press the rest button for 2 seconds. Long press the power button to power on the PRSL300T after the reset.

Long press the power button to switch off the PRSL300T after use.

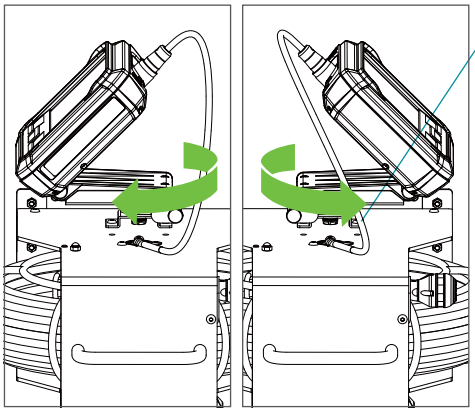
## [Part I ] Product Outlook

• 1.1 PRSL300T

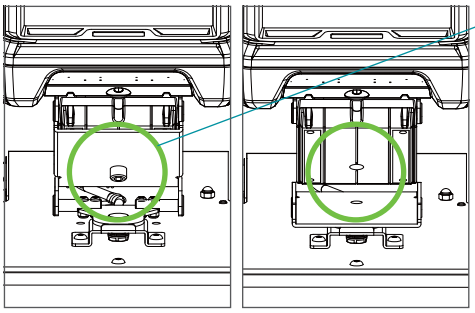
- Hinge dock: The hinge performs attachable bolt nut for holding the screen unit. It allows pan and tilt operation to provide user a best eye view angle.



Lie down / lift-up mode.
The maximum height is restricted by the cable angle.

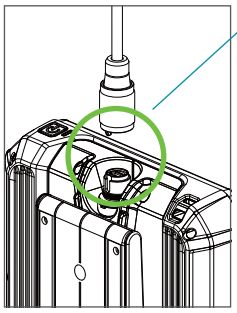


Right / left rotation dock. The maximum rotation angle is about 180 degree(right 90+left 90).

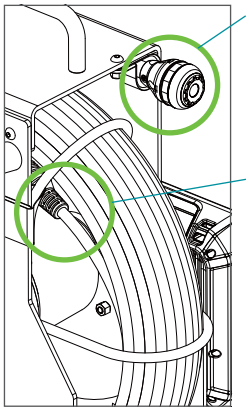


Imperial 1/4-2UNC bolt and washer are attached the screen back stand. Use a hex wrench to disassemble it form the dock if needed. The back stand embedded magnet allows attachment to steel surfaces.

• Maintain & Care



There is a USB type-C inside the screen unit connector. In some cases user may need the re-connect it. Be sure to align the white dot of side, push and screw tightly and check the image signal runs properly.



The camera tip holder. Every time finish using, be sure to roll back the tube till the camera tip been clipped on the holder properly.

After, uses the tape to fix the reel to avoid accidentally withdraw/rolling movement.

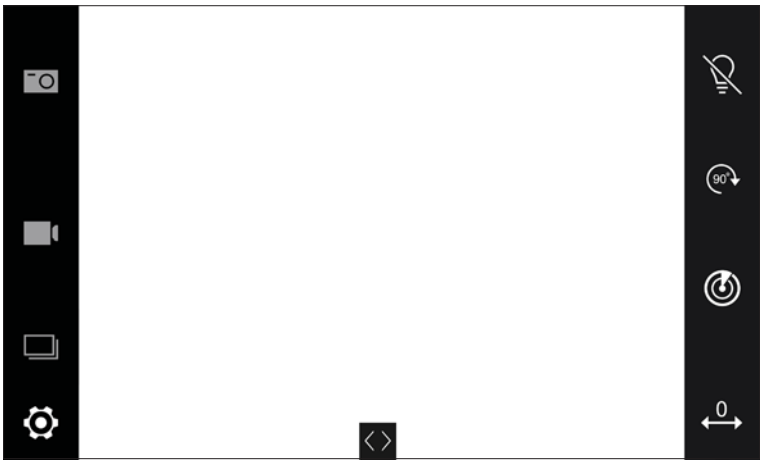
• 1.2 Camera features

Smooth Self-Leveling Camera

Build-in mechanical self-leveling type.

## [Part II ] Main function

• 2.1 Live View screen UI



• 2.2 Live view Screen Overlays

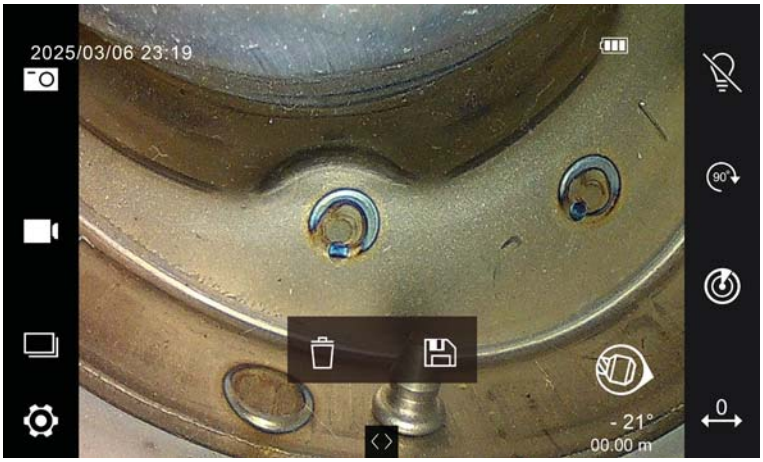
• 2.3 Function Buttons

List as follows:

| Items | Button | Description |
|---|---|---|
| Snapshot | | Save the live-view picture in the SD card. Snapshot can be done during recording and video playback. |
| Recording | | Record videos in the SD card. |
| Album | | Access the SD card to review images and videos been saved. |
| Setting | | Setting menu. |
| Wi-Fi | | Image live stream sharing and remote control function via mobile APP-VideoscopeNOW |
| LED light | | Switch on/off the LED light on the camera tip. |
| Sonde Tx | | Tap to enable the 512 Hz sonde transmitter. |
| Mirror image | | Tap to show a mirror image from the camera view. |
| Rotate image | | Tap to rotate image clockwise (90°, 180°, and 270°). |
| Meter reset | | To reset the meter. Generally when the camera tube is pulled out and ready to insert into the tube, you should reset the meter to 0 to get right insert length data. |
| Full screen | | Full screen live view switch. |
| Zoom in/out | | Pinch-To-Zoom. |
| Power button | | Power on/off. |
| LED indicator | | "power on-green" -> battery high "power on-red" -> battery low "power on-orange" -> charging "power off-red" -> charging "power off-none" -> full charged. |
| INCLINMETER | | The icon shows the real-time lean angle of the probe camera head for the reference of position identification. [Ref. 3.18] |

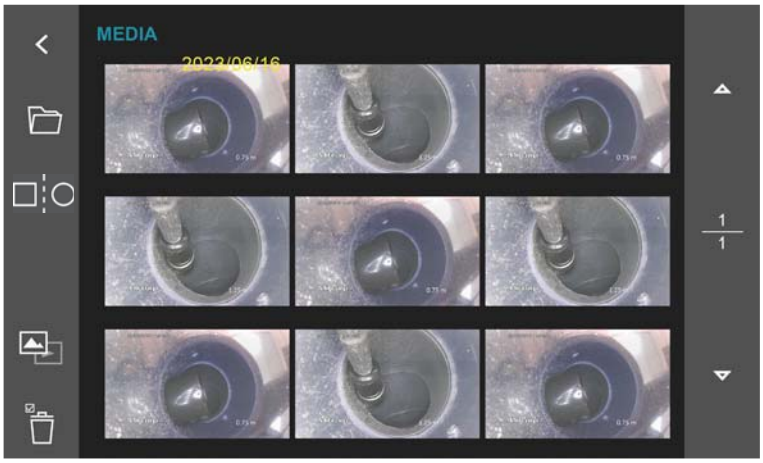
• 2.4 FREEZE SCREEN

- Tap the [snapshot] button, the screen live view will 'freeze' and pop-up window asks if to save the still image. This 'freeze' function is default enable and can be disabled in the setting menu (refers to section 3.19- FREEZE SCREEN)



• 2.5 Album

- Photo album: The system list latest file in the order of right-down. When there are different date fields in the same page, the first file will be marked a yellow date code.




| Button | Items | Description |
|---|---|---|
| | Back | Go back to live view. |
| | Session | Go to access SESSION folders or edit mode. |
| | Compare image | Refers to the Compare function[*1] bellows for details. |
| | Photo album | Indicate now under photo album. Tap to go to video album. |
| | Video album | Indicate now under video album. Tap to go to photo album. |
| | Delete select | Select files to be deleted. |
| | Delete file | Confirm deleting selected files. |
| | Page up | Album page forward. |
| | Page down | Album page backward. |

- Single photo view

(*1) Compare function: To compare a stored image (target flaw or golden sample) with the live view on a split screen. In album mode, tap the icon then select an image then the screen will split as showing the stored image on the right and the live view on the left.

1. Move - move the stored image to the target position.
2. Switch - switch the images from right to left.
3. Replace - replace the stored image to another stored image.
4. Tap the compare icon button will go back to normal live view.

- Video album: The system list latest file in the order of right-down. When there are different date files in the same page, the first file will be marked a yellow date code.

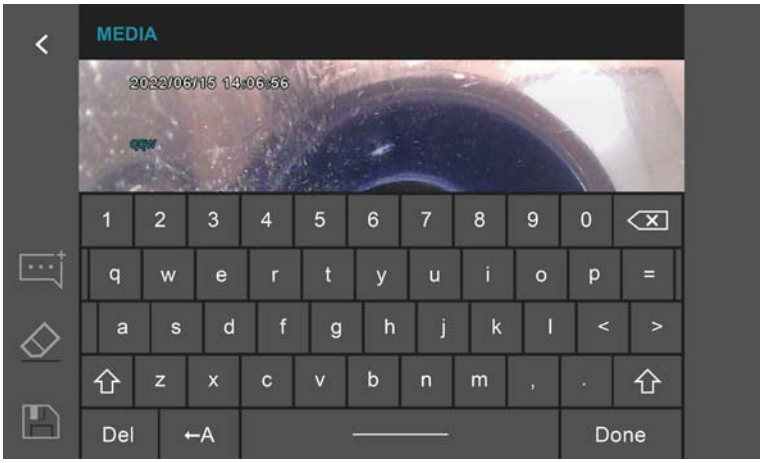
- Single video playback

| Button | Items | Description |
|---|---|---|
| | Play | Start to play back the video. Touch the screen can play / pause while playback. |
| | Screenshot | During video playback, tap to screenshot real-time image at any moment. |
| | Photo album | Indicate now under photo album. Tap to go to video album. |

• 2.6 Album - Photo annotation function

The PRSL300T system allows user add maximum 10 notes on a photo. Each note can key in maximum 24 characters. The edit steps as follow:

Tap the comment icon and type a comment using the touch-screen keyboard that appears; Tap DONE on the keyboard when finished.



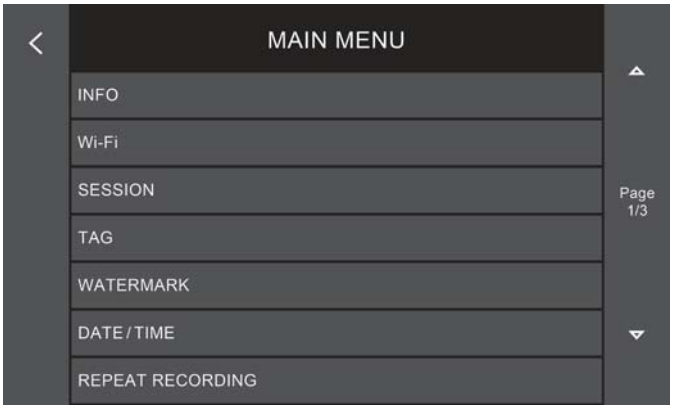

| Items | Button | Description |
|---|---|---|
| Add Note | | [key in]-> [Done]. Then a note can be done.<br>**Move note position:**<br>Touch any note been made on screen then it shows a green frame. The note frame can be dragged to any position you want to mark on the photo. |
| Erase Note | | Tape a note note been made on screen then it shows a green frame. Delete notes by tapping the eraser. |
| Save | | Tap to save the comments with the photo. The original photo will not be covered. |

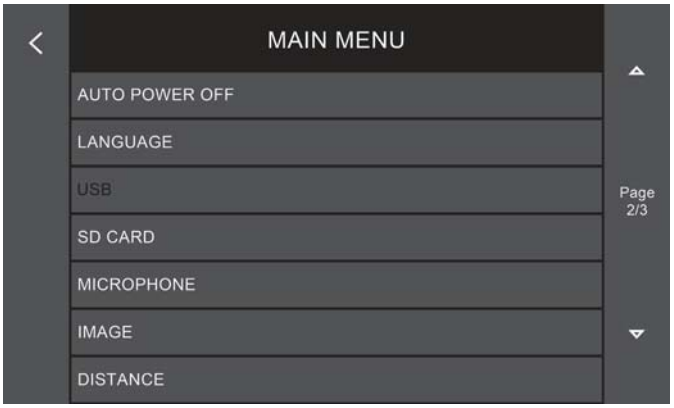
Note: If there is no probe attached on the base unit, the system can be boot up with set up functions and album browser functions as the above section mentioned.

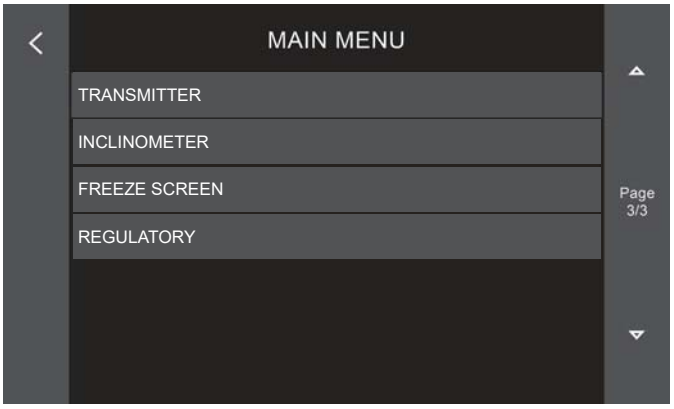
## [Part III ] Setting menu

- 3.1 MAIN MENU

  Including 15 setting items in 3 pages.



• 3.2 INFO.

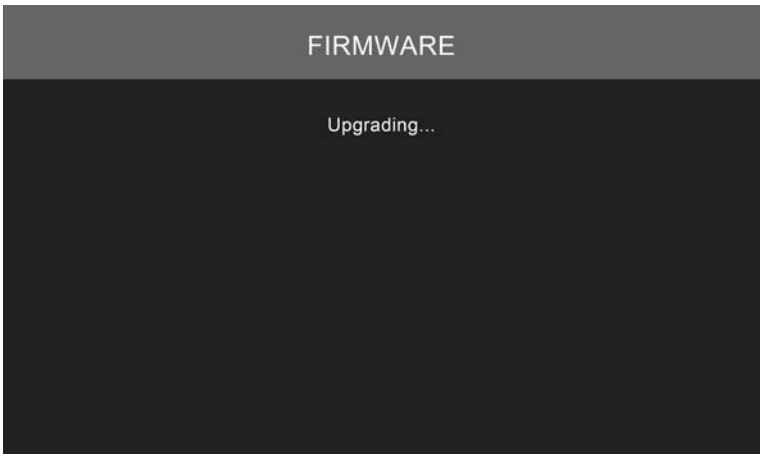
Include firmware information.
- Current hardware and firmware version.
- WiFi SSID & WiFi Password

Firmware upgrade: When there is a new version firmware be suggested, save the file (.BRN file format) in the SD card root dictionary.

1. Tap the ">" button up-right the screen.

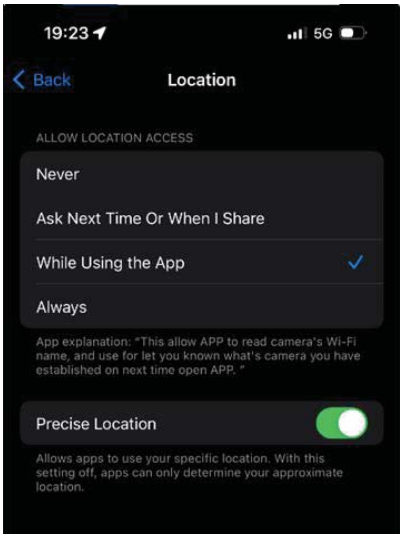
2. Follow the instruction.

3. The system will automatically shut down when the upgrade is done. Reboot the system then check if new version is properly installed.




Note :

This APP requires your location access authorization of mobile device. Before using, please check your setting->APP management->VideoscopeNOW-> Location to be enabled.




ps. The UI of iOS and different Android version may have a little difference. Please check by your conditions.

• 3.3 Wi-Fi

The system provides image live stream sharing and remote control functions via mobile APP- VODEOSCOPENOW base on the WLAN

802.11.b/g/n protocols.

- 3.3.1 Enable the WLAN

Tap the switch icon to enable the function module. Then go back to the live view window, the UI of the down-left will turn into the Wi-Fi icon. At the same time, the overlay icons on the top will also show on.

When to disable the function, tap the down-left icon again, the system will turn back to normal status.

- 3.3.2 Wi-Fi connection with mobile devices

Open your Wi-Fi settings on your mobile. Search the system SSID in your available Wi-Fi list. The V8 PLUS's SSID and password can be found in the [3.2] INFO.

Note :

Typically, the Wi-Fi system will be added to your favorite Wi-Fi network list after first connecting. The favorite Wi-Fi network list will store the SSID/password.

The V8 PLUS system allows connecting to up to 2 mobile devices simultaneously.

When connecting a new mobile device, please ensure that not any other previously connected mobile device is blocking the connection to the system. It may cause the connection attempt to be rejected and fail.

- 3.3.3 Live share and access the image of the system:

- MITCOPRP provides the "VideoscopeNOW" APP for V8 PLUS wireless usage.
- Detailed instructions can be found in the < VideoscopeNOW user guide>

'VideoscopeNOW' is a tool specifically designed for industrial videoscopes that can share the live view of Mitcorp videoscopes through a Wi-Fi connection. It can also act as a remote controller for taking photos or recording clips. Through the APP, users can link to the system to access the album and download the photos /clips.

• 3.4 SESSION

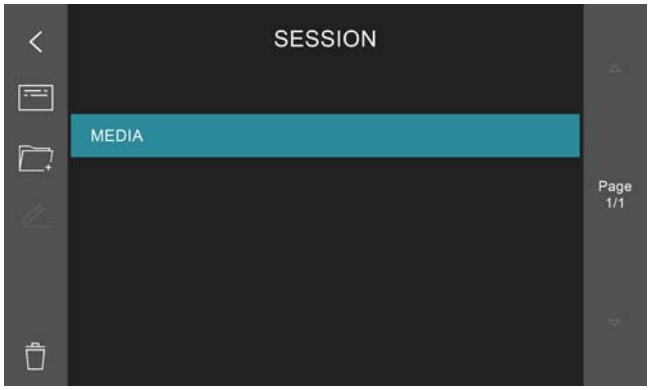
V8 PLUS system provides custom build photo / video storage folder under SESSION. When a new SD card is installed, the default folder-MEDIA will be built.

The edit steps as belows:

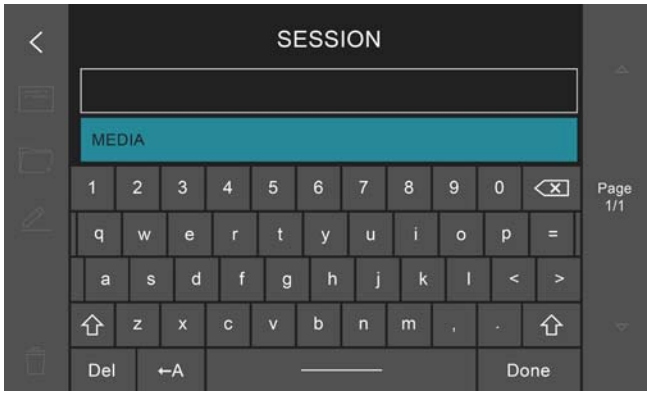
Add & Edit a new folder

Jump to TAG under selected folder

Delete selected folder




Edit folder title




Finish editing

• 3.5 TAG

V8 PLUS system provides custom build photo / video storage folder under TAG. When a new SD card is installed, the default folder-MEDIA will be built.

The edit steps as belows:

Switch on / off the tags

Add new TAG

Vertical display tags

Horizontal display tags

TAG overlay position

Tap 'ADD' pop-up keypad

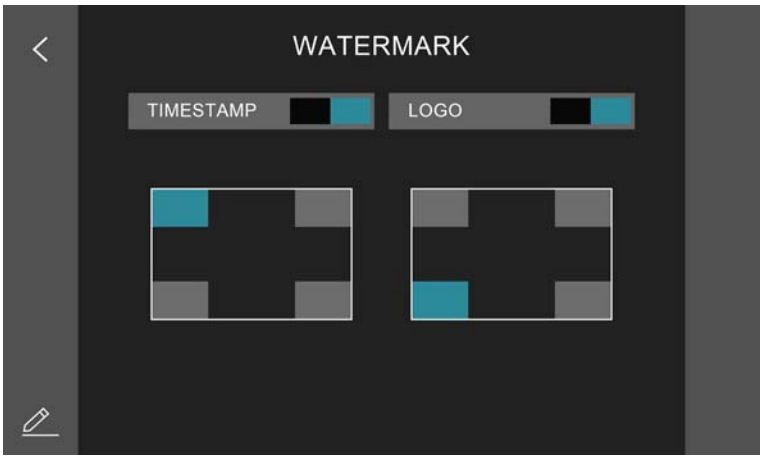
Delete selected tag

<Note>

- SESSION and TAG custom setting are saved in system internal memory. All edit mention above need to be done on PRSL300T. You cannot edit the SD card via any other PCs to get the same result.
- When you replace another SD card, the custom SESSION and TAG will be automatically load on. If the SD card has same folder name inside already, then that folder will be hired directly. Other data / files in that SD card will not be changed or moved at all.

• 3.6 WATERMARK

- On / off switch for timestamp and watermark overlays on snapshot.
- Timestamp and watermark position are adjustable to 4 corners of the photos.




- The watermark logo can be replaced a follow steps:

1 Save logo file in SD card on root directory.

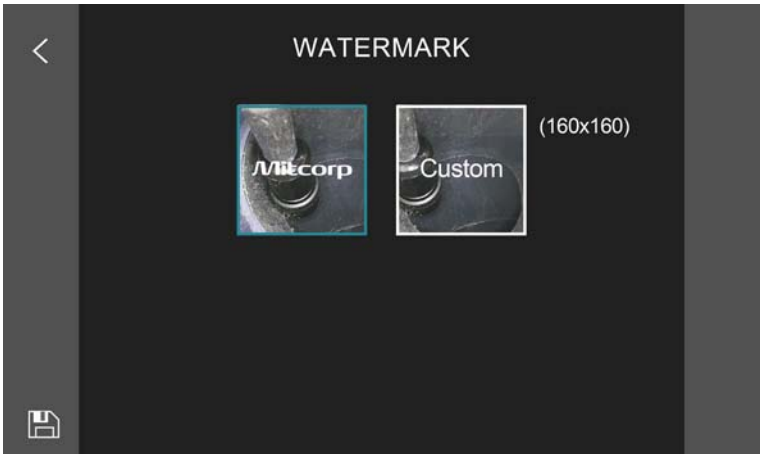
File format: 160*160 resolution; .JPG; black background (RGB-0.0.0.) Name the file as WATERMARK.

2. System will show the exiting file list below. Tap the file then the "save" icon to load it into system memory.

The logo show in the right side preview window.

3. ("CUSTOM" as the sample case) when the processes are properly done.

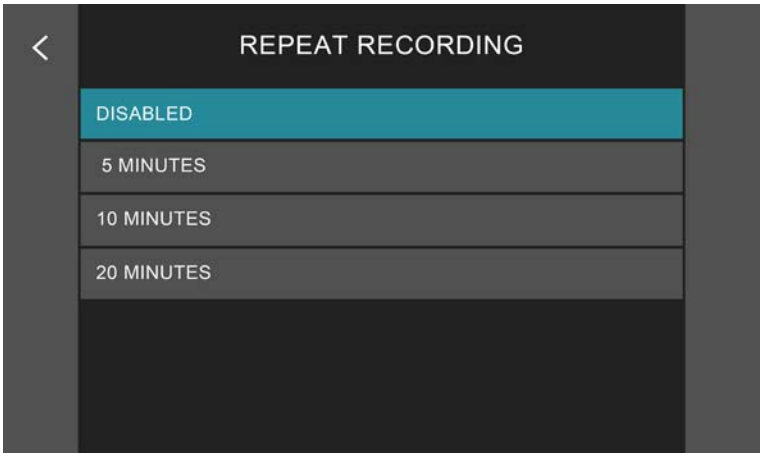
Tap the preview window to enable custom watermark.



• 3.7 DATE/TIME

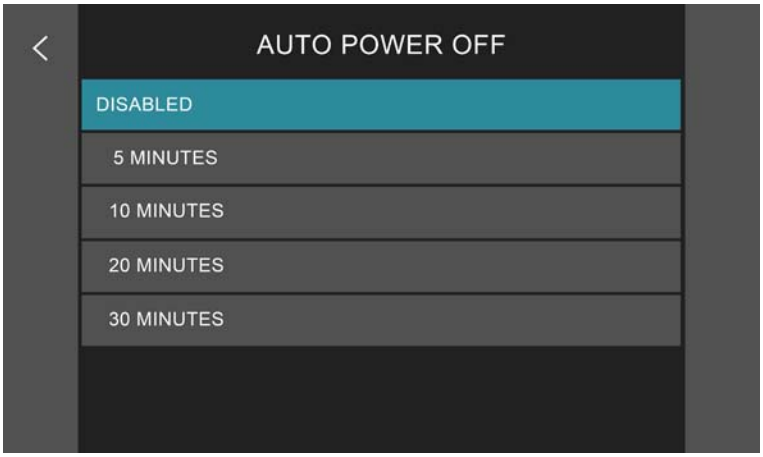
• 3.8 REPEAT RECORDING

The system provides 4 modes of repeat recording length. When disable this function, the system will set as 20 minutes none repeat recording.



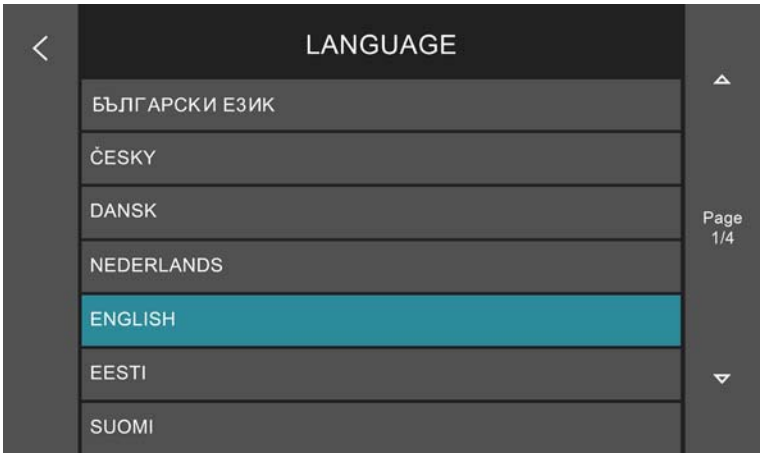
• 3.9 AUTO POWER OFF

4 modes of auto power off settings.




• 3.10 LANGUAGE

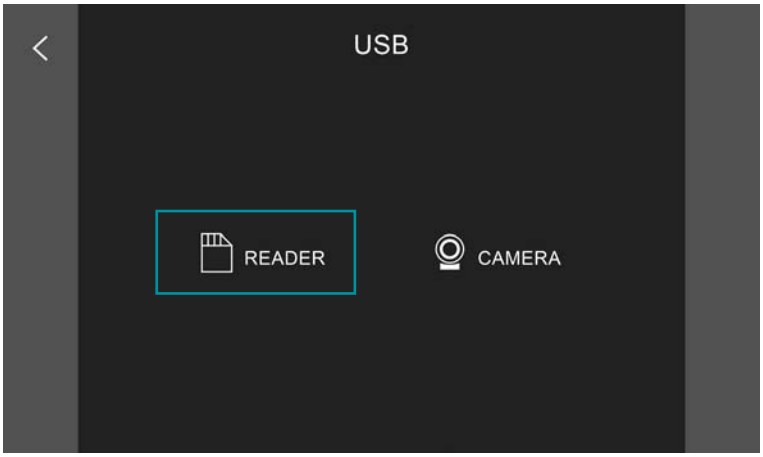
Support 28 languages.



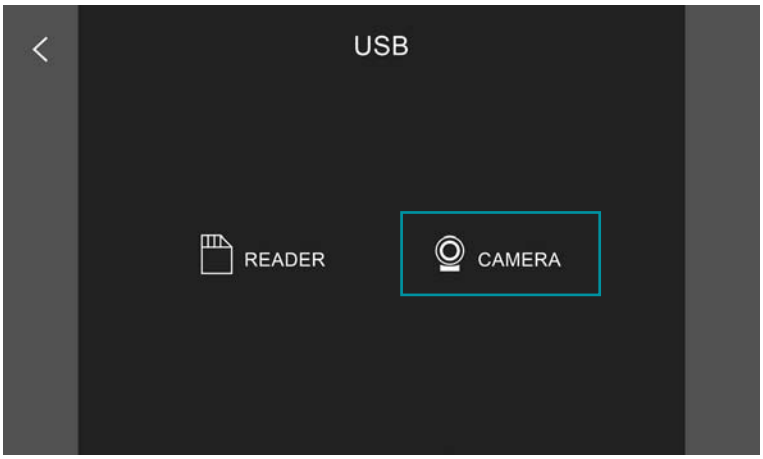
• 3.11 USB PORT

- When the USB port is connected to the PC, select the desired output: (1) SD card reader (2) Camera.

  (1) SD card reader: Please select READER.



(2) Camera: The live image can be viewed on a video monitor or connected to a PC show the inspection via online meeting app for real-time sharing.



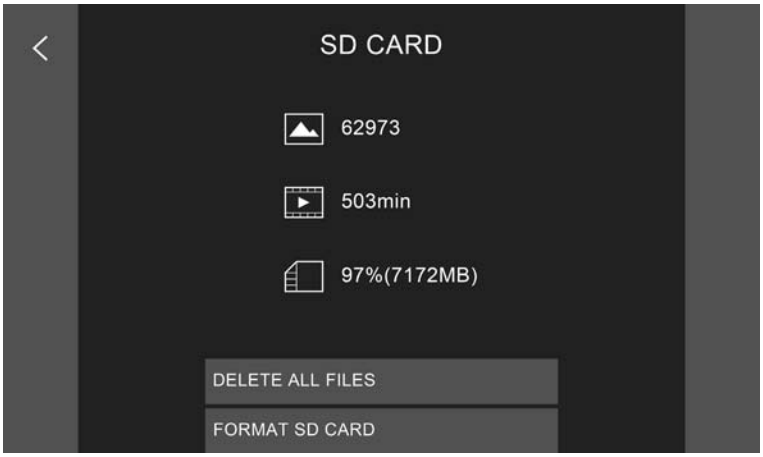

1. Webcam mode

   The live image can be viewed on a video monitor or connected to a PC show the inspection via online meeting app for real-time sharing.

   Connect the V8 PLUS system to PC and log on the online meeting app, select the V8 PLUS system as the camera from setting. The PC will share the same inspection view on the V8 PLUS system. Support Google Meet, Zoom, Microsoft Teams, Skype.

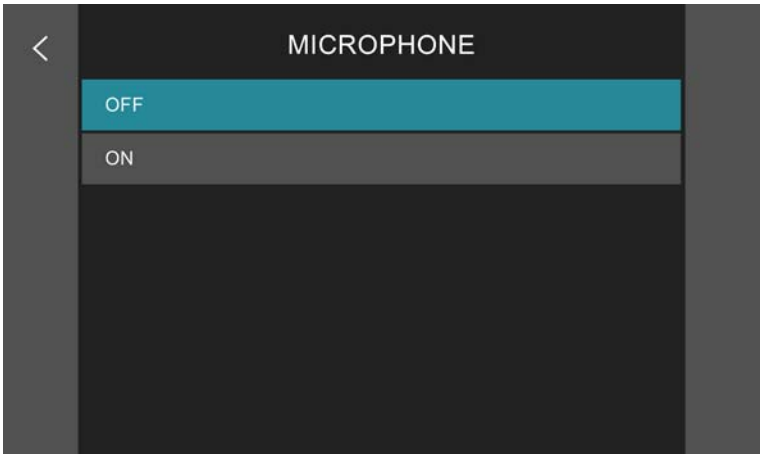
• 3.12 SD CARD

Show the SD card storage status, delete, and format functions.



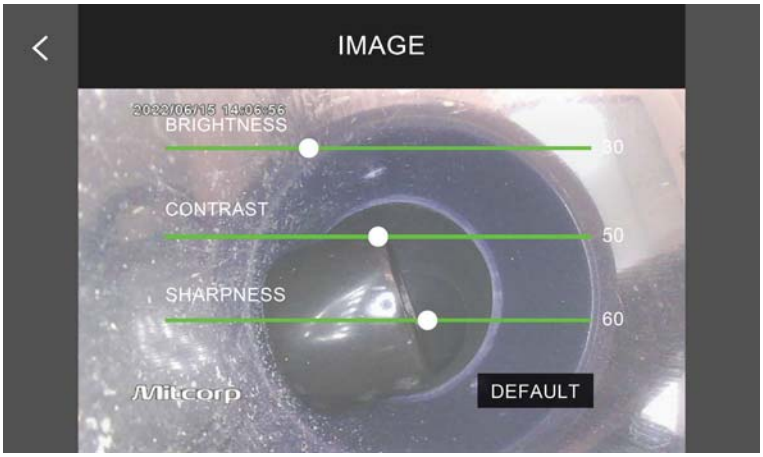

• 3.13 MICROPHONE

Switch on / off voice recording while recording videos.



• 3.14 IMAGE

The system provides 3 fine tune parameters and DEFAULT function.




• 3.15 DISTANCE

• 3.16 MICRO HDMI PORT

For viewing images from an external monitor.

Connect V8 PLUS system on the micro HDMI port with supplied HDMI cable to an external monitor. Switch on V8 PLUS system then switch on the external monitor.

When unplug the HDMI cable from monitor, the on screen live view recovery takes about 2~3 seconds.

• 3.17 TRANSMITTER

"Sonde Tx" transmitter can be turning on/off by requirement.

When enabled,the icon on live view screen will light up.

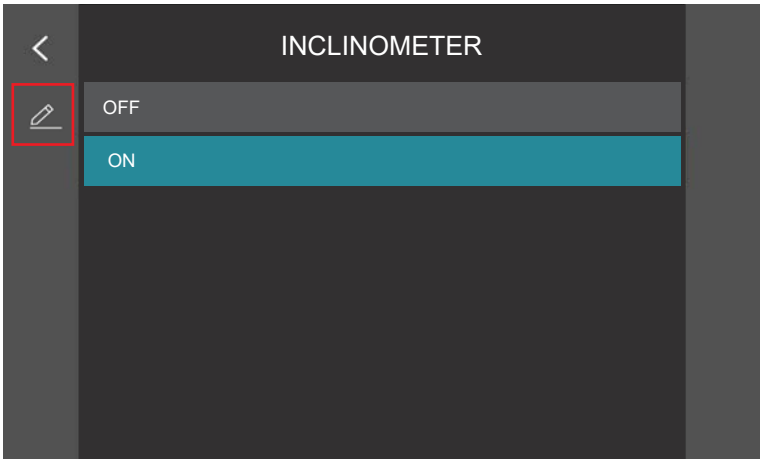
• 3.18 INCLINOMETER

"INCLINOMETER" function can be turn on/off by requirement.

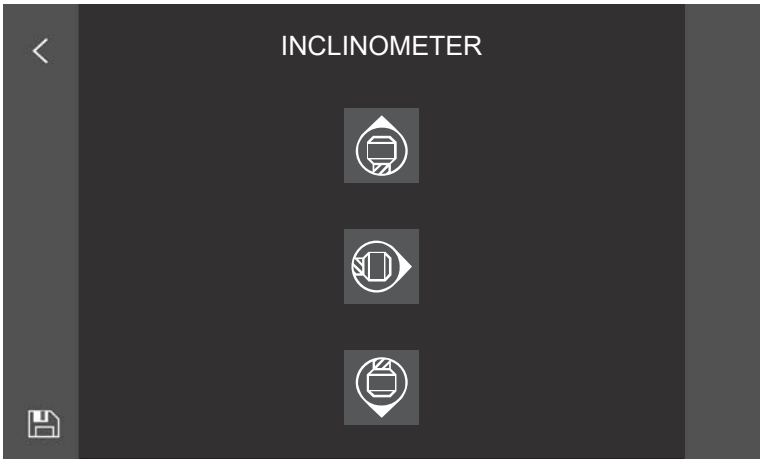
When enabled,the icon will display on the bottom-right on live view screen.

The meter can be calibrated by the following steps:

(1) Tap the icon on the left side.



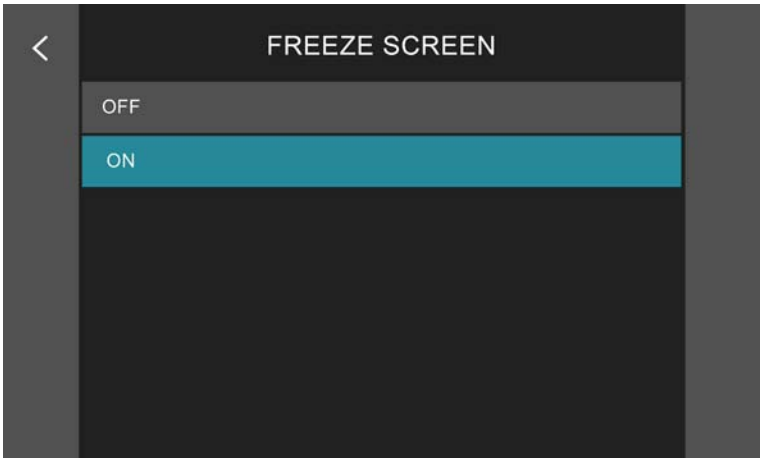

(2) Position the probe head at the exactly angles and then tap the responded icons by order of : up (90 degree) -> right (0 degree) -> down (-90 degree).



• 3.19 FREEZE SCREEN

This 'freeze' function is default enable and can be disabled in the setting menu.

Tap the snapshot button on probe screen, the screen live view 'freeze' and pop-up window asks if to save the still image.




• 3.20 REGULATORY

Here reveals the safety compliance of this product.

# SPECIFICATIONS

## V8 PLUS system

| Model | V8 PLUS system |
|---|---|
| Dimension | 161.93 (mm) * 127.93 (mm) * 46 (mm) |
| Weight | 705g |
| Display | 5" Touchscreen 800*480 pixels |
| Power supply | Rechargeable Li-battery |
| Video output | Micro HDMI |
| Working time | Approximately 3.5 hours of operation |
| Charging time | Approximately 2.5 hours |
| Data transfer / Charging | USB-C |
| DC Power adapter | Input:100-240V~0.5A; Output: 5V/3A(15W) |
| Phone Jack | Built-in microphone |
| Storage | Micro SD up to 64GB |
| Image Format | JPEG, 1920*1080 |
| Video Format | MP4, 1920*1080 |
| IP Rating | IP54 |
| Drop resistance | 1 meter |
| Operating temp. | -10˚C~50˚C |
| Storage temp. | Generally storage under 60˚C.<br>If idle for more than 3 months, it is strongly recommended to keep under 20˚C and dry environment |
| Charging temp. | 0˚C~40˚C |
| WLAN | 802.11.b/g/n image live stream sharing |

## Probe

| Model | 2830HD-F-30M-FRP |
|---|---|
| Diameter | 28.8 mm |
| Length | 30 m |
| Direct of view | Front view.  Build-in mechanic self-leveling type. |
| Illumination | Front LEDs |
| FOV (Field of View) | 150˚ |
| DOF (Depth of Field) | 20 mm~∞ |
| Sonde transmitter | 512 Hz transmitter compatible with all locators(Rx) at the same frequency. |
| Material | FRP |
| Liquid resistance | Unleaded gasoline, diesel, machine oil, brake oil, transmission oil, water |
| IP rating | IP68 |
| Working temp. | -10˚C~60˚C |
| Storage temp | Generally storage under 60˚C.<br>If idle for more than 3 months, it is strongly recommended to keep under 20˚C and dry environment |
| Relative humidity | Max 95% non-condensing |

JUN.2025