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Warning:

Due to the continuous update of product technology, the market changes rapidly, and the editing time is limited, there is no guarantee that it is not included in this manual There are errors, so this manual is only for the reference of the user, do not provide any form of warranty.Our company reserves the right The content of this article is revised and changed right.The Company has no obligation or obligation to notify any of the amendments.

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1 User Instructions

1.1 Purpose and scope of application

This product is applied to the real-time detection and analysis of industrial field equipment and automobile production and maintenance, with direct visual features Point, can directly observe whether there are defects or abnormalities on the inner surface of pipes, turbines, cylinders, engines and other devices. The other in Real-time photography and video recording are performed to provide indispensable data collection for analyzing equipment usage and equipment production guarantee Set.

1.2 Maintenance and modification

This product does not have any parts that can be maintained by the user, do not attempt to disassemble, refit and repair, The repair service of this product is only provided by our company and our company authorized dealer repair.

1.3 Safety Precautions (Please observe the following contents when using this product)

Do not use this instrument to observe human or animal body.

Do not use or store in places with explosive, strong electromagnetic field or combustible gas, which may cause fire or explosion.

Do not allow the detected material to work under the condition of live, so as not to cause electric shock.

Do not contact the end of the lens directly during use, especially pay special attention to the use of the endoscope in a high temperature environment.

Contact with the ends at this point may cause burns.

Do not look at the strong light source from the LED at the end of the endoscope probe close to avoid the impact of strong light on vision.

Do not bend, stretch, twist or roll the probe line too hard, otherwise it may cause damage to the equipment.

Long-term use of this product will cause stains on the lens objective lens, resulting in blurred picture and affecting data collection.

Wipe the objective lens clean with alcohol or acetone before use.

If you feel any abnormality in the Angle adjustment operation, stop the current operation and shut down. Then contact the supplier.

Keep tube away from any liquids except water, salt water, oil, and light oil.

After the instrument is used up, please clean the front section of the insertion tube of the instrument in time to prevent corrosion.

2 Industrial video endoscope products

2.1 System parameters

Size	350*155*59mm
Display screen	5.0 inch industrial LCD screen
Storage	Built-in 16 G solid state hard disk
Video output	HDMI Video output
Image / Video	JPG/MP4
Image Control	Freezing, zooming, photographing, flipping video playback and analog ruler functions
System language	Chinese (simplified), French, English, German Spanish, Italian, Japanese
Power supply	≤4 hours
Steering swing angle	≤160°
Pixels	≥1 million
Length of insertion pipe	1m-6m
Insert tube diameter	Φ2.4mm、Φ2.8mm、Φ4.0mm、Φ6.0mm
View angle	90°、120°、140°
Depth of field	3~40mm,5~100mm,10~200mm,50~infinity

Orientation	360°degrees
Operating temperature	-20℃ ~ 70℃
Storage temperature	-20℃ ~ 60℃
Relative humidity	Maximum 90%, no condensation
Protection	probe insertion tube IP67

2.2 packing list

Accessories	Quantity
Borescope host	1
probe	1
Lithium battery(18650)	2
Power Adapter	1
Card reader	1
Micro SD(32G)	1
Micro USB Cable	1
HDMI Cable	1
Instruction manual	1

3 Operation procedure

3.1 Take out the instrument: open the outer box of the instrument, take out the endoscope host and hold the probe tightly to avoid collision probe and scratching probe head.

3.2 Preparation for startup: load the battery and insert the TF card.

3.3 Press the power button to start the machine.

3.4 Use of endoscope: insert end of endoscope tube into the product under test.

3.5 Angle operation: operate the joystick to control the bending of the probe according to the requirements of field testing.

If the rocker suddenly encounters great resistance during shaking, or if there is any abnormality during the operation of the endoscope, please click Stop watching immediately. After shaking the rocker to the middle position, carefully remove the endoscope insert end from the inside of the product under test.

3.6 Exit: Make sure that the endoscope is bent in a roughly flat position (the rocker is in the middle position), and then slowly move it to exit.

3.7 After use: turn off the power switch, put the endoscope into the portable box, and coil the inserted tube. (e.g., for a long time no use instrument, please remove the battery).

4 Instructions

4.1 Preparation before starting up

Take out the endoscope and insert the TF card. The probe should be used as straight as possible.

4.2 Bending control

The endoscope bending angle control is directly controlled by the rocker on the operation panel, and the direction of the rocker swing is probe. The direction of head rotation and the size of the Angle of rotation are determined by the angle of rocking the rocker.

4.2.1 Key, interface introduction

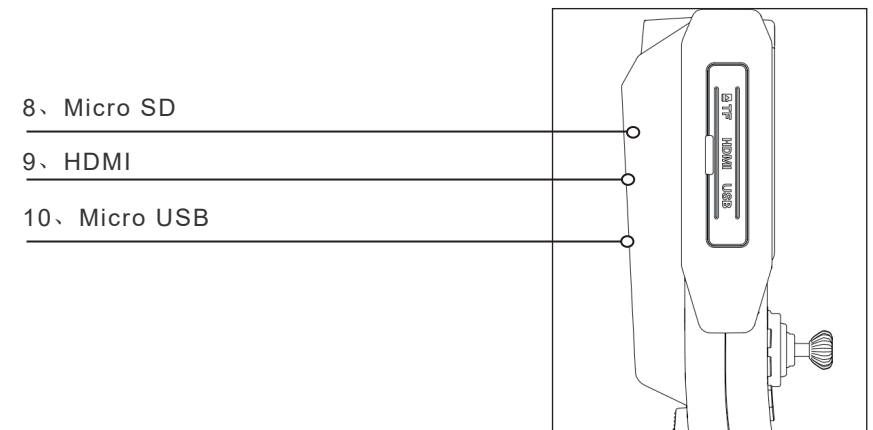
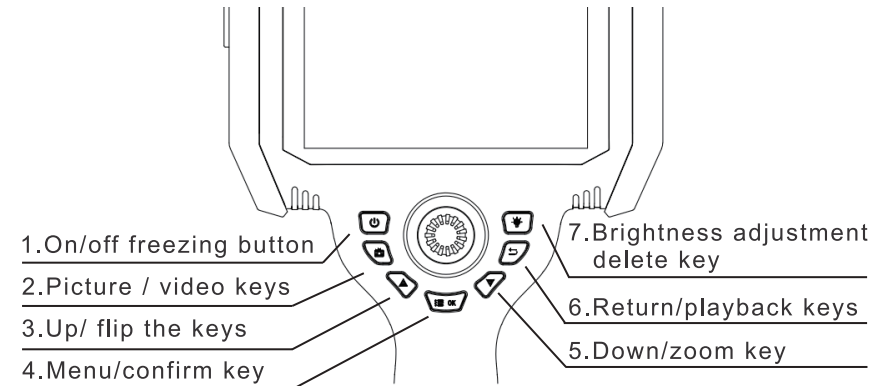


figure 2 Interface diagram

1. on/off/screen freeze button: power on, power off function, long press power on or off. In the preview state, press as Screen freezing function.

2. Photo \ Video button: When the photo icon is displayed in the upper left corner, press the button to take a photo, long time switch to video mode, short Press for video recording; Long press to loop between taking photos and recording.

3. Up \ Flip key: it is the function of navigation up when setting the interface; Rotate function when preview interface.

4. Menu/Confirm button: press the button to enter the setting interface when previewing the interface; The Confirm button is set on the Settings screen.

5. Down/Zoom key: in the preview interface, it acts as a cyclic zoom key; When setting up the interface, go down as a menu navigation.

6. Return/playback keys: When previewing the interface, enter the photo and video browsing folder; Go back in the browse screen function.

7. Brightness adjustment/delete key: when previewing the interface, it is the brightness adjustment function. When viewing photos or videos, as the delete key is used.

8. Micro SD port: external storage use; Maximum support 128GB.



9. HDMI: external use of large screen.

10. Micro USB: used for data transmission and charging function.

4.2.2 Preview interface



4.2.3 Photo/Video

In the image preview interface can be through the click Photo/Record button to take a picture or video, upper left corner The icon is  when in photo mode, when in upper left Angle icon  for when in video mode.

Long press the button for photo and video mode switch.




Picture mode



video mode

4.2.4 Photo/Video Browse

Press the key  the preview interface to enter the folder, you can preview photos and play videos online.


As shown in Figures 8 and 9



Figure 8 file



Figure 9 Video playback

Press the button  to delete a photo or video file, and the delete option can select a single file to delete or delete all of file.

See Figure 10

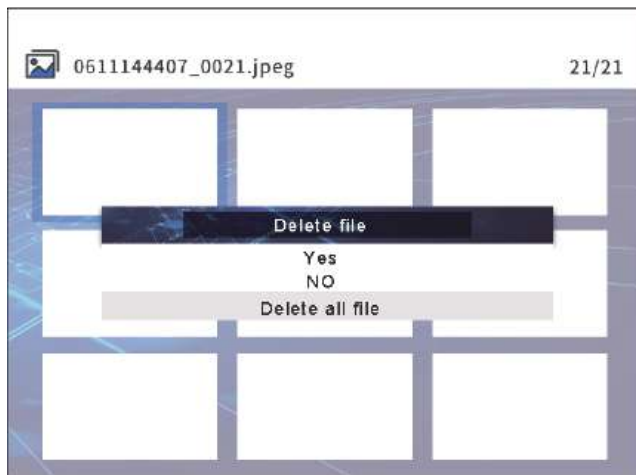



Figure 10 Delete option Settings

4.3 system settings

Press the key  to enter the setting interface.

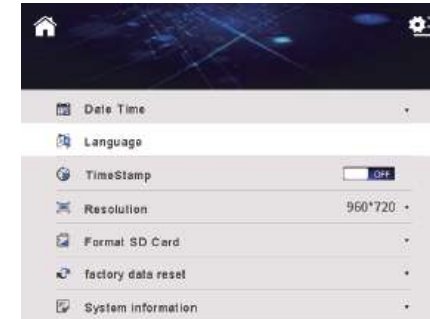


Figure 11 Setup interface




4.3.1 Date/Time Setting:

In the setting interface, press up or down to enter the date and time setting page.

See Figure 12



Figure 12 Date and time Settings

Press the key ; Press the key  to reduce the number, press the key  to switch, set up after the completion of the menu. Recognize the key to complete the current setting.

4.3.2 Language Settings


In the setting interface, press the up or down key to enter the language setting page.

See Figure 13



Figure 13. Language Settings

4.3.3: Time /watermark setting

In the setting interface, press the up or down key to enter the time watermark selection function, press the key  to switch and confirm.

See Figure 14



Fig. 14 Time/ watermark setting

When the time watermark is turned on, there will be the time watermark under the photos and videos taken, and when it is turned off, there will be no time water print.

As shown in Figures 15 and 16

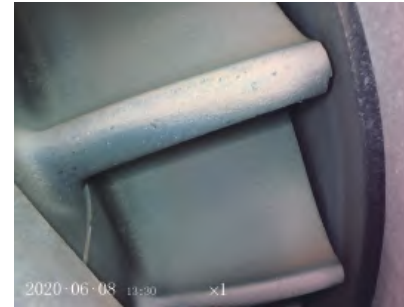


Fig. 15 Opening time watermark



Fig. 16 Closure time watermark

4.3.4 Format memory card



Set the interface. Press up or down to enter the formatted memory card page, as shown in Figure 18. Press  up Or down to choose whether to format the memory card, press the key  to confirm.

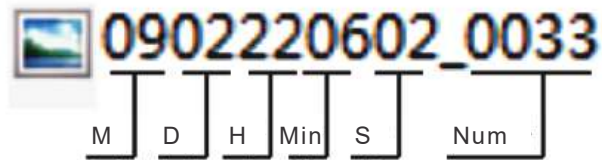


Figure 17 Formatting

4.4 The file naming

Name the image and video files as: date + time + file number.

See Figure 18



Note: SD card must be inserted before taking photos or recording, otherwise the module can not take photos or recording.

4.5 Battery status detection

When the borescope is running, the power indicator icon on the upper right of the screen displays the real-time power status (as shown in Figure 19). When it is too low to continue working, the color of the power indicator icon will turn to red and blink continuously. At this time, the system will issue low Power alarm, automatically shut down after 5 seconds.



figure 19

5 To turn it off

Press the power off button for 3 seconds to complete the shutdown.

6 Instrument storage mode

- 1. Please use a clean cloth or dry soft towel for cleaning.
- 2.If you do not use it for a long time, please take out the battery.
- 3.It is strictly prohibited to store the instrument in high temperature, bright light, high dust, pollution or corrosive environment.

7 Troubleshooting

Malfunction	Possible Causes	solution
Unable to start	No battery inserted	Insert the battery normally
Cannot adjust brightness	Low battery	Charge or replace the battery
Automatic shut-down	Low battery	Charge or replace the battery
Image cannot be recorded	Card Capacity is insufficient	Replace cards or delete unwanted pictures
other questions		Charge or replace the battery

industrial videoscope

instruction manual



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