



# Pipe Inspection Camera System User Manual



**Model No: S820TSMKTR**

**NOTE: All accessories are under the keyboard!**

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Please contact us at first time if you got issues with the product

Amazon Orders After-sale: [support@sanyipace.com](mailto:support@sanyipace.com)

Website Orders After-sale: [service@sanyipace.com](mailto:service@sanyipace.com)



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Attention: The illustrations and screenshots of this manual are to explain the product's operation, which may be a little different from actual products due to the products' version upgrades and different production batches. If the content in this manual does not match your machine, please refer to the machine!

# 1. Notice

- a. Please read the manual carefully before using the product.
- b. Handle the device with care when operating, do not drop or push hard.
- c. Do not dismantle the machine without permission.
- d. Please turn off the monitor and disconnect the device after use.
- e. Before inserting the TF card into the device, please back up the information on the TF card to avoid loss of information.
- f. Do not cut off the power suddenly during recording and playback, otherwise, the product and video files may be damaged.
- g. Do not turn on the device during charging.

# 2. Scope of Product Use

- a. Household pipeline blockage inspection
- b. Pipe inspection camera, pipeline tools
- c. Underground water pipes, HVAC systems, oil and gas pipelines
- d. Rescue operations in narrow spaces
- e. For underground exploration
- f. Scientific research on underwater riverbeds
- g. Sewer system inspection
- h. Any other hard-to-reach locations/areas

# 3. Product Specification

## ---Camera and Cable---

Sensor: 1/3 CMOS

Resolution: AHD 1080P

Camera diameter: 0.7in/17mm (upper layer); 0.9in/23mm (built-in 512Hz transmitter, self-leveling gravity bearing) (lower level)

Camera light source: 12pcs 1W high white LEDs (adjustable)

Camera angle: 145 degrees

Camera material: stainless steel, sapphire lens, IP68 waterproof

Cable diameter and material: 230ft/70m of 0.2in/5mm harder high elastic

cable (upper layer); 131ft/40m of 0.28in/7mm hardest high elastic cable (lower level)

### ---Monitor Screen---

Size: 9-inch

Camera/monitor picture: IPS LCD color

Function: Record videos with audio, built-in mic and speaker, capture photos, 5X digital zoom, battery level display, distance counter, 512Hz transmitter, self-leveling, keyboard input (support English), etc.

Monitor input voltage: DC 12V

TF card: package includes a 16GB TF card, maximum support 128GB TF card

Display resolution: 1024\*600 IPS

Menu Language: Chinese/English/Russian/French/German optional

Screen port: power input/video

Screen operation: press buttons

Video format: AVI

Photo format: JPG

Working temperature: -4~140°F / -20~60°C

Storage temperature: -22~176°F / -30~80°C

## 4. LCD Monitor Operation



TF card: Including a 16GB TF card, maximum support 128GB TF card.  
Built-in microphone and speaker.

## **Display Operation :**

### **- Turn On**

Connect all the cables of the device, press the battery switch button on the button panel (ON/OFF in red color), and then press the power button on the screen, and the system starts.

### **- Menu Settings (need to exit REC mode):**

Press the "MENU/EXIT" key to enter the menu settings.

Press ">/PHOTO" "</ZOOM" to select, press "REC/-" to confirm, and press "MENU/EXIT" to return.

Allow operating time setting, playback setting, display setting, recording setting, system setting.

### **- How to Record Video:**

Press "REC/-" to start recording (video with audio), press "REC/-" again to stop recording.

### **- How to Set Recording without Audio:**

Press "MENU/EXIT" and ">/PHOTO" to select "System Settings", press "REC/-" to enter sub-options, press ">/PHOTO" to find "Sound Settings", press "REC/-" to adjust turn on or off, press "MENU/EXIT" to quit.

### **- How to Take Photos:**

Press ">/PHOTO" to capture a photo, press one at a time.

### **- How to Zoom the Image While Recording:**

Press "</ZOOM" to zoom in 0-5 times, press the 6th time to return to normal (0).

### **- How to Playback Images/Videos:**

Press "PLAY/+" to enter image browsing, press it again to enter video playback, press ">/PHOTO" "</ZOOM" button to select, press "REC/-" to play, press "REC/-" again to exit.

### **- How to Delete Pictures or Videos:**

Press "PLAY/+" to enter photo/video viewing, press ">/PHOTO" to select

one of the pictures or videos, press "MENU/EXIT" and ">/PHOTO" to enter delete or all delete options, press "REC/-" to confirm, press "PLAY/+" again to exit.

### - How to Modify Video Length:

The recorded video will be divided into fixed-length videos and stored in the memory card, and the default length is 3 minutes. You can adjust it up to 10 minutes. Press "MENU/EXIT" and ">/PHOTO" to select "Video Menu", press "REC/-" to change it to 1mins, 3mins, 5mins, or 10mins, and press "MENU/EXIT" to exit after setting.

## 5. Control Panel & Keyboard Input



- ① CHARGER: Power charging port. Plug the DC charger to charge the battery when the screen shows that the voltage is lower than 9V. Do not turn on the device during charging.
- ② ON/OFF: Battery switch on/off (Turn it off when not in use)
- ③ LED ADJUST: LEDs brightness adjustment (0-5 gear) (Same as F6 key)
- ④ CLEAR: Meter/feet counter reset button (Same as F7 key)
- ⑤ CHI/CH2: Switch camera video channel (Same as F3 key)
- ⑥ Rotate the camera counterclockwise (ONLY FOR 360 degrees rotating)

camera probe, not for this device)

- ⑦ Rotate the camera clockwise (ONLY FOR 360 degrees rotating camera probe, not for this device)
- ⑧ POWER LIGHT: Power indicator light
- ⑨ KEYBOARD: Second keyboard USB port (The first USB Port is under the control panel). You can input text/symbols/numbers to mark events.
- ⑩ Esc: Clear input characters
- ⑪ F3 Key: Switch camera video channel (Same as CH1/CH2 button)
- ⑫ F4 Key: Convert length units (meters, feet)
- ⑬ F5 Key: OSD switch (on-screen display)
- ⑭ F6 Key: LED brightness adjustment (0-5 gear) (Same as LED ADJUST button)
- ⑮ F7 Key: Meter/feet counter reset button (Same as CLEAR button)
- ⑯ F9 Key: Factory settings (Press F9 then input "3131" to enter settings, press ⑰UP/Down to select cable's diameter and length (in meters), then press F9 to save settings and exit) (Factory settings have been completed, no need to set it up. You only need to set it if the coil is replaced or the distance counting is inaccurate.)

## 6. Distance Counter Function

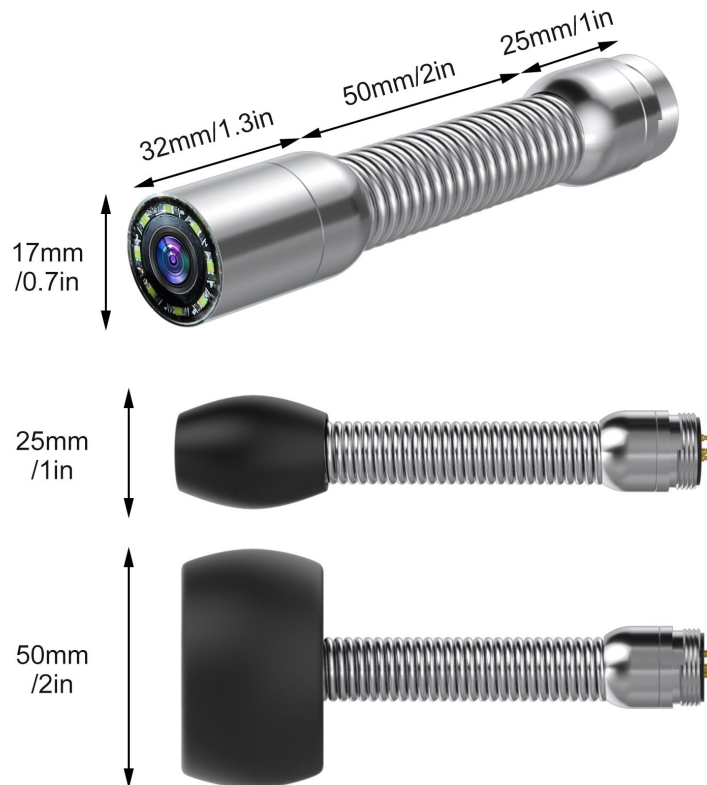


Before using this function, please press the CLEAR button or F7 key to clear the counter data. You can convert length units into feet or meters by pressing the F4 key. It will start counting the distance between the camera probe and the coil in feet/meters when the coil rotates, and display it on the screen in real time.



# 7. Camera Probe, Protective Cover, Pipe Pulley

Upper Layer 0.7in/17mm Camera probe size details:



The following are the steps to install the protective case:

- 1) Use the mini screwdriver to loosen the white screw.
- 2) Put the camera protective case on the camera head.
- 3) Use the mini screwdriver to tighten the white screw.

The following are the steps to install the protective case



**Lower Level 0.9in/23mm Camera probe (built-in 512Hz transmitter, self-leveling function) size details:**



**The following are the steps to install the pulley**



1. find the mini screwdriver in the package



2. put the camera protective case on the camera head



3. screw the 3 white screw on the protective case, until it was fixed on the camera head



This 0.9in/23mm diameter camera probe has a built-in 512Hz transmitter, which transmits a 512Hz frequency signal through a built-in chip, compatible with any 512Hz pipe locator.



Transmit Frequency: 512Hz

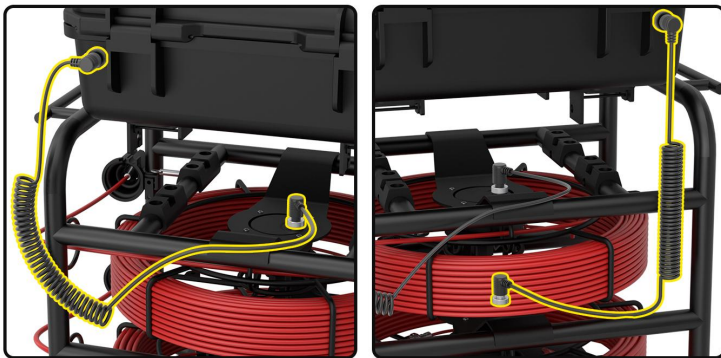
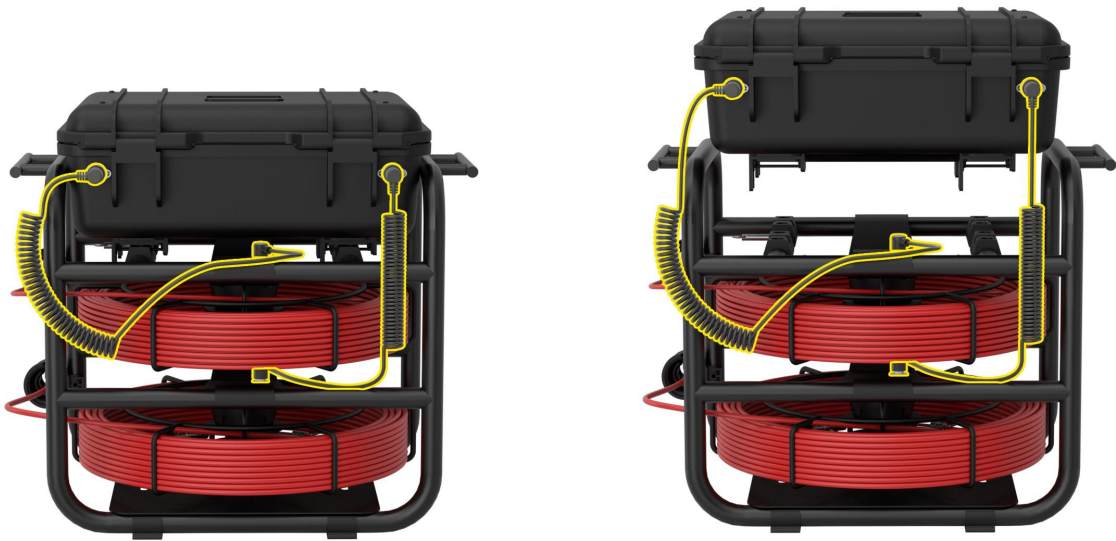
Output Waveform: sine wave

Transmit Distance: about 16.4ft/5m

This 0.9in/23mm diameter camera probe is equipped with a self-leveling gravity bearing that can automatically level itself regardless of the angle of inclination, always hold the lens upright, and provide upright images at all times even when the camera is tilted.

## 8. Device Installation

- A. Connect and tighten the video cable to the right port on the box and the upper cable coil.
- B. Connect and tighten the video cable to the left port on the box and the lower cable coil.
- C. Press the "ON/OFF" button on the control panel to turn on the battery, and then press the on-screen "ON/OFF" button to turn on the screen.
- D. Press "CH1/CH2" to switch the video channel displayed on the screen.  
(As shown below)



Switch Channel Display

## 9. Assemble & Disassemble Box

### <1> Disassembly steps:

- a. Pull out the latch pin;
- b. Push the box to the right and move out of the slot (as shown in the picture);
- c. Take out the plastic box.

## <2> Assemble steps:

- Align the bottom pad of the plastic box with the card slot on the bracket and install;
- Push to the left (backward) to fix the plastic box on the coil holder;
- Insert the latch pin to prevent it from falling out.



## Assemble Steps



## 10. Release and Coil Cable

New stable and strong coil structure with steel bearing inside, can easily release or coil the cable with less time and force.

### How to release the cable:

Take out the cable from the holder, then pull the coil clockwise to release.

### How to roll up/coil the cable:

Turn the cable counterclockwise to coil the cable back while using your other hand to hold and rotate the coil, then lock the cable in the holder.



## 11. Battery & Adapter

The battery is built into the control panel with a capacity of 4500mAh, and the screen displays the battery power status. **When the screen shows that the power is lower than 9V, please charge the battery.**



The steps of charging are as follows:

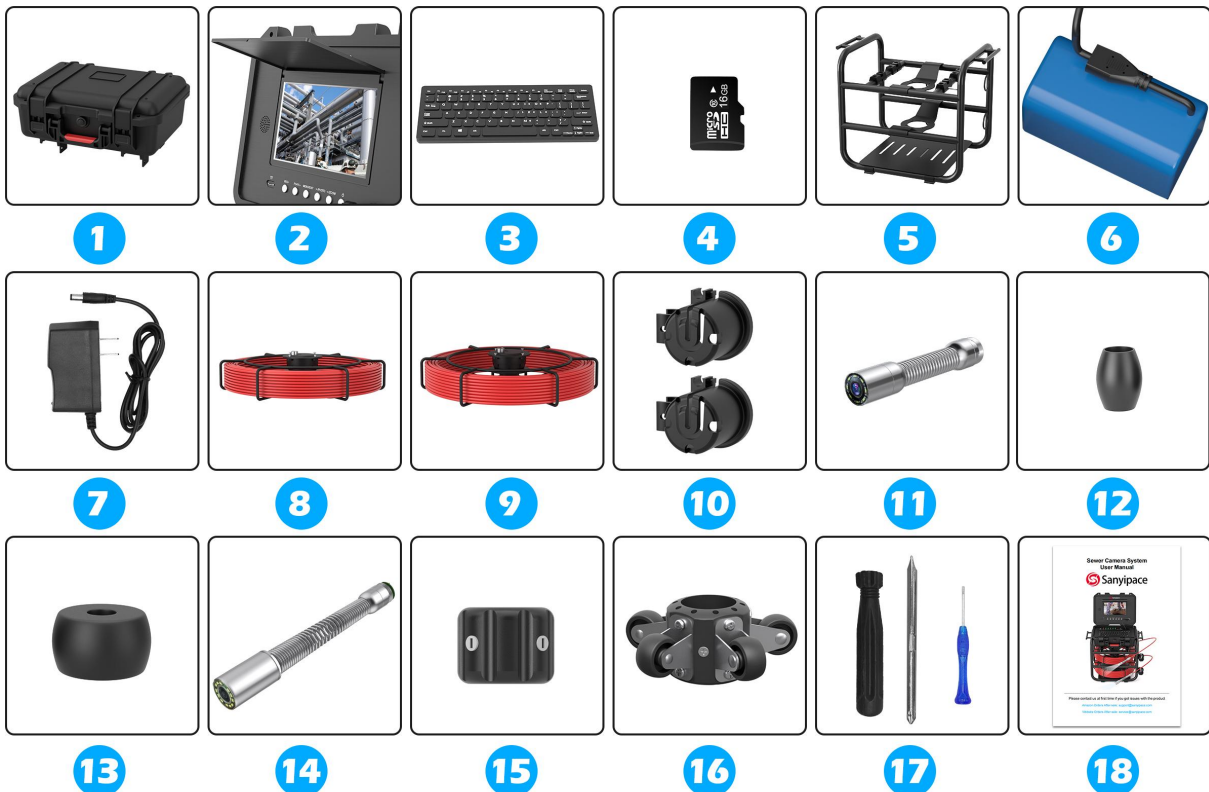
- a. Take out the DC adapter from the box.
- b. Connect the DC adapter port to the charging port (on the control panel).
- c. Plug the DC adapter into 100-240V AC, when the indicator light shows red, it means it is charging.

d. When the indicator light turns green, it means it is fully charged, the fully charging time is about 5-6 hours.

**Note:** To ensure a longer battery life, please charge it in time; otherwise, the battery may be damaged and cannot be recharged.

## 12. Structure & Accessories

- ① Plastic Box\*1    ② 9-inch IPS Screen with Metal Sunvisor\*1    ③ Keyboard\*1
- ④ 16GB TF Card\*1    ⑤ Metal Bracket\*1    ⑥ Lithium Battery\*1    ⑦ DC Adapter\*1
- ⑧ 230ft/70m of 0.2in/5mm Harder Fiberglass Cable\*1 (upper layer)
- ⑨ 131ft/40m of 0.28in/7mm Hardest Fiberglass Cable\*1 (lower level)
- ⑩ Cable Holder\*2    ⑪ 0.7in/17mm Camera Probe\*1 (upper layer)
- ⑫ 1in/25mm Protective Cover\*1    ⑬ 2in/50mm Protective Cover\*1
- ⑭ 0.9in/23mm Camera Probe\*1 (lower level)
- ⑮ 1.5in/38mm Protective Cover\*1    ⑯ 3.9in/99mm Pipe Pulley\*1
- ⑰ Screwdriver\*2    ⑱ User Manual\*1



# 13. Trouble & Troubleshooting

Trouble	Troubleshooting
No power	a. Check whether each interface is connected correctly; b. Check whether the battery is out of power, check the power display.
Can't be charged	a. Is the DC adapter plug-in correctly; b. Check if the indicator light of the DC adapter is on.
Power light stay on	Contact <b>Sanyipace</b> to replace the button plate.
Can't record videos	a. Whether the TF card is inserted correctly; b. Insufficient TF card memory; c. Check whether the power is off during the recording process.
Recording videos in black and white color	Adjust the LED light button to the appropriate brightness, observe the screen display, and select a brightness that is clearer and more colorful.
Screen flashes	Please fully charge the device and confirm it again, the device doesn't have enough power to support its work.
Turn on the device but the screen freezes	Please take out the TF card and confirm it again, if you take it out and the device can work, please format the TF card on PC or use another TF card to work with the device.
Keyboard can't work	a. Confirm some keys do not work or if the whole keyboard does not work; b. Change another keyboard port to confirm it; c. Replace a computer keyboard to confirm it.
LED lights not working	a. Check whether the LED lights setting is turned on, by pressing the LED adjustment button on the panel or F6 to adjust the brightness; b. Tighten or loosen the camera probe slowly to check if it works; c. Contact <b>Sanyipace</b> to replace the camera probe or coil connector.



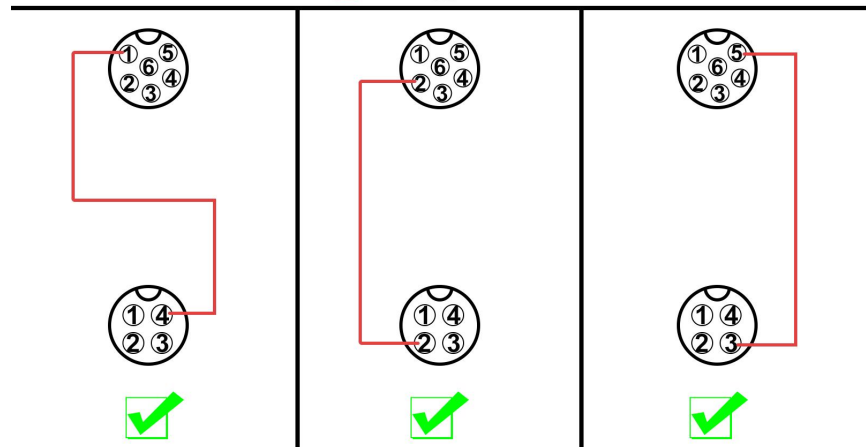
a. Coil Connector:

If you install the camera probe, it can work, but you pull out the cable about 15ft/5m and the screen shows 'no signal' in blue color, which means the coil connector is broken. Use a multimeter to test the circuit between the coil connector, if the circuit fails, please replace the coil connector.

**Test the circuit between the ends of the coil connector with a multimeter**



No signal, and the screen turns blue  
(Suitable for **0.2in/5mm** diameter cable equipment)



b. Coil Cable:

Use a multimeter to test the circuit between the coil cable and the cable connector (the part that connects the cable to the camera). If the circuit fails, please replace the coil cable.

Gold number 1 tested with circle 1

Gold number 4 tested with circle 2

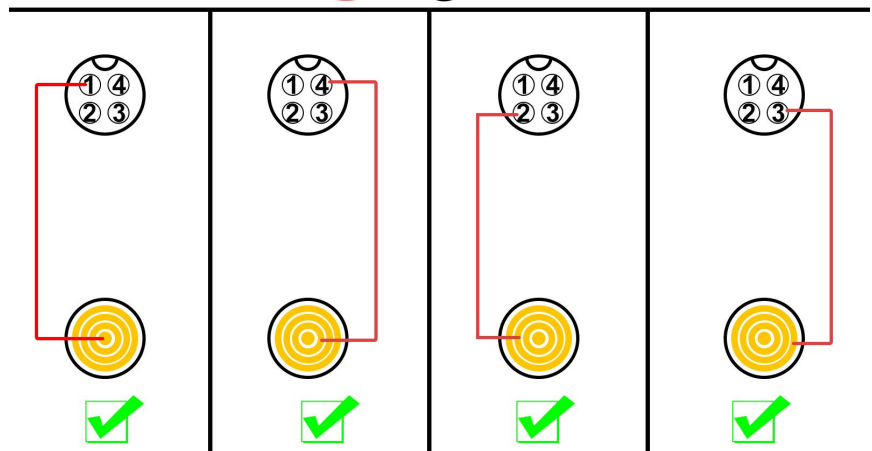
Gold number 2 tested with circle 3

Gold number 3 tested with circle 4

No signal, and the screen turns blue

(Suitable for 0.2in/5mm diameter cable equipment)

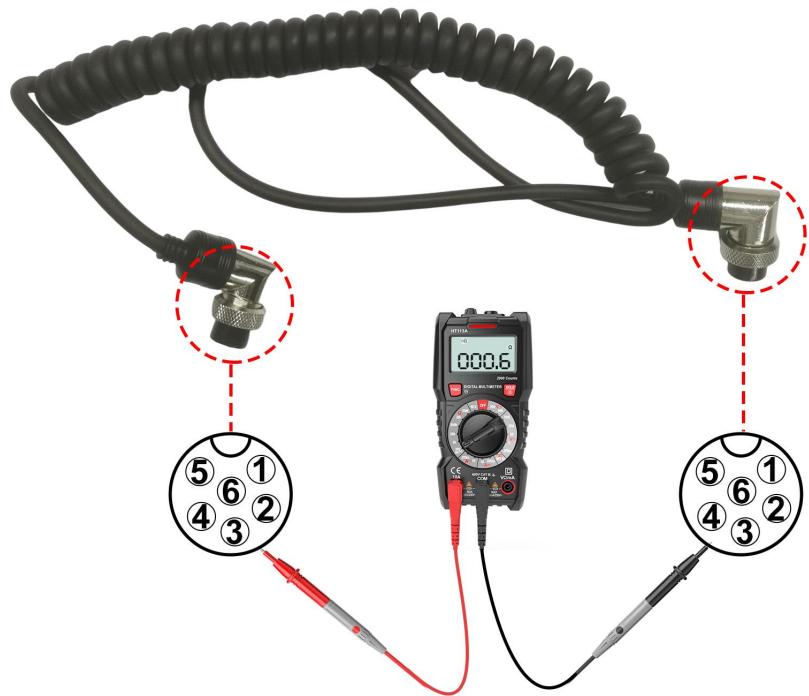
Test the circuit between the ends of the coil cable with a multimeter



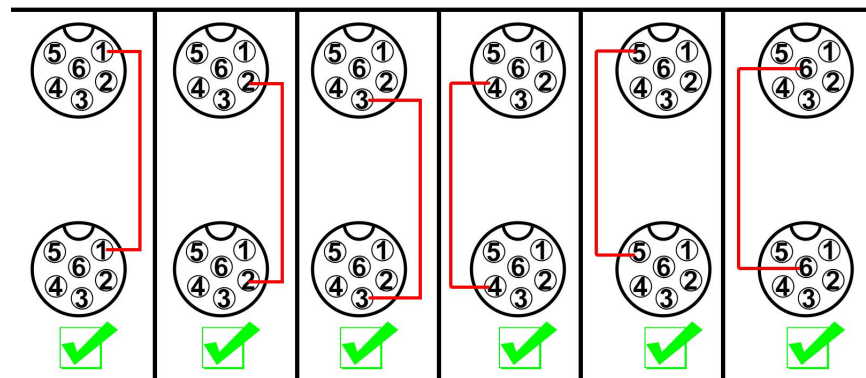
c. Spring Video Cable:

Use a multimeter to test the circuit between the spring video cable. If the circuit fails, please replace the video cable.

**Test the circuit between the ends of the spring video cable with a multimeter**



No signal, and the screen turns blue  
(Suitable for **0.2in/5mm** diameter cable equipment)



d. Camera Probe:

If you install the camera probe and the screen shows 'no signal' in blue color immediately, and the connectors and cables are good, means the camera probe is broken. Please confirm whether water ingress into the camera.

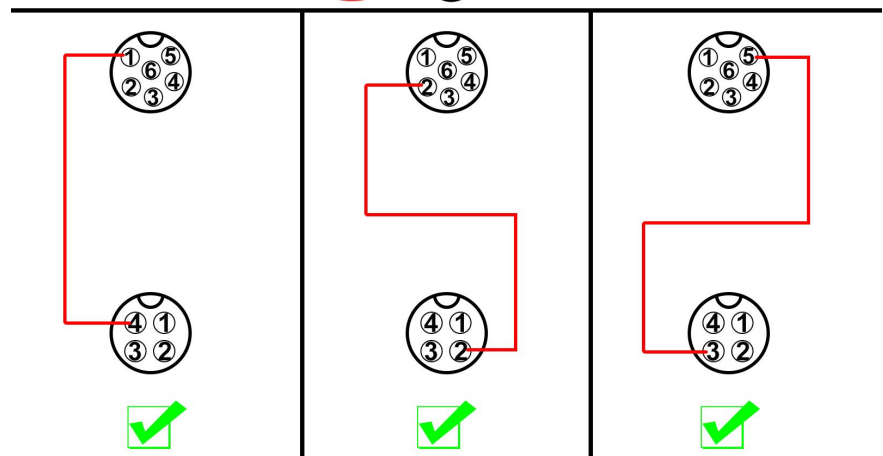
If it still can't work, please contact Sanyipace and describe the problem to let us deal with it.

a. Coil Connector:

If you install the camera probe, it can work, but you pull out the cable about 15ft/5m and the screen shows 'no signal' in blue color, which means the coil connector is broken. Use a multimeter to test the circuit between the coil connector, if the circuit fails, please replace the coil connector.

**Test the circuit between the ends of the coil connector with a multimeter**

No signal, and the screen turns blue  
(Suitable for 0.28in/7mm diameter cable equipment)



b. Coil Cable:

Use a multimeter to test the circuit between the coil cable and the cable connector (the part that connects the cable to the camera). If the circuit fails, please replace the coil cable.

Gold number 1 tested with circle 1

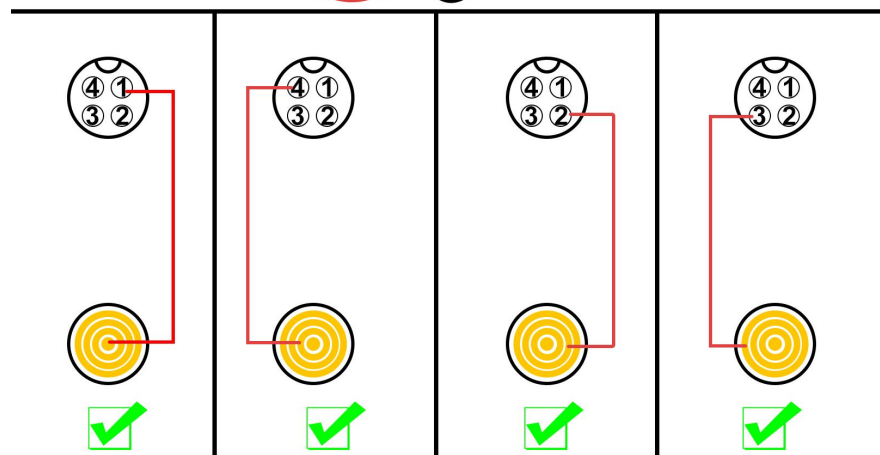
Gold number 4 tested with circle 2

Gold number 2 tested with circle 3

Gold number 3 tested with circle 4

**Test the circuit between the ends of the coil cable with a multimeter**

No signal, and the screen turns blue  
(Suitable for **0.28in/7mm** diameter cable equipment)

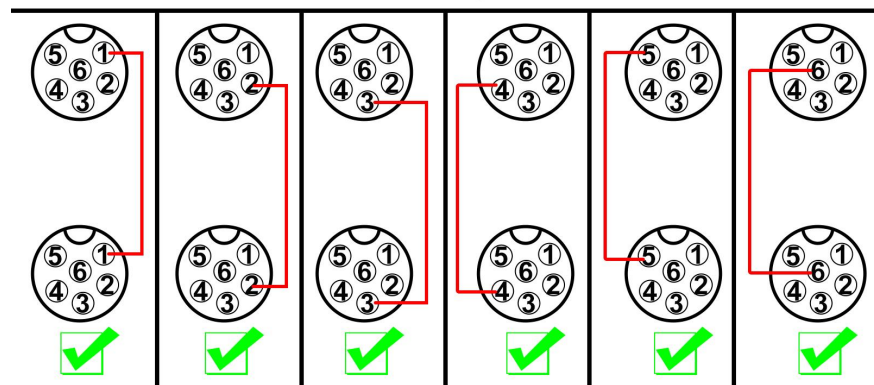
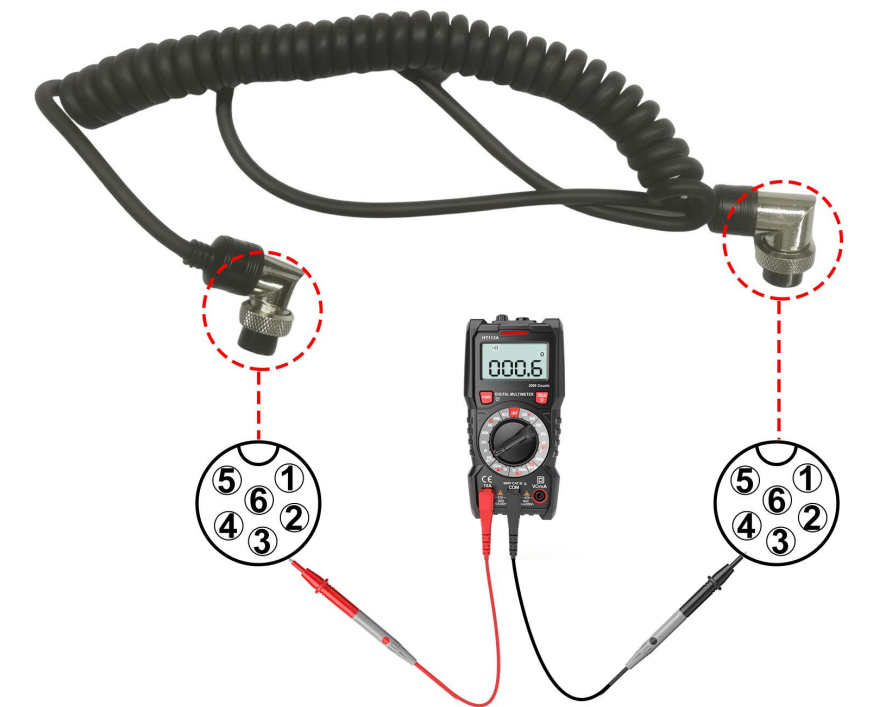


c. Spring Video Cable:

Use a multimeter to test the circuit between the spring video cable. If the circuit fails, please replace the video cable.

**Test the circuit between the ends of the spring video cable with a multimeter**

No signal, and the screen turns blue  
(Suitable for  
**0.28in/7mm**  
diameter cable  
equipment)



d. Camera Probe:

If you install the camera probe and the screen shows 'no signal' in blue color immediately, and the connectors and cables are good, means the camera probe is broken. Please confirm whether water ingress into the camera.

If it still can't work, please contact Sanypace and describe the problem to let us deal with it.

# 14. Warranty

We provide a one-year product quality warranty from the date of purchase and provide free lifetime product technical support. For normal faults or quality problems within the warranty period, we provide free replacement or repair services. For damage caused by manual operation, we will charge the cost of product parts for repair. Our technical support team is at your service 24 hours a day. If you encounter any problems during use, please feel free to contact us.

## ----Contact Us----

Go to our website to download the user manual or view more products:

Website: <https://www.sanyipace.com>

US: <https://www.amazon.com/sanyipace>

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