UNI-T®



UT662 Series

Operating Manual

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Multifunctional Intelligent Water Leakage Detector

P/N:110401113422X

PREFACE

Thank you for purchasing the new Multifunctional Intelligent Water Leakage Detector. In order to use this product safely and correctly, please read this manual thoroughly.
After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

LIMITED WARRANTY AND LIABILITY

Uni-Trend guarantees that the product is free from any defect in material and workmanship within one year from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination and improper handling. The dealer shall not be entitled to give any other warranty on behalf of Uni-Trend. If you need warranty service within the warranty period, please contact authorized service center or send the product back with problem description.
This warranty is the only compensation you can obtain. Uni-Trend will not be responsible for any special, indirect, incidental or subsequent damage or loss caused by any reason or speculation. As some areas or countries do not allow limitations on implied warranties and incidental or subsequent damage, the above limitation of liability and stipulation may not apply to you.

UT662 series Multifunctional intelligent water leakage detector

Instrument introduction

The UT662 series Multifunctional intelligent water leakage detector is a new generation of intelligent leakage detector specifically designed for pipeline leakage. The instrument is equipped with a vertical sensor, a horizontal sensor, a horizontal sensor base, and a listening pole. It is suitable for different detection environments. The collection and analysis of water leakage sound signals can achieve precise positioning, which can effectively solve the problem of pipeline leakage.

Working principle

The UT662 series Multifunctional intelligent water leakage detectors collect water leakage sound signals through sensors. The collected signals are processed by the host and displayed on the host screen in the form of visual spectrum and signal strength. At the same time, the sound will also be output to the headphones through the host. The two methods of "listening" and "seeing" are combined to analyze and determine the leakage point.

Structural composition





Vertical sensor



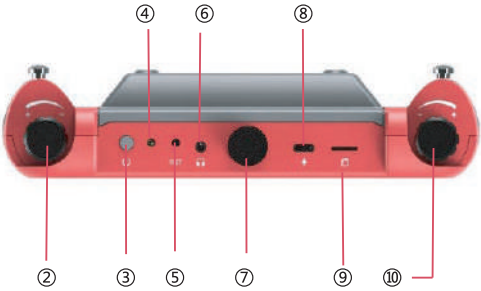
Horizontal sensor（CD）



Horizontal sensor with base (E)

Listening pole(E)





1. Strap buckle
2. Gain adjustment knob
3. On/Off button: used to turn on/off the host
4. Indicator light: power on and off instructions and charging instructions
5. Reset button: Host system reset and shutdown
6. Headphone interface: used to connect headphone
7. Sensor interface: used to connect sensors
8. Type-C hole: used for host charging and PC data transmission
9. SD card interface
10. Volume adjustment knob

Technical

Multifunctional intelligent water leakage detector				
Model No.	UT662B	UT662C	UT662D	UT662E
Display Screen	5-inch LCD, 800*480		7-inch LCD, 1024*600	
Frequency Bandwidth	1Hz-8000Hz		1Hz-12000Hz	
Filter	1Hz-3000Hz 3000Hz-6000Hz 4500Hz-8000Hz 1Hz-8000Hz Frequency adjustable		1Hz-3000Hz 3000Hz-6000Hz 4500Hz-12000Hz 1Hz-12000Hz Frequency adjustable	
Measure depth	About 100cm			About 300cm
Sensor	Vertical sensor	Vertical sensor Horizontal sensor		Vertical sensor Horizontal sensor (with base) Outdoor listening pole
Numerical display	Real-time display of numbers, bar charts, and line charts			
Instrument size	212mm×140mm×46.5mm			
Protection level	Sensor IP66			
Main functions	Quick check mode, Patrol mode, AI intelligent assisted leak detection, Effective volume display, Screenshots, Recording			
Working temperature	-20℃~+50℃			
Storage temperature	-40℃~+60℃			
Signal gain	80dB 10 levels adjustable			
Battery	DC 3.7V 8000mAh lithium battery			
Charging type	**DC 5V 2A Type-C(No fast-charge support)**			
Automatic sleep	Can be set to automatically sleep for 10 minutes, 15 minutes, and 30 minutes. The default is not to sleep.			
Brightness adjustment	Default 50%, infinitely adjustable			
Mode select	Day mode/Night mode can be switched, default day mode			
Data viewing on PC	The host is connected to the computer through a data cable. Click this button to view the saved data on the PC.			

1. Select the appropriate sensor according to the detection environment. The vertical sensor is suitable for water leakage detection in most indoor environments such as the ground; the horizontal sensor is suitable for water leakage detection in small spaces such as walls and under cabinets; the horizontal sensor with a base connected to a listening pole is suitable for water leakage detection in outdoor environments.

2. Connect the strap to the host;

3. Connect the male aviation plug on the sensor connection line to the female aviation plug on the host. There are white dots on the aviation plug. Just align the marks and insert them;

4. Use the headphone cable to connect the headphone to the host;

5. Press and hold the "On/off button" to turn on the host and enter the boot interface, as shown in Figure 1:



Figure 1 Device startup loading interface

6. The default startup interface is the quick check interface (taking the body interface of UT662D and UT662E as an example), as shown in Figure 2:



Figure 2 Initial quick check interface

Sensor detection icon
Band switch button All-pass
SD card insert icon
AI intelligent auxiliary leak detection button
SD card not inserted icon
Screenshot button
Battery display icon
Record button
Charging display icon
Bar chart button
Line chart button

The frequency bands of UT662B and UT662C are divided into low frequency (1Hz-3000Hz), medium frequency (3000Hz-6000Hz), high frequency (4500Hz-8000Hz) and all-pass (1Hz-8000Hz).

The frequency bands of UT662D and UT662E are divided into low frequency (1Hz-3000Hz), medium frequency (3000Hz-6000Hz), high frequency (4500Hz-12000Hz) and all-pass (1Hz-12000Hz).

In the all-pass frequency band, you can slide the slide bar below to adjust the frequency range.

After clicking the AI intelligent auxiliary leak detection button, the host can analyze the abnormal point signals in real time and read the abnormal values through the AI judgment algorithm to provide more accurate intelligent judgment. After turning on the AI intelligent assisted leak detection mode, when the effective volume value is higher than 50, its color will change from red to blue, indicating that the value is too high.

Effective volume: Displays the effective suspected water leakage signal value.

Max volume: Displays the signal value of the relevant environment.

Click the Screenshot button to save the current data screenshot in the SD card.

Click the Record button to record the current noise for 10 seconds and save it in the SD card.

The initial signal display is in bar chart mode by default. Click the Line chart button to switch to line chart mode.

7. The Gain and Volume are adjusted by the ② and ⑩ knobs in the "Structural composition" section respectively. Turn the gain adjustment knob clockwise to decrease the gain, and turn it counterclockwise to increase the gain; turn the volume adjustment knob clockwise to increase the volume, and turn it counterclockwise to decrease the volume.

When turned on, the default state is mute. After connecting the sensor, you need to press the gain adjustment knob or volume adjustment knob to receive sound.

Gain icon, the default gain is level 1 when starting up, and it is adjustable in 10 levels.

Volume icon, the default volume at power on is level 1, adjustable in ten levels

Mute icon

8. Start detecting along the starting position of the pipe. By listening to the sound in the headphone, watching the spectrum changes on the screen and the effective volume display, compare each point. When the spectrum remains high and the effective volume number is higher, the headphone If you hear the sound of a suspected water leak, you can determine that the area is a suspected water leak area.

9. After clicking the "Patrol" button, you will enter the patrol detection interface, as shown in Figure 3:

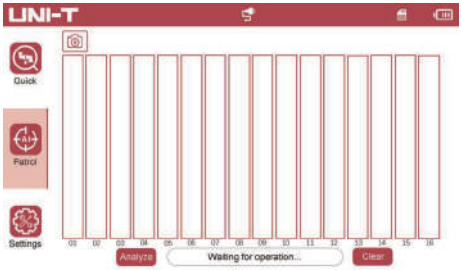


Figure 3 Patrol interface

Analyze Analyze button, analyze the most likely leaking points among the recorded points

Clear Clear button to clear the data recorded in the current Patrol mode

Patrol mode description

1.The screen can display the collection information of 16 points at the same time. By clicking anywhere in the columnar frame of the corresponding point, the signal column can be locked and refreshed. The corresponding signal value is displayed above the signal column;

2.There are 16 columnar bars in total from left to right. You can start from any columnar bar during detection;

3.The columnar bars are thick bars and represent the collected stable signals;

4.Click anywhere in the bar frame of the corresponding point, and a red bar with a blue background will appear, indicating that the point is currently being detected;

5.After the thick bar signal bar is completely stable and does not fall back, click anywhere in the bar frame. The red bar will be locked and stationary, and its background will turn white, indicating that the measurement point is complete. Click anywhere within the bar box again to refresh the bar and recheck. You can repeat this operation to confirm whether the signal at this time is true and valid.

6.Use the patrol inspection mode to collect and compare signals at relevant points in the suspected water leakage area. The patrol inspection mode can collect 16 points. Each detection point can be directly compared in the form of a signal column. When the measured point is a thick bar The highest, the largest value, can be judged as a suspected leak point.

Other instructions

1.Click "Settings" to enter the interface shown in Figure 4. You can view device information, adjust screen brightness, switch day/night mode, and set Chinese and English languages and sleep time. When the SD card is inserted into the host, after connecting to the computer, click "PC Data View" to view the data saved in the SD card on the computer. Among them, the device brightness will be set to 50% by default after startup, and the theme will default to day mode.

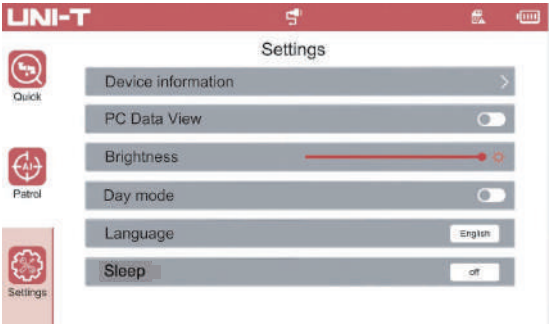


Figure 4 Setting interface

2.Click "Device information" to view various information about the host.
(taking the UT662E model interface as an example), as shown in Figure 5:

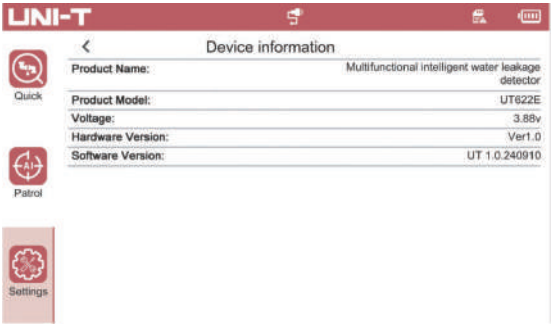


Figure 5 Device information interface

Packing list

No.	Parts Name	Quantity	UT662B	UT662C	UT662D	UT662E
1	Host	1 PC	●	●	●	●
2	Host strap	1 PC	●	●	●	●
3	Vertical sensor	1 PC	●	●	●	●
4	Horizontal sensor	1 PC	○	●	●	●
5	Horizontal sensor base	1 PC	○	○	○	●
6	15cm listening pole	1 PC	○	○	○	●
7	Headphone	1 PC	●	●	●	●
8	Type-C data 1m cable	1 PC	●	●	●	●
9	Bag	1 PC	●	●	●	●
10	Operating Manual	1 PC	●	●	●	●

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Our company reserves the right to modify the contents of the user manual. If there are any changes, no further notice will be given.

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