

PQWT PQWT-S150

PQWT S150 Water Detector Instruction Manual

Underground Water Finder for Well Drilling and Geological Prospecting

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1. PRODUCT OVERVIEW

The PQWT S150 Water Detector is an advanced geological prospecting instrument designed for efficient underground water surveys and location. It features automatic mapping capabilities to clearly display geological structures and identify aquifers suitable for well drilling. This model offers a selectable detection depth of up to 150 meters.

Utilizing the natural electric field method, the instrument simplifies the process of groundwater exploration, making it accessible for various field survey needs.

2. WHAT'S IN THE BOX

Upon unboxing your PQWT S150 Water Detector, please verify that all components listed below are present and in good condition.

- Host Machine (Main Unit)
- Electrode Rods (Alloy)
- Copper Electrode Rods
- Copper Screws
- 10 Meter Measuring Cable
- Portable Instrument Case
- QC Certificate

- After-sales Card
- USB Disk (containing operation video and manual)
- Belt
- 8.4V Charger
- Global Conversion Plug
- USB Data Line
- Battery (2 Lithium Ion batteries required, included)
- Parts List

PRODUCT DISPLAY:

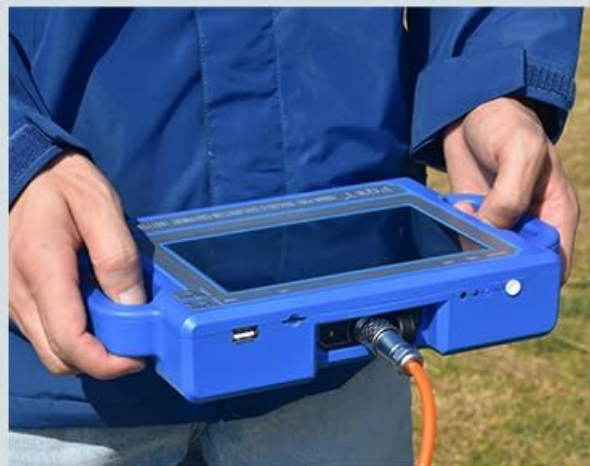
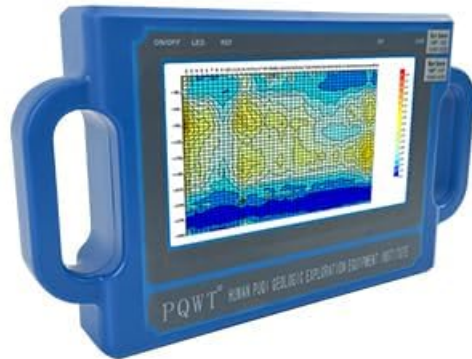
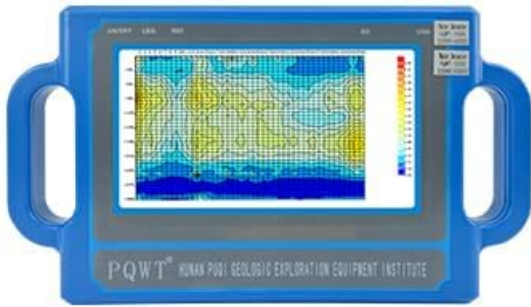


Image: All components of the PQWT S150 Water Detector laid out, including the main unit, cables, electrodes, and accessories.

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Video: An unboxing video demonstrating the contents of the PQWT S Series Aquifer Mapping Geophysical Detector package.

3. SETUP

3.1 Wiring the Electrodes

1. **Prepare the Measurement Line:** Select a tape measure (e.g., 50 meters) and extend it along a straight line in the area to be explored. Mark the starting point (0m).
2. **Geophysical Wiring:** The geophysical wiring typically involves a vertical structure. For open areas, a net-shape vertical crossing wiring method is used.
3. **Connect Electrodes:**
 - Insert one electrode near the host machine into the tape position of 0 meters.
 - Insert the other electrode into the tape position of 10 meters.
4. **Initial Check:** Cross and put the two connected electrodes together before sampling. Then, click "Line Test" on the instrument. A green test light indicates the line is normal.

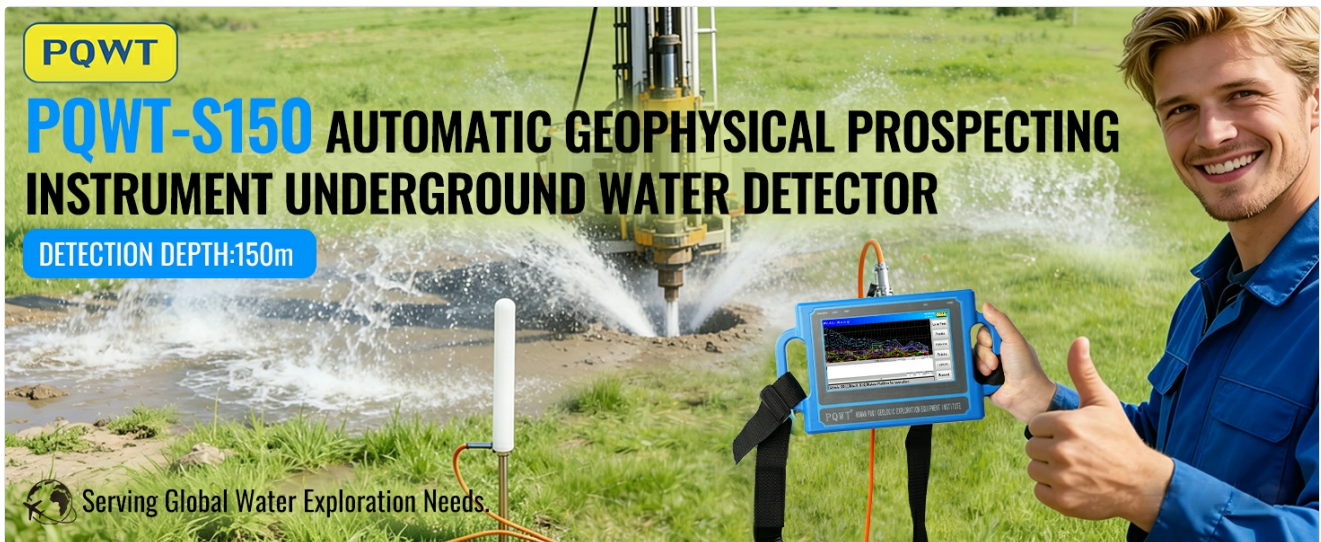


Image: Illustration of the wiring setup for the PQWT S150 Water Detector in a field, showing the main unit, electrodes, and measuring tape.

4. OPERATING INSTRUCTIONS

4.1 Power On and Interface Navigation

1. **Power On:** Long press the start button on the host machine to enter the start interface.
2. **Select Measurement Method:** The instrument displays six options. For profile mapping, select "Profile Survey" to enter the measurement interface.
3. **Set Depth:** Click "Options" and choose the desired depth (e.g., 150M for the S150 model).

4.2 Data Acquisition

1. First Measurement Point:

- Ensure electrodes are placed at 0m and 10m. The first measurement point is at 5m, in the middle of the two electrodes.
- Click "Record" button for data acquisition.
- Once data acquisition is complete, the instrument will display "Record Completed" with a voice prompt.

2. Subsequent Measurement Points:

- Move both electrodes forward simultaneously by 1 meter. The second measurement point will be at 6m.
- Repeat the "Record" process for each subsequent point.
- Continue this process until the entire line is measured. It is suggested that one line should be measured more than 15 points for optimal results.

4.3 Data Analysis and Mapping

1. **View Curve Chart:** Once a line measurement is finished, the screen automatically displays the curve chart.
2. **Generate Profile Map:** Click "Profile" to automatically draw the profile map.
3. **Adjust Map:** You can click "+" or "-" to adjust the map as needed for better visualization.
4. **Measure Next Line:** If you need to measure another line, adjust the line number (e.g., to "002") in the options and repeat the measurement steps.

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Video: Detailed operation video for the PQWT S Series Automapping Geo Water Locator, demonstrating the measurement workflow.

5. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your PQWT S150 Water Detector.

- Keep the instrument clean and free from dust and moisture.
- Store the device and accessories in the portable instrument case when not in use.
- Regularly check cables and electrodes for any signs of wear or damage. Replace if necessary.
- Ensure batteries are fully charged before each use and stored in a cool, dry place.
- Avoid exposing the instrument to extreme temperatures or direct sunlight for prolonged periods.

6. TROUBLESHOOTING AND SAFETY PRECAUTIONS

6.1 Safety Precautions

- The electrode rod must not be shaken, and the copper electrode must not touch metal objects during recording.
- Instruments are strictly prohibited for use during thunderstorms.
- When wiring, avoid areas with high voltage lines and significant ground drops to prevent interference and ensure safety.

6.2 Common Issues

- **No Green Test Light:** If the green test light does not illuminate during the "Line Test," check all cable connections and ensure electrodes are properly inserted into the ground. A faulty cable may need repair or replacement.
- **Inaccurate Readings:** Ensure proper electrode spacing and stable ground contact. Environmental factors like extreme weather or nearby electrical interference can affect readings.
- **Instrument Not Powering On:** Check battery charge level. Ensure the charger is functioning correctly and the batteries are properly inserted.

7. SPECIFICATIONS

Feature	Detail
Model	PQWT-S150
Measuring Depth	0-100M / 0-150M
Measuring Frequency	Single frequency, Three frequency, 36 frequency
Power Supply	2 x 26650 #4000mAh Rechargeable Lithium Battery
A/D Conversion	8-bit 1Msps
Measuring Range	0mV-2000mV (Automatic range switching)
Measuring Accuracy	0.001 mV
Measurement Channel	4 channels
Unit of Measurement Data	Electric field components of earth electromagnetic field ΔV_s (mv)
Channel Gain	0-500,000 times
Languages	English, Spanish, French, Arabic, Russian, Polish, Turkish, Italian, Portuguese
Power Consumption	About 4W
Display	Industrial-grade 7-inch high-definition digital touch LCD screen
Working Hours	6-8 hours
Item Weight	8.5 Kilograms

8. WARRANTY AND SUPPORT

The PQWT S150 Water Detector host machine is backed by a quality assurance period of 2 years and lifetime maintenance service.

For technical support, inquiries, or to send data for expert analysis, please contact:

- **Consulting Hotline:** 0086-731-82237112
- **Alternative Contact:** 008613548970999 (Mr. Frank)

Users can also send pictures of their survey data to our "geophysical water detecting exchange platform" through mobile phones to communicate online with our specialists in hydrogeology for improved well completion rates.

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Video: An operational overview of the PQWT-S series water detector, including details on data analysis and support.