OKM 2990

OKM GeoSeeker Mini Geological Scanner

INSTRUCTION MANUAL (MODEL 2990)

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1. Introduction

This instruction manual provides essential information for the safe and effective use of your OKM GeoSeeker Mini Geological Scanner (Model 2990). The GeoSeeker Mini is designed for geoelectrical measurements to detect underground water resources and cavities. Please read this manual thoroughly before operating the device to ensure proper functionality and to maximize its performance.

2. Product Overview

The OKM GeoSeeker Mini is a specialized geophysical instrument that utilizes geoelectrical resistivity measurements to identify subsurface anomalies. It is capable of detecting underground water, including fresh water, drinking water, groundwater levels, and water-saturated gravel, as well as hidden cavities and hollow spaces.

Key Features:

- Geoelectrical measurement technology for water and cavity detection.
- Detection depth capability of up to 100 meters (328 feet).
- Portable and robust design for field use.
- Intuitive operation for efficient data acquisition.



Figure 2.1: The complete OKM GeoSeeker Mini system, including the control unit in its protective case, two cable drums, electrodes, and power accessories.

3. Setup and Assembly

Before beginning any measurements, ensure all components are present and in good condition. The GeoSeeker Mini operates on battery power. Charge the power pack fully before initial use.

Components Included:

- Protective Case
- Control Unit (inside protective case)
- Electrodes (4 units)
- Power Cable Drums (2 units)
- Connecting Cables
- Travel Adapter
- Charger
- Power Box with Charger
- USB Flash Drive with OKM 3D Studio Software
- Quick Start Guide



Figure 3.1: Labeled components of the GeoSeeker Mini for easy identification during setup.

Assembly Steps:

1. Place the control unit on a stable, level surface.
2. Unroll the power cable drums and connect them to the designated ports on the control unit.
3. Attach the electrodes to the ends of the power cables. Ensure secure connections.
4. Position the electrodes in the desired measurement configuration on the ground.
5. Connect the power pack to the control unit.
6. Power on the control unit and follow the on-screen instructions for calibration and measurement initiation.

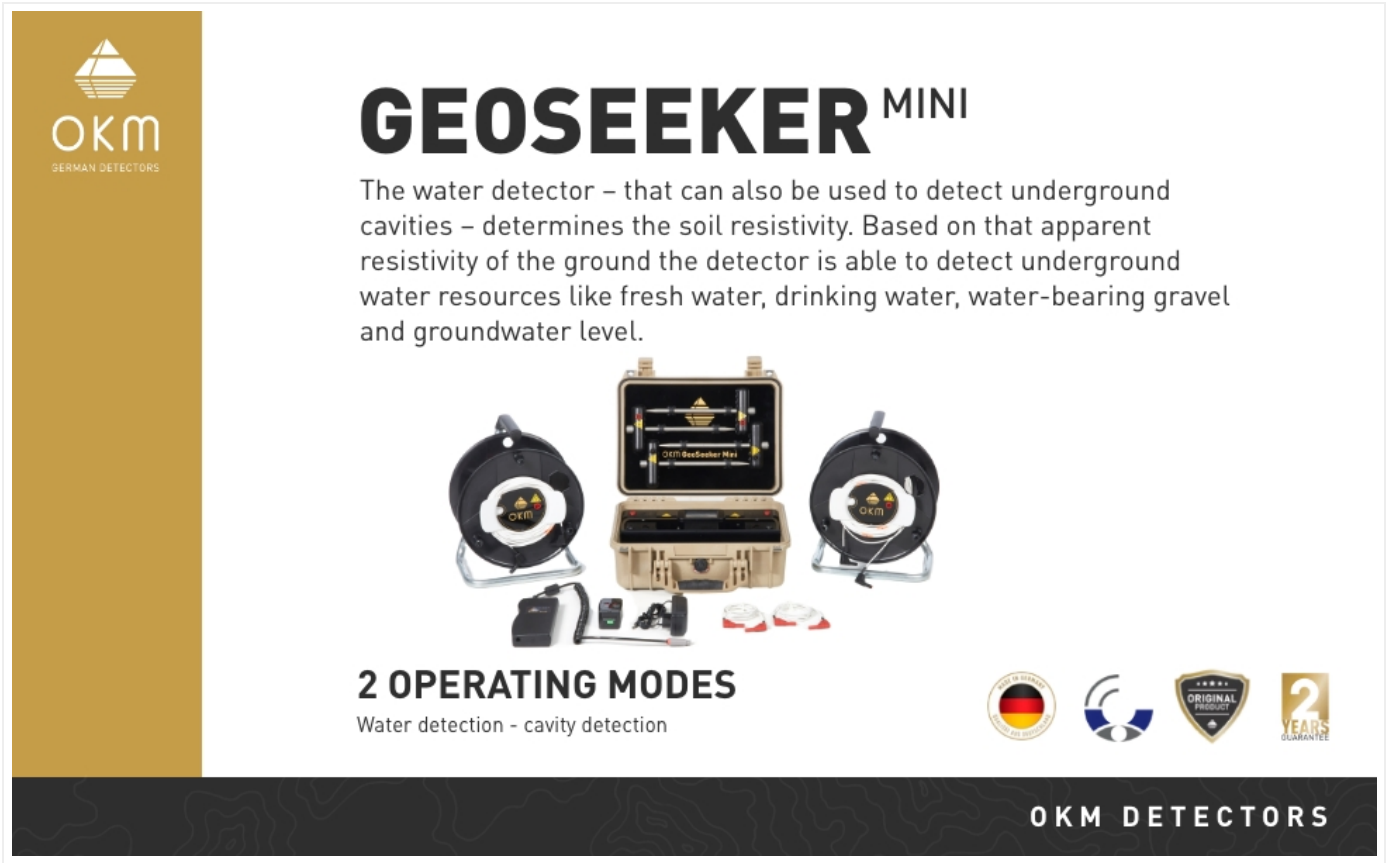


Figure 3.2: A user preparing the GeoSeeker Mini for a measurement in a field environment.

4. Operating Modes

The GeoSeeker Mini offers two primary operating modes, each designed for specific detection tasks based on

geoelectrical resistivity principles.

4.1 Water Detection

This mode is used to locate underground water resources. Water-bearing formations typically exhibit good electrical conductivity, resulting in low apparent resistivity values when measured by the GeoSeeker Mini. This allows for the identification of fresh water, drinking water, water-saturated gravel, and groundwater levels.

4.2 Cavity Detection

The cavity detection mode is designed to find hidden cavities, tunnels, and hollow spaces beneath the surface. These formations typically exhibit low electrical conductivity, leading to high apparent resistivity values during measurement. This mode is useful for geotechnical engineering and archaeological applications.

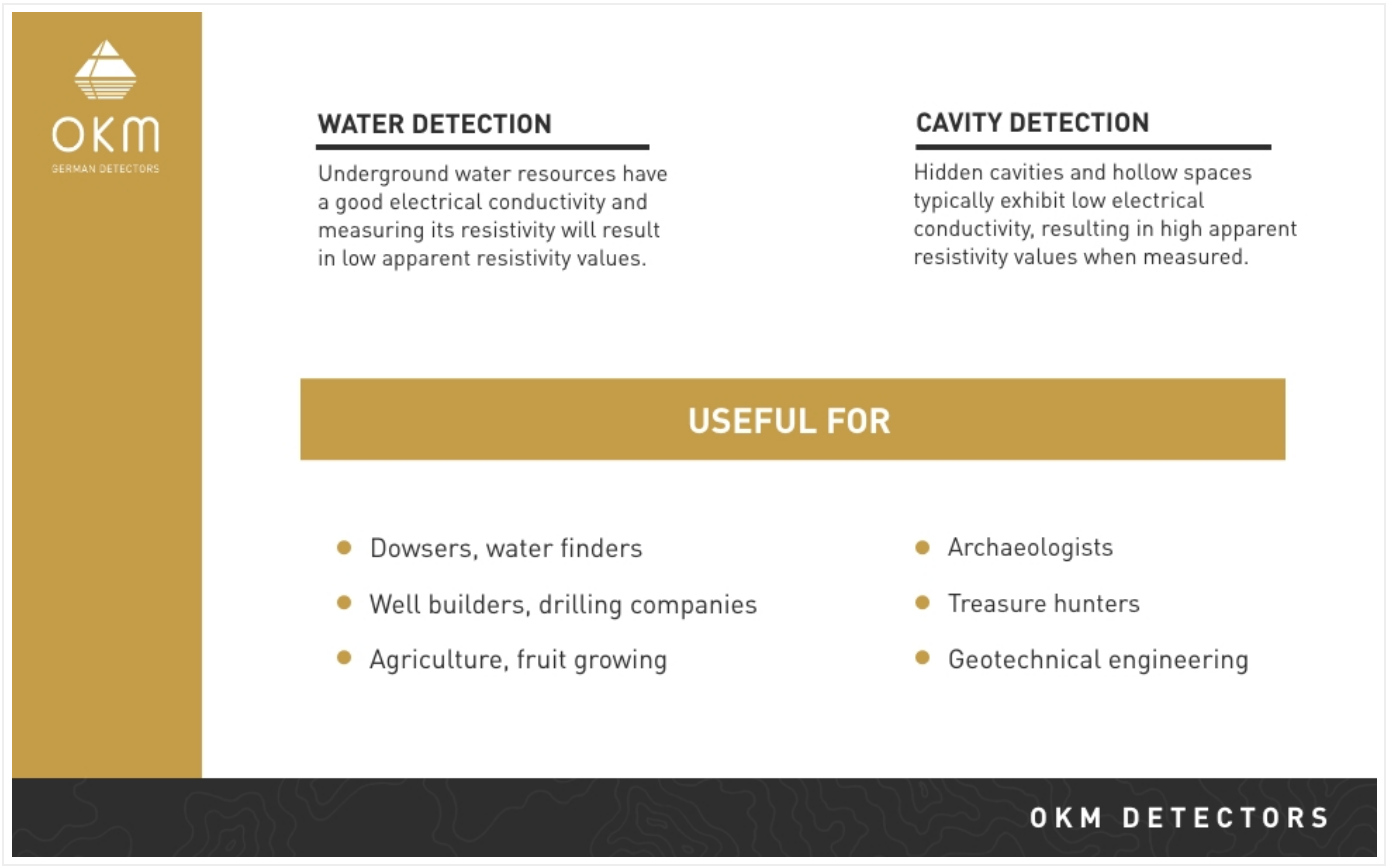


Figure 4.1: Explanation of water and cavity detection based on electrical resistivity differences.

Depth Range:

The GeoSeeker Mini is capable of detecting anomalies down to a depth of 100 meters (328 feet), making it suitable for various deep subsurface investigations.

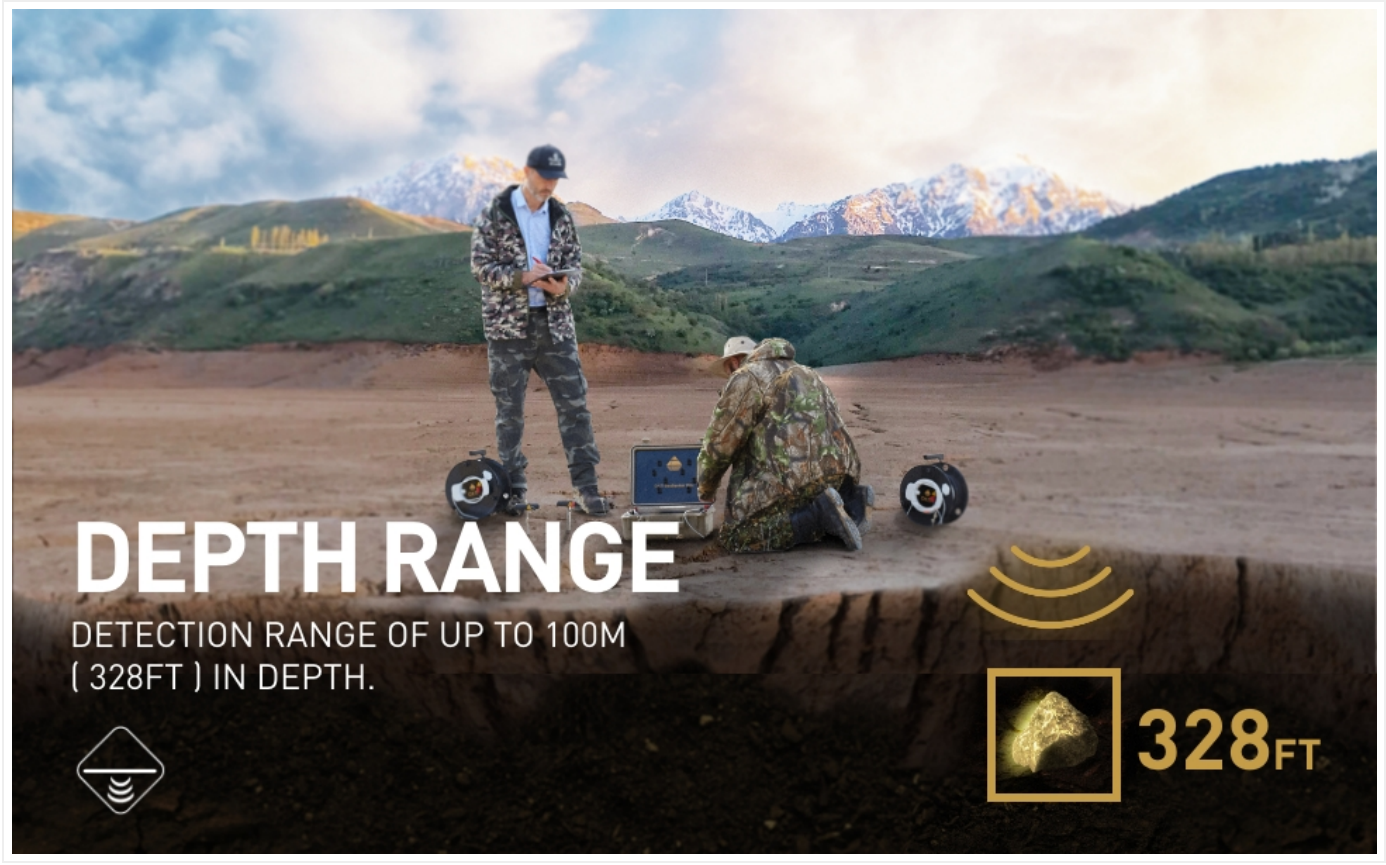


Figure 4.2: Visual representation of the GeoSeeker Mini's detection depth capability.

5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your GeoSeeker Mini.

- **Cleaning:** After each use, wipe down the control unit, cables, and electrodes with a soft, damp cloth. Ensure all components are dry before storage. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device and its components in the protective case in a cool, dry place, away from direct sunlight and extreme temperatures.
- **Battery Care:** Fully charge the power pack before long-term storage and recharge it every few months to maintain battery health. Avoid completely discharging the battery.
- **Inspection:** Regularly inspect cables and connections for any signs of wear or damage. Replace damaged components immediately to prevent operational issues.

6. Troubleshooting

If you encounter issues with your GeoSeeker Mini, refer to the following common troubleshooting steps:

- **Device Not Powering On:**
  - Check if the power pack is sufficiently charged.
  - Ensure all power connections are secure.
- **Inaccurate Readings:**
  - Verify that electrodes are properly inserted into the ground and making good contact.
  - Check for any damage to cables or electrodes.
  - Ensure the measurement area is free from significant metallic interference.
  - Recalibrate the device according to the quick start guide.

- **Connectivity Issues:**
  - Ensure all connecting cables are firmly attached.
  - Restart the control unit.

If the problem persists after attempting these steps, please contact OKM customer support for further assistance.

7. Technical Specifications

Feature	Specification
Model	GeoSeeker Mini (2990)
Control Unit Dimensions (H x W x D)	16.1" x 13.4" x 7.1" (40.9 cm x 34 cm x 18 cm)
Control Unit Weight	10 lb (4.5 kg)
Total Item Weight	46.2 lb (21 kg)
Display	3.5" Resistive touch, 480 x 320 Pixel
Data Memory	4 GB
Operating Time	Approx. 6 – 8 hours
Power Source	Battery Powered
International Protection Rating	IP65 (Dust tight and protected against water jets)
Material	Plastic
Color	Black

8. Warranty and Support

The OKM GeoSeeker Mini comes with a comprehensive warranty and dedicated support services.

Warranty Information:

Your device is covered by a **2-year warranty**. This warranty includes service and support for all levels of experience, exclusive service at OKM headquarters in Germany, a 1-hour instruction session for your device, and 90-day technical support with a personal contact.

Customer Support:

For technical assistance, warranty claims, or any questions regarding the operation of your GeoSeeker Mini, please refer to the contact information provided in your Quick Start Guide or visit the official OKM website. Ensure you have your model number (2990) and purchase details available when contacting support.

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question