

FÖHR

ES3000P

Earth Resistance Test Instrument



Description and Applications

The FÖHR ES3000P is a multi-function portable meter for testing ground resistance, AC/DC voltage, and soil resistivity. It uses 2-, 3-, and 4-wire methods, incorporates a 5" color display, USB/Bluetooth connectivity, and advanced alarm, auto-off, and data storage functions. Ideal for testing in substations, telecommunications, industries, plants, and data centers.

Applications

- • Verification of grounding systems in substations and transmission towers
- • Measurement in industrial and commercial electrical installations
- • Diagnostics in data centers, gas stations and telecommunications systems
- • Quality control in new installations or predictive maintenance

Highlights

- • Test Methods: 2, 3 & 4 Threads
- • 5-inch color LCD display with adjustable backlight
- • Ground resistance measurement up to 20 k Ω
- • AC voltage measurement up to 750 V and DC up to 1000 V
- • Recording of up to 500 measurements in internal memory
- • USB and Bluetooth connectivity
- • Audible and visual alarm when exceeding set limits
- • Automatic shut-off after 15 minutes of inactivity
- • IP54 rated for outdoor use

Technical Specifications

Parameter	Value
Model	ES3000P
Test Methods	2, 3 and 4 threads
Resistance Range	0.00 Ω – 20.00 k Ω
Accuracy (resistance)	$\pm(1.5\%$ reading + 7 digits)
AC Voltage	0.000 V – 750.0 V
DC Voltage	0.000 V – 1000.0 V
Resolution	0.01 Ω / 0.001 V
Measurement frequency	128 Hz (sine wave)
Screen	5 inch color LCD
Memory	Up to 500 records
Connectivity	USB and Bluetooth
Battery	Li-ion 11.1 V, 6.8 Ah
Battery life	Up to 1000 tests
Auto-off	Yes, configurable
Operating Temperature	0°C to 50°C
Protection	IP54
Dimensions	277.2 × 227.5 × 153 mm
Weight	1.88 kg (without cables), 0.86 kg cables

Accessories Included

- • 4-wire test lead (red, yellow, green, black)
- • 4 auxiliary rods ($\Phi 10 \times 200$ mm)
- • USB cable
- • Hard carrying case
- • Printed user manual
- • Software and mobile App

Key Benefits

- • Accurate measurement on multiple terrain types
- • Compact and rugged design, ideal for the field
- • Versatility of features and connectivity
- • User-friendly interface and high power autonomy
- • Safety in operation thanks to intelligent alarms

Meter Operation

Introduction

The FÖHR ES3000P is a multi-function meter designed for earth resistance, ground resistivity, and AC and DC voltage measurement. Thanks to its portable design, 5" color display, and Bluetooth/USB connectivity, it is ideal for field testing, industrial maintenance, electrical installations, and grounding systems. This manual provides detailed instructions for safe and efficient use.

Safety

- • Read this manual completely before operating the equipment.
- • Do not use the equipment if it has visible damage or deteriorated cables.
- • Always use original accessories and cables recommended by the manufacturer.
- • Do not operate the equipment in explosive, humid or excessively dusty environments.
- • Turn off the equipment before connecting or disconnecting the test leads.
- • Verify that the connections are firm before starting the test.
- • Store the instrument in a dry and safe place.

Package Contents

- • FÖHR ES3000P meter
- • 4-wire test leads (red, yellow, green, black)
- • 4 auxiliary rods ($\Phi 10 \times 200$ mm)
- • USB cable
- • Hard carrying case
- • Printed user manual
- • Download software and mobile app

Front Panel & Connections

The front panel of the ES3000P includes: color LCD display, navigation buttons, TEST button, USB port, battery indicator, and connection terminals for E (ground), P (potential), C (current), and H (auxiliary rod).

Power On and Setup

1. Press the power button until the computer displays the main screen.
2. Use the navigation keys to select the test type: 2, 3, or 4 threads.
3. Set the parameters such as test duration, limit alarm, and backlight.
4. Connect the test leads to the corresponding terminals according to the selected method.

Test Methods

2-Thread Test

Connect the probes to the ground point and the E terminal. This method is useful for quick measurements in installations where auxiliary rods are not possible.

3-Wire Test

Connect the E terminal to ground, P to the potential rod, and C to the current rod. This method provides an accurate reading of the ground resistance.

4-Wire Test

Similar to the 3-wire one, but with a second auxiliary rod H to eliminate the resistance effect of the cables. Offers greater accuracy for soil resistivity measurements.

Measurement Procedure

1. Select the test mode (2, 3 or 4 threads).
2. Make the connections according to the selected method.
3. Press the TEST button to start the measurement.
4. Wait 2-10 seconds for the measured value to appear on the screen.
5. If the reading exceeds the set limit, an alarm will sound and a warning will flash.
6. Press STOP or wait for the scheduled time to end.
7. Save the result in memory if necessary.

Data Management

The ES3000P allows you to store up to 500 measurement records. To access them:

- Connect the computer via USB to a PC with the included software.
- Or, use the Bluetooth connection and the Yosemite-E Tools mobile app.
- From both interfaces you can view, export or delete stored data.
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Maintenance and Care

- Wipe the equipment with a soft, dry cloth.
- Do not use liquids, solvents or aerosols.
- Check the condition of wires and terminals before each use.
- Store the equipment in its case in a dry and cool place.
- Recharge the battery regularly to preserve its lifespan.
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Problem Solving

Problem	Solution
The computer won't turn on	Check the battery status or connect the external source.
Unstable reading	Check the wire connections and make sure the rods are properly positioned.
Measurement not saved	Make sure you have available memory space or restart your computer.
Does not connect with Bluetooth	Verify that Bluetooth is turned on on both your computer and your mobile device.

Warranty and Support

This equipment comes with a 1-year warranty against manufacturing defects. For technical support or after-sales service, contact your authorized dealer.

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