



Low frequency



- device for daily use
- ideal for technical beginners
- in handbag format, also ideal for travelling (approx. 120 g)
- for easy detection of low-frequency electric fields (EWF) and alternating magnetic fields (MWF)
- for uncomplicated assessment of the exposure situation and quick control of existing shielding measures
- helps to quickly and easily identify the sources of EMF electrosmog
- uncomplicated location of areas even with low loads
- The ESI 22 is a completely newly developed, easy-to-use LF indicator with excellent accuracy. Helps detect low frequency electric and magnetic fields. Allows you to make a simple and sound assessment of your personal exposure to electrosmog.

The ESI 22 displays the measured electrosmog field strengths by LEDs in traffic light colours (standard and high-resolution mode). The detected values are determined via an easy-to-read table.

In addition, there is an audio signal that increases proportionally to the EMF field strength.

Sources detected by the ESI 22: Power supplies, high-voltage lines, luminaires, other electrically operated devices, electrical installations, etc.

Order-No.: 500998
Short-Desc.: ESI 22

Low frequency - Indicator

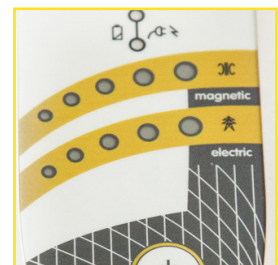
ESI 22

Technical data

dimensions unit:	140 x 63 mm x 30 mm
packing dimensions:	160 x 90 x 42 mm
frequency range:	16 Hz - 3,0 kHz
measuring range:	alternating magnetic fields - low frequency: MWF = 16Hz - 3kHz in nT (three-dimensional) electric alternating field LF - low frequency: EWF = 16Hz - 3 kHz in V/m (one-dimensional) locating mode of electrical lines: 220/230 V - 50/60 Hz
accuracy:	optical display: by means of LED
sensor:	field plate, processing by means of 8-bit microcontroller
audio analysis:	audio signal - frequency changes with increasing field strengths
display:	LEDs: green, orange 1, orange 2, red 1, red 2, and combinations of adjacent LEDs
power supply:	9-volt E-block commercially available block battery / rechargeable battery
average operating time:	10 to 15 h in continuous operation (depending on operation)

Scope of delivery

- NF-Indikator (ESI 22)
- detailed operating instructions



ESI 22 – QUICK START GUIDE

Low frequency detector

Tables for standard operating mode (display shows field strength by means of LED (light-emitting diodes))

Low-frequency magnetic and electric fields. Measuring range 16 Hz - 3 kHz.



Values* for the ESI 22 Detector	unnoticeable	slightly noticeable	slightly noticeable	noticeable	noticeable	very noticeable	very noticeable	extremely noticeable	extremely noticeable
	Green	Green / Amber 1	Amber 1	Amber 1 / Amber 2	Amber 2	Amber 2 / Red 1	Red 1	Red 1 / Red 2	Red 2
Alternating magnetic field * in nT (= Nanotesla)	< 20	20 to 80	80 to 120	120 to 160	160 to 200	200 to 300	300 to 400	400 to 1000	> 1000
Alternating electric field * in V/m (= Volt per meter)	< 6	6 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 50	> 50

*All values are peak values. The values for individual units can slightly vary from the values specified in the table as a result of differences in individual electronic components.

Operation of ESI 22

• Insert / change battery:

Open the battery compartment, connect the 9 V-battery to the terminal and then place battery in the compartment.

Warning: Please make sure that the battery cable is not put underneath the battery but is placed at the side of the battery, between the battery and the compartment wall. Failure to comply with instructions can cause damage to cable and / or battery compartment lid to not close properly.

• How to turn on the unit:

To switch the device on, press and release the “on/off” button once.

- Battery check starts: LEDs on top of the unit are activated for 0.5 seconds; green for battery power 25...100%; red for battery power < 25% - replace battery soon! Red LED flashing - battery too low for getting proper results - unit shuts down.
- LED green – amber – red for each field type are activated briefly (testing of LED function).
- The sound is activated.



When switched on, the **ESI 22 electrosmog-detector** is in **standard operating mode**.

To switch the sound on/off, press and hold the “on/off” button once.

To switch the device off, press and release the “on/off” button once.

The ESI 22 will switch off automatically after 10 minutes in order to save battery.

For best detection of Electro-Smog, hold the ESI 22 electrosmog-detector with your arm extended away from your body. Keep unit in place without moving it, to allow ample time for the microcontroller to collect data from the sensors, and to calculate correct activation of LED.

• Standard operating mode:

In standard operating mode the LF electric and magnetic field strength are measured simultaneously. **LF magnetic and electric fields:** electrical equipment, computers, lighting, radio alarm clocks, network components.

EMF levels increase and decrease as a result of:

- the distance from the source
- the power of the source / transmitter
- the type, structure and direction of the transmitter
- reflection of the radiation by neighbouring objects
- environmental, geographical and weather conditions
- the type, structure and shielding properties of the buildings concerned

Sound frequency changes with increasing field strengths.

- **Plug checking mode:**

To change to the **plug checking mode**, press and release the mode button “select” once.

The **optical display** at the top of the display unit is activated. The lower green LED is permanently illuminated, the upper red LED comes on when an electric field is present. **The plug checking mode allows you to test whether an electrical device without grounding, has its socket plugged the right way around. Just hold the ESI 22 near the device (e.g. lamp) you want to test, with the device’s switch set on OFF. If an electric field is present when the device is off, the socket is probably plugged the wrong way around.**

- **Battery saving function**

The ESI 22 electrosmog indicator automatically turns off after 10 minutes, in order to save power. The ESI 22 electrosmog indicator can be switched on again immediately.

- **Battery monitoring**

The ESI 22 electrosmog indicator features automatic battery monitoring. When the battery is low the red LED from the location mode flashes several times and the unit switches off automatically. Reliable display of field strengths can no longer be guaranteed until the battery is changed. Do not throw away the used battery; it may still have some life available for other uses (e.g. in a remote control unit or similar).

The ESI 22 was made in Europe.

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