

MegaGuard *Pro*

SG9265051

Reference manual



EC CONFORMITY

Unit SG9265051 conforms to EC directives **EMC - 2014/30/EU** , the following harmonized standards are in use: EN 61000-6-1, EN 61000-6-3.

SAFETY INSTRUCTIONS

ATTENTION : this instrument generates a 100V measuring voltage on the two measuring terminals or on the external probes if connected in the "EXTERNAL PROBE" sockets.

The current is limited to 10mA and cannot make any injury to the operator .
For operator's security, avoid to touch the electrodes directly.

WARRANTY

This unit is guaranteed against all defects due to faulty materials and workmanship, within 12 months from the date of purchase.

A use not conforming to what specified might be dangerous to the safety of the operator and may damage the instrument.

In such circumstances the manufacturer is relieved of any liability and the warranty itself will decay.

REPAIR

Repairs have not been attempted by anyone other than authorized repair distributors.

Do not try to repair the unit by yourself.

ATTENTION: Dangerous voltage is present inside the instrument.

TECHNICAL FEATURES

The MegaGuard Pro can measure surface resistance and resistance to the ground of mats, floors and other objects of the EPA area, and can also be used for point-to-point measurements.

The instrument displays up to a significant digit and is equipped with a display graphic and programmable audible alarm.

Measuring range: from 10^4 to $10^{12}\Omega$

Resolution: 1 significant digit

Accuracy: $\pm 1/2$ decade

Graphic liquid crystal display 102x64 pixel, 34x23mm

Measuring voltage: 10Vdc for $R < 100k\Omega$ – 100Vdc for $R > 100k\Omega$

Dimensions: 80x120x27mm

Weight. 200g

Battery 9 V

LOW BATTERY =  Blinking
Auto Shut-off after 5 minutes of inoperativity.

PROBES AND ACCESSORIES



SG9265065 Shielded probe made to IEC 61340-5-1
. 63/30mm diameter, 2.5Kg weight (optional)



SG9265070 Concentric ring PROBE made to IEC 61340-5-1
. 63/30mm diameter, 2.5Kg weight (optional)

SG9265013B. Connection cable jack 3.5mm - banana 4mm

SG9265056. Portable Kit including 100V tester
. two SG9265065 probes and carrying case

CONTENT OF THE PACKAGE

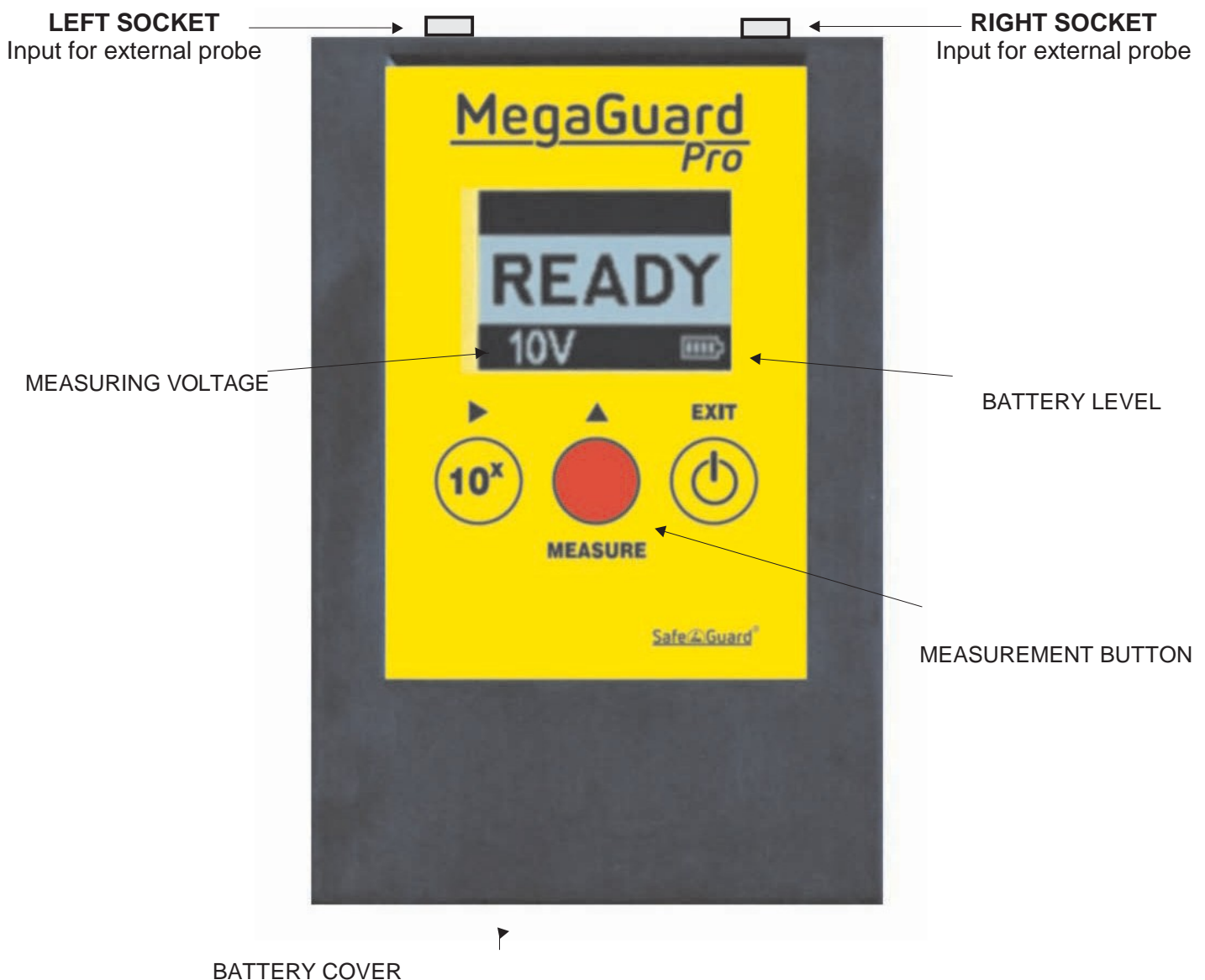
The code SG9265051 includes:

- 1 MegaGuard Pro with battery
- 1 connection cable 9265.013B, 3.5mm jack - banana4mm
- Manual
- ISO9000 traceable calibration certificate.
- Box

Kit SG9265056 includes:

- 1 MegaGuard Pro with battery
- 2 connection cables SG9265013B, 3.5mm jack - banana4mm
- 2 probes SG9265065
- Manual
- ISO9000 traceable calibration certificate.
- Carrying case

PANEL



DISPLAY

At the top of the display the measured material is classified according to its resistance.

It can be "CONDUCTIVE", "DISSIPATIVE", "INSULATIVE"

"CONDUCTIVE" if $R_{\text{measured}} < 10^5 \Omega$

"DISSIPATIVE" if $10^5 \Omega < R_{\text{measured}} < 10^{12} \Omega$

"INSULATIVE" if $10^{12} \Omega < R_{\text{measured}}$



Exponential format $4 \times 10^{09} \Omega$



Natural format $4 \text{ G}\Omega$

In the lower part of the display the measurement voltage is indicated (10V or 100V).

KEYBOARD

Button "**10x**":

To display the measured resistance in natural or exponential format.

To enter the programming mode.

To move to the next menu while in programming mode.

Button "**MEASURE**":

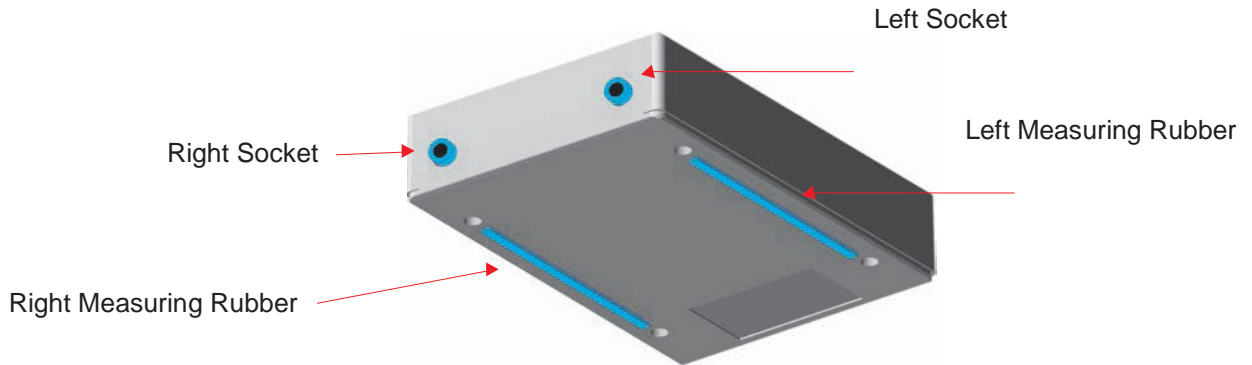
To make the measurement

To increase the value at the cursor location when you are in programming mode.

Key "**Exit**":

To turn on / off the instrument and to exit programming mode

MEASURING ELECTRODES



"Right Socket" and "Right Measuring Rubber".

In one of these two points the HV measurement output is present.

The HV measurement output is connected to the "Right Measuring Rubber".

When the 3.5mm jack is inserted into the "Right Socket", the "Right Measuring rubber" is automatically disconnected and the HV measurement output connected to the 3.5mm jack

"Left Socket" and "Left Measuring Rubber".

In one of these two points the SIGNAL measurement input is present.

The SIGNAL measurement input is connected to the "Left Measuring Rubber".

When the 3.5mm jack is inserted into the "Left Socket", the "Left Measuring Rubber" is automatically disconnected and the SIGNAL measurement input connected to the 3.5mm jack.

EXTERNAL PROBE CONNECTION

SG9265065

SG9265070

GREY socket
= SHIELD
connect to GND
for Meas. >100GΩ
(recommended)



to the LEFT socket

to the RIGHT socket

to the
RIGHT socket
or to the
LEFT socket



GREY socket
= SHIELD
connect to GND
for Meas. >100GΩ
(recommended)

OPERATIVE INSTRUCTIONS

ON / OFF

- In order to light-up MegaGuard Pro press "**Exit**".
- To shut-off MegaGuard Pro keep pressed the same key for 1 second

SURFACE RESISTANCE MEASUREMENT

- Be sure that the surface under test is clean and free of grease or other chemicals than can create an isolant layer.
- In case of doubt clean the surface with a specific detergent, without alcohol or silicon, so that the non conductive layer will be removed.
- Place meter on test surface.
- Press the central "**MEASURE**" button and keep it pressed by applying a pressure of about 2.5Kg.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values.

RESISTANCE TO GROUND MEASUREMENT

- Be sure that the surface under test is clean and free of grease or other chemicals than can create an isolant layer.
- In case of doubt clean the surface with a specific detergent, without alcohol or silicon, so that the non conductive layer will be removed.
- Insert the 3.5mm jack of the connecting cable into the Left Socket (SIGNAL measurement input) and connect the banana 4mm to a safe ground point.
- Place meter on test surface.
- Press the central "**MEASURE**" button and keep it pressed by applying a pressure of about 2.5Kg.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values.
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POINT TO POINT RESISTANCE MEASUREMENT

- Be sure that the surface under test is clean and free of grease or other chemicals than can create an isolant layer.
- Insert the 3.5mm jack of the connecting cable into the Right Socket (HV measurement output) and connect the banana 4mm to an eternal probe.
- Insert the 3.5mm jack of the connecting cable into the Left Socket (SIGNAL measurement input) and connect the banana 4mm to an external probe.
- Place meter on test surface.

- Press the central "**MEASURE**" button and keep it pressed by applying a pressure of about 2.5Kg.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values.

MEASURING PRECAUTIONS

ATTENTION: DURING GROUND RESISTANCE MEASURING, if the earth reference point is faulty or unconnected, indefinite resistivity values may appear.

IMPORTANT: If there are devices connected to the mains power supply on the surface under test, and even power cords or other conductors under a.c. voltage, problems on the readings may occur, because 50Hz may cause an interference with the LABEOHM measuring circuit especially when measuring high resistance values.

In case of doubt disconnect the mains power supply by opening the main switch.

ALARM PROGRAM



In program mode you can set an audible alarm sounds when the resistance measurement is below or above a certain threshold.

Hold the key for "**10x**" second to enter in the programming mode

Press the "**10x**" key to advance the cursor.

Press the "**MEASURE**" key to increase the cursor digit.

Press the "**EXIT**" key to exit the programming mode.

BATTERY REPLACEMENT

- Open the battery cover, unscrewing the 2 fixing screws.
- Replace the battery.
- Close the battery cover.