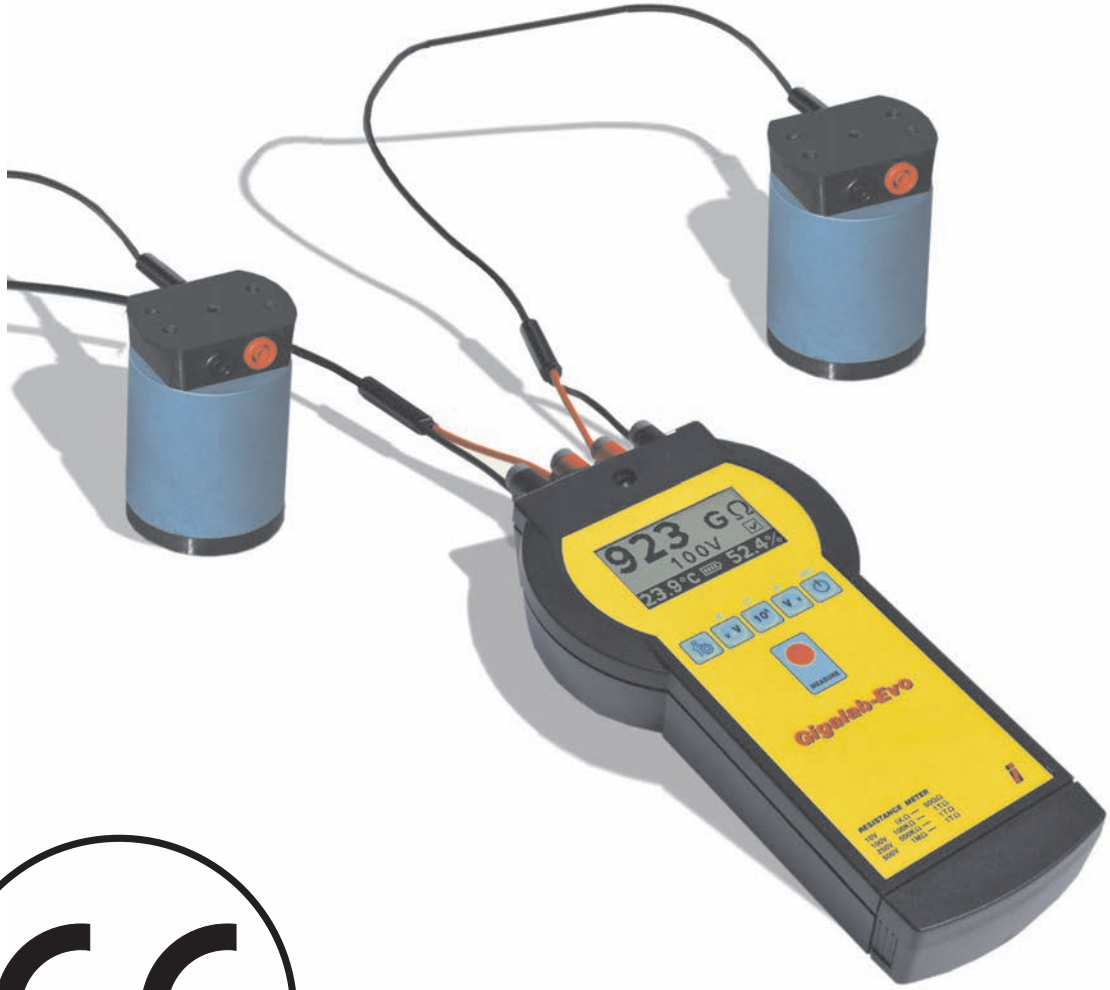
GIGALAB EVO

mod.9265.063

INSTRUCTION MANUAL



CE

EC CONFORMITY

Unit 9265.063 conform to EC directives **EMC - 2014/30/EU** the following harmonized standards are in use EN 60204-1, EN 61000-6-1, EN 61000-6-3.

SAFETY INSTRUCTIONS

ATTENTION : this instrument generates a 100V, 250V or 500V measuring voltage on the two external probes .

The current is limited to 1mA and cannot make any injury to the operator .

For operator's security, avoid to touch the electrodes directly.

Conforms to EN61010-1.

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.

Protecting the environment

Separate collection.This product must not be disposed of with normal household waste.

Should you find one day that your product needs replacement,or if it is of no further use to you,do not dispose of it with household waste. Make this product available for separate collection.

Separate collection of used products and packaging allows materials to be recycled and used again.

Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

Local regulations may provide for separate collection of electrical products from the household,at municipal waste sites or by the retailer when you purchase a new product.

TECHNICAL FEATURES

The GIGALAB multi-voltage high resistance meter is a portable, accurate, and versatile instrument designed to measure resistance between two points, surface to ground, and surface resistivity as defined in IEC61340-5-1.

Graphic liquid crystal display 128x64 pixel, 68x51mm

Measuring range:	10V	from 1KΩ to 50GΩ
	100V	from 100KΩ to 1TΩ
	250V	from 500KΩ to 1TΩ
	500V	from 1MΩ to 1TΩ

Accuracy:	10V	±5%	±0.6%	per GΩ
	100V	±5%	±0.06%	per GΩ
	250V	±5%	±0.065%	per GΩ
	500V	±5%	±0.03%	per GΩ

the value of the measure is always displayed with 3 significant figures

Accuracy of measuring voltage: 100V ±5% (Rmeasure > 300KΩ)
250V ±5% (Rmeasure > 2MΩ)
500V ±3% (Rmeasure > 5MΩ)

Humidity Range : . . . . . 1 to 95%RH
Resolution: 0.1%RH
Accuracy: . . . . . ±2%RH(@ 25°C, 10%RH~90%RH)
. . . . . ±3%RH(@25°C, 1%RH~10%, 90%RH~95%)

Temperature Range : . . . . . -20°C to +60°C
Resolution: . . . . . 0.1°C
Accuracy: . . . . . ±1°C

Batteries: . . . . . 6 stylo, 1,5V IEC type LR6
Battery life: . . . . . About 1500 measurements (15 seconds max) at 500V

LOW BATTERY =  Blinking

During Low Battery condition only the 10V measurements are allowed.

Auto Shut-off after 5 minutes of inoperativity

Dimensions: 243x130x60mm
Weight: 650g

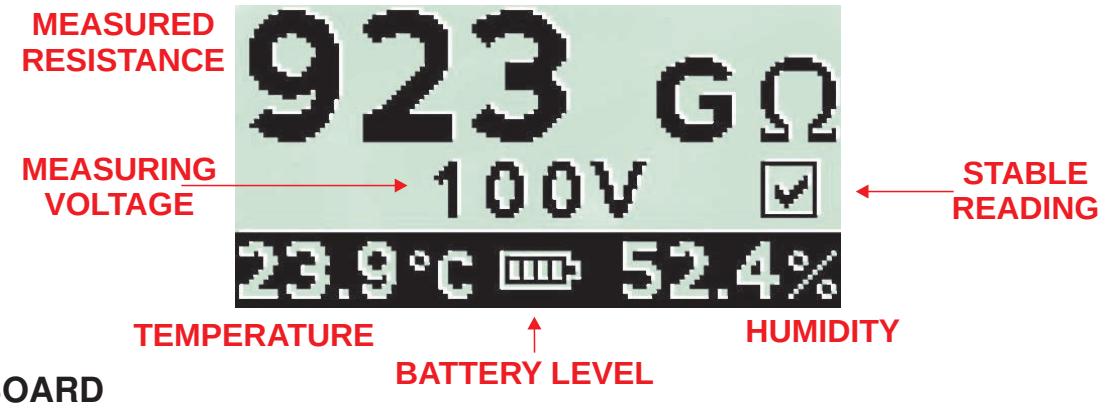
PROBES AND ACCESSORIES

9265.063 . . . . GIGALAB EVO meter with 2 shielded cables, batteries and case

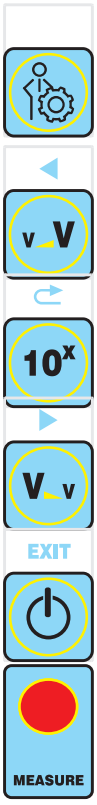
9265.064 . . . . . GIGALAB EVO complete kit including meter, 2 shielded probes
. . . . . 2 shielded cables, batteries and case

9265.065 . . . . . Shielded probe 63mm / 2,3Kg, with two 4mm sockets
. . . . . and one BNC socket
9265.070 . . . . . Concentric ring probe, one BNC socket, three 4mm sockets
9265.047 . . . . . Flat shielded probe , with two 4mm sockets

DISPLAY



KEYBOARD



To enter the programming mode

To increase the measurement voltage
To move to the previous menu while in programming mode

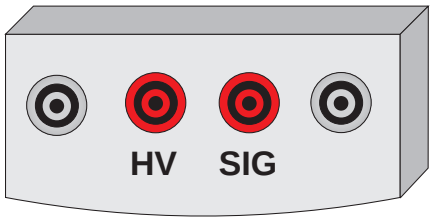
To display the measured resistance in natural or exponential format
To advance the cursor while in programming mode

To decrease the measurement voltage
To move to the next menu while in programming mode

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

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

FRONT PANEL



SIGNAL shield
SIGNAL input
HV input
HV shield

BATTERY REPLACEMENT

- Open the battery cover .
- Replace the battery (only alcaline type).

- Close the battery cover.

. . . . . OPERATIVE INSTRUCTIONS

ON / OFF

In order to light-up GIGALAB EVO press 

.
To shut-off GIGALAB EVO keep pressed the same key for 1 second

MEASURING VOLTAGE SETUP

Measuring voltage can be setted to 10, 100, 250, 500V
Then there is the mode 10 / 100V (auto) in which the instrument measures at:
10V when Rx <100KΩ
100V when Rx >100KΩ

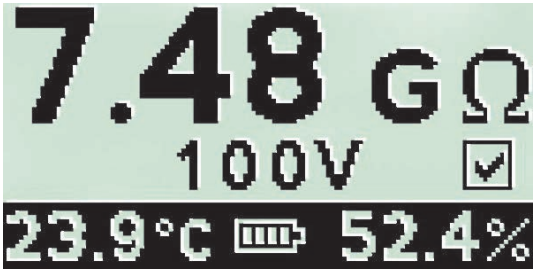
Press and hold the button  for 1 second to increase the voltage measurement.

Press and hold the button  for 1 second to decrease the voltage measurement.

Choose the most appropriate voltage depending on the resistance value being measured and according to the IEC61340-5-1 regulation for the ESD.

DISPLAY FORMAT

The reading on the display can be setted in natural or exponential format:



NATURAL FORMAT

EXPONENTIAL FORMAT

Press the button  for 1 second to switch from one format to another.

MEASUREMENT

Hold down the key  Wait until the measurement is stabilized (acheck box at the right of the measured voltage indicates it).

Even if the measure stabilizes within seconds the regulation requires to wait at least 15 seconds for higher resistances.

Releasing the key  the value of the measurement made stay displayed and can be stored in memory (see next paragraph).

PROGRAMMING

Press and hold the button  for 1 second to enter the programming mode.

The menu of programming are 4:
- MEM
- ALARM
- ° C / ° F
- CONTRAST

Press the button 

to move to the next menu.

Press the button 

to move to the previous menu.

Press the button 

to exit programming mode.

MEM

Menu of memory where you can store the data of 100 measures (from MEM 00 to 99 MEM)

The data stored for each measurement are:
- Resistance value
- Voltage used for the measurement
- Humidity detected during measurement
- Measured temperature during measurement

Press the button 

to advance the cursor

Press the button 

to execute the command

Available commands are:

UP to switch to the next memory cell

DOWN to switch to the previous memory cell

STORE to store in the memory cell the measurement made

CLEAR to delete the data of the current memory cell or of all the memory cells (the choice between the two options is required immediately after the command)

NOTE: during the selection of the memory cell to be read or edited you can hold down the "MEASURE" pushbutton to move quickly to 10 cells at a time (10-20-30 etc .....)

ALARM

Alarm menu where you can set an audible alarm sounds when the resistance measurement is below or above a certain threshold.

Press the button 

to advance the cursor

Press the button 

to increase the digit of the cursor.

° C / ° F

Menu for setting the unit of temperature measurement:
- ° C degrees Celsius
- ° F degrees Fahrenheit

Press the button 

to switch from one format to another.

DISPLAY

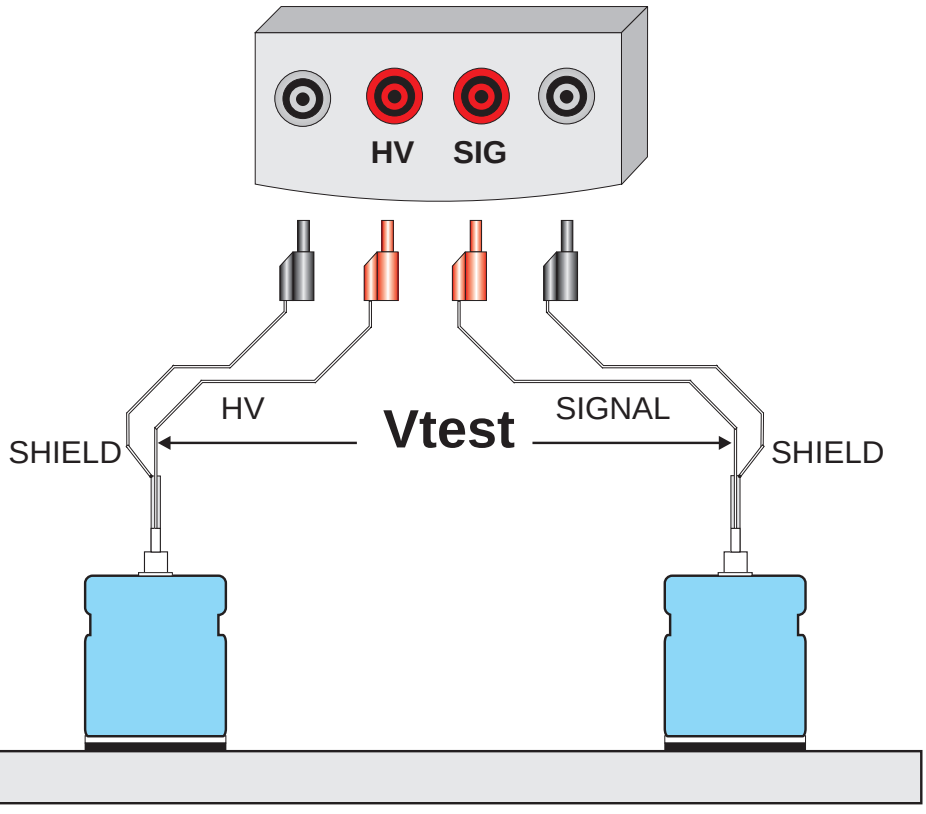
Menu for setting the contrast of the LCD display (0 to 9)
The default contrast is 5.

Press the button 

to increase the value of contrast.

POINT TO POINT MEASUREMENT

Point to Point Measurement Rs with 2 Measuring Probes according to IEC 61340-5-1 for measurements of working surfaces, storage racks, transport boxes, etc



Test Surface

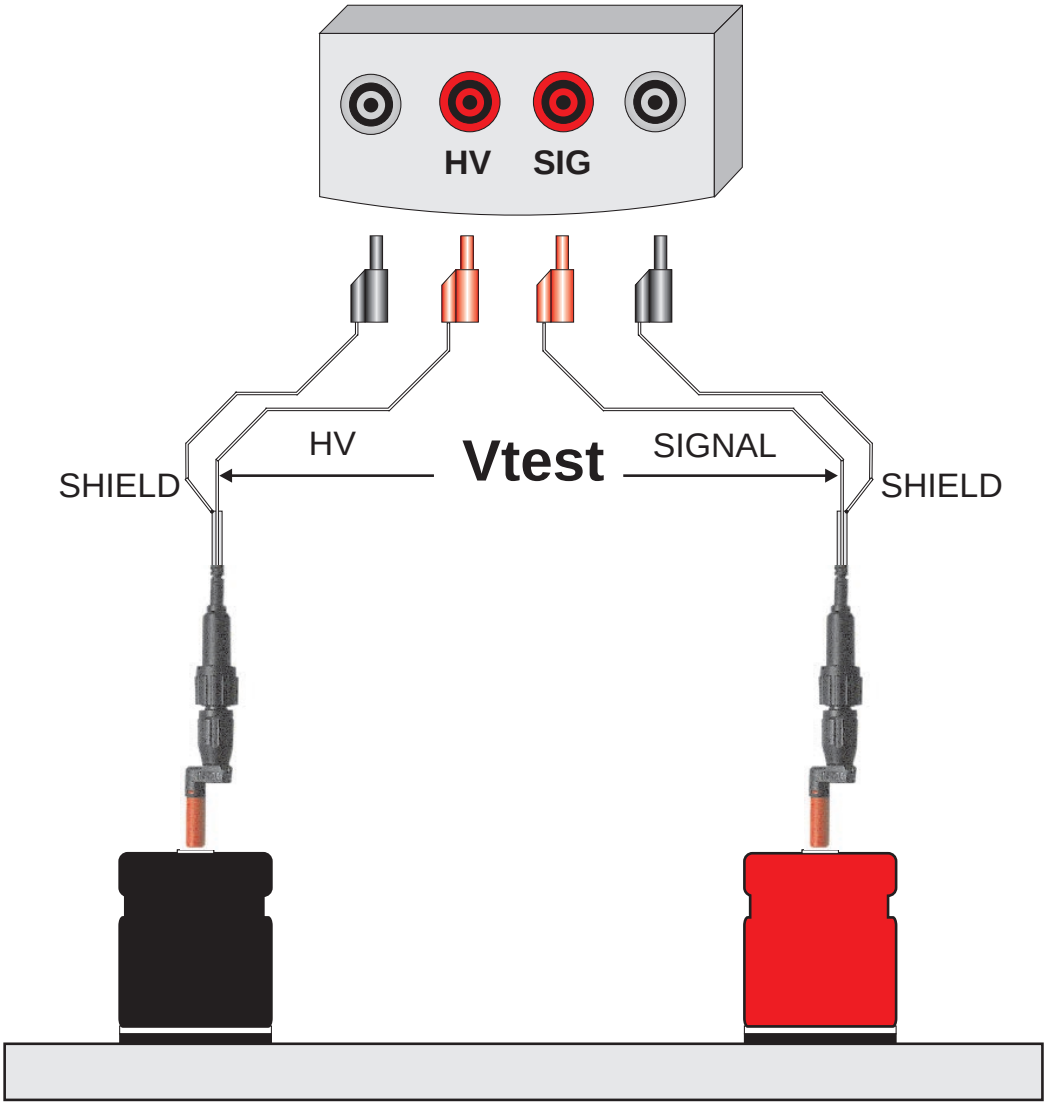
- Be sure that the surface under test is clean and free of grease or other chemicals than can create an isolant layer.
- In case of doubt clean the surface with a specifical detergent, without alcohol or silicon, so that the non conductive layer will be removed.
- Place the 2 probes (9265.065) on the test surface.
- Select the measuring voltage according the resistance value:

  Vtest: 10V for $Rs \leq 10^5\Omega$

  100V for $10^5\Omega < Rs \leq 10^{12}\Omega$
- Press the central red pushbutton, and keep it pressed until the reading is complete.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values, for resistances over 1GΩ you have to wait at least 10 seconds.

MEASURING WITH NON-SHIELDED PROBES

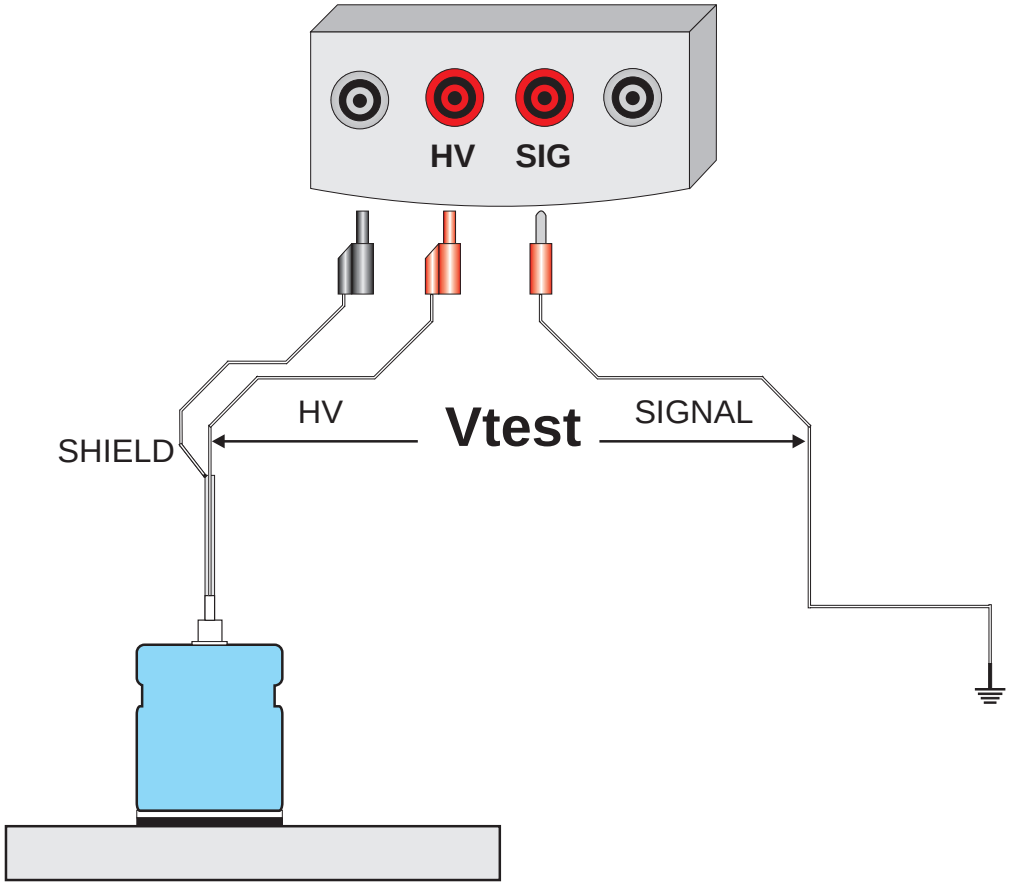
Insert the COAX/BANANA adaptor on the shielded cable as in the picture below:



Test Surface

MEASURING RESISTANCE TO GROUND

Measuring Resistance to Ground according IEC61340-4-1 for measurements at flooring systems, table mats, chairs etc.



Object under test

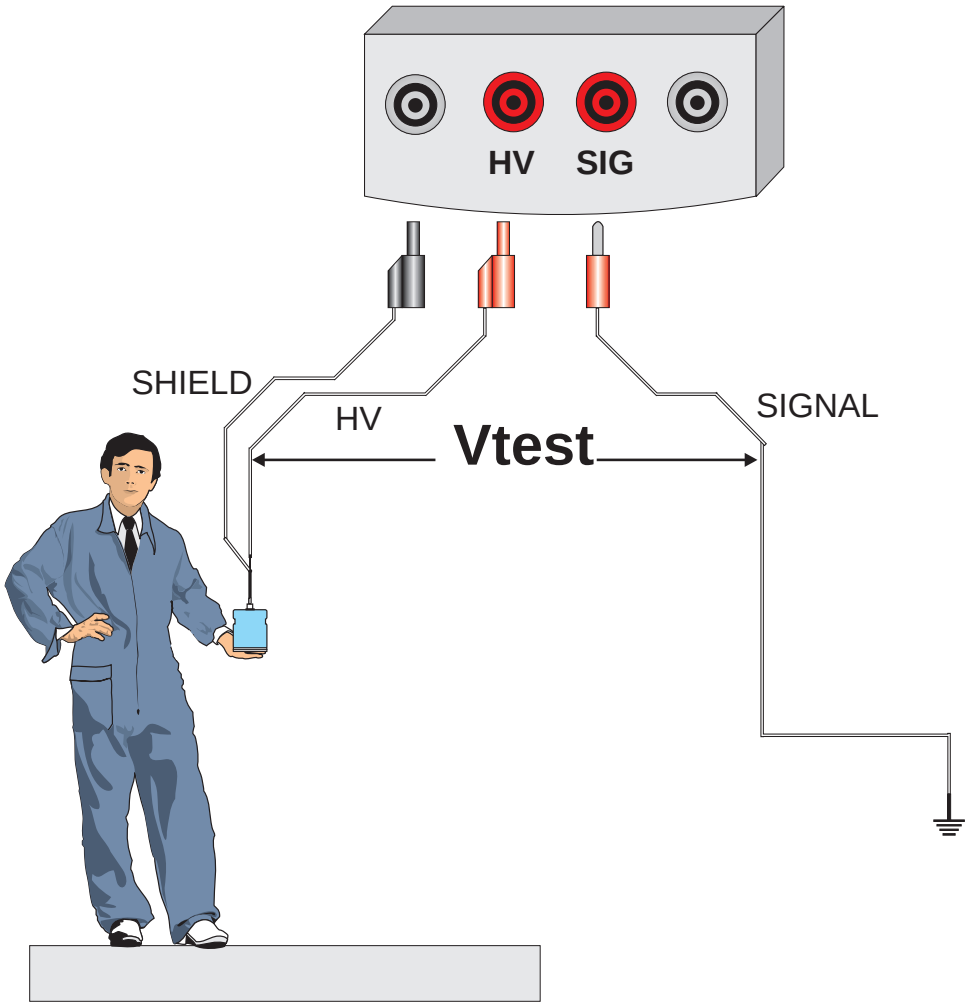
- Place the probe (9265.065) on the test point.
- Select the measuring voltage according the resistance value:

Vtest:	10V	for	$R_G \leq 10^5\Omega$
	100V	for	$10^5\Omega < R_G \leq 10^{12}\Omega$

- Press the central red pushbutton, and keep it pressed until the reading is complete.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values, for resistances over 1GΩ you have to wait at least 10 seconds.

MEASURING RESISTANCE THROUGH A PERSON TO GROUND

Measuring Resistance through a Person to Ground according IEC61340-4-5/NP for the measurement of a resistance through the combination of a person / shoes / flooring system .



System under test

- Place the probe (9265.065) on the operator's hand.
- Select the measuring voltage according the resistance value:

  Vtest: 10V for $R_G \leq 10^5\Omega$

  100V for $10^5\Omega < R_G \leq 10^{12}\Omega$
- Press the central red pushbutton, and keep it pressed until the reading is complete.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values, for resistances over 1GΩ you have to wait at least 10 seconds.

MEASURING SURFACE RESISTANCE Rs

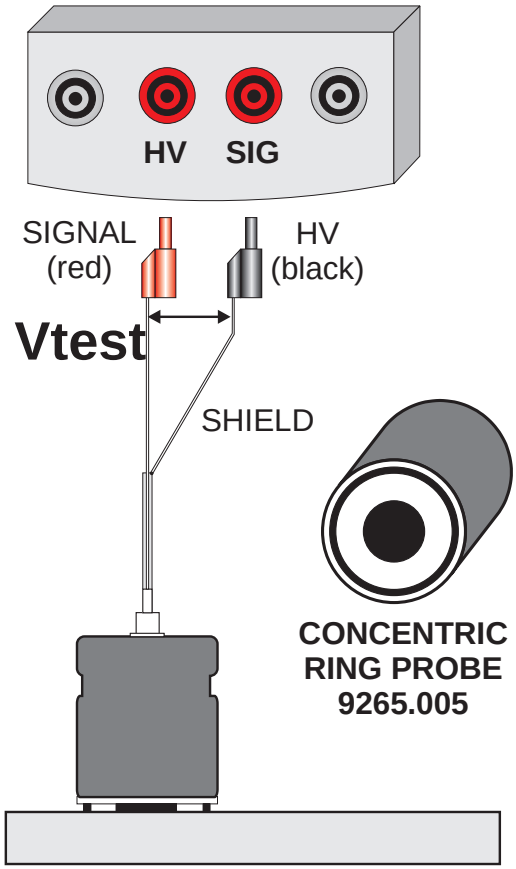
Measuring Surface Resistance Rs of Packaging Materials with a Ring Probe in compliance with IEC 61340- 5- 1 , for the measurement of conductive (dissipative) packaging materials.

- 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 specifical detergent, without alcohol or silicon, so that the non conductive layer will be removed.
- Place the concentric ring probe (9265.070) on the surface under test.
- Select the measuring voltage according the resistance value:

  Vtest: 10V for $Rs \leq 10^5\Omega$

  100V for $10^5\Omega < Rs \leq 10^{12}\Omega$
- Press the central red pushbutton, and keep it pressed until the reading is complete.
- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values, for resistances over 1GΩ you have to wait at least 10 seconds.



MEASURING VOLUME RESISTANCE Rv

Measuring Volume Resistance Rv with 1 cylindrical probe and a counter-electrode according IEC61340-5-1 for measuring the volume resistance of materials

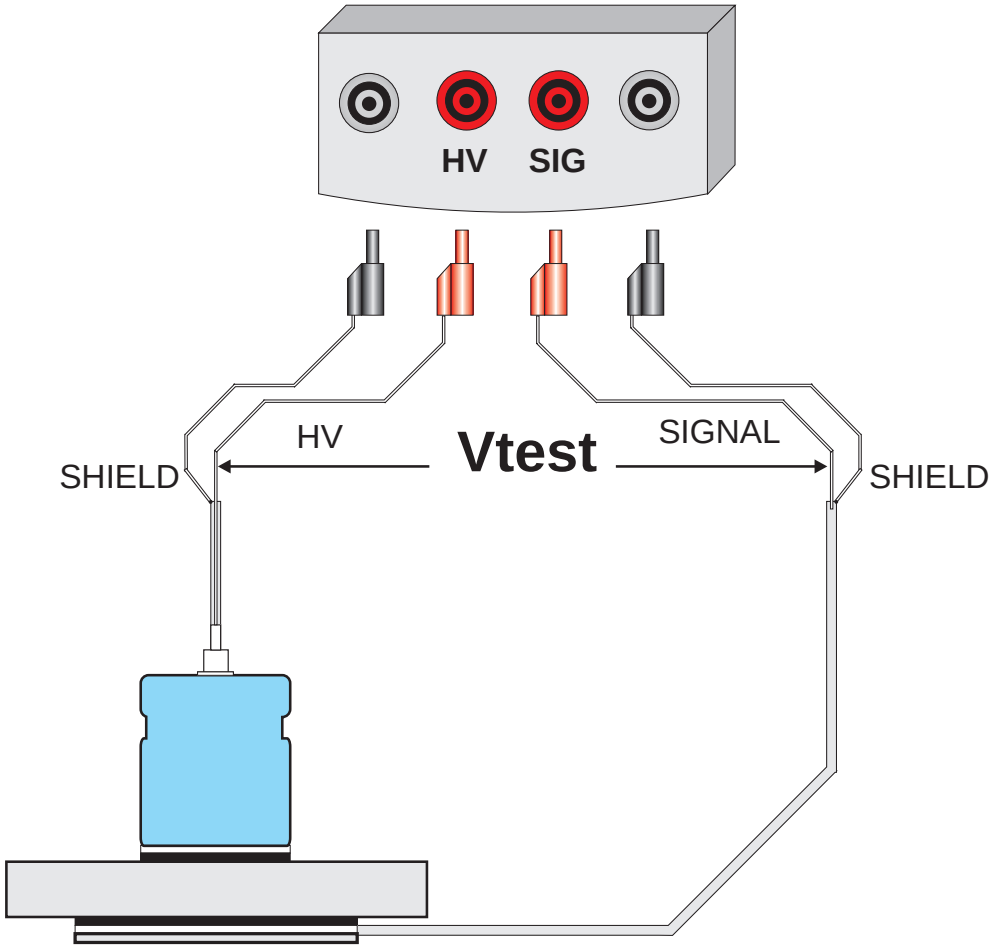
- Place the counter-electrode (9265.047) under the material .
- Place the probe (9265.065) over the material .
- Select the measuring voltage according the resistance value:

Vtest: 10V for $Rv \leq 10^5\Omega$

100V for $10^5\Omega < Rv \leq 10^{12}\Omega$

- Press the central red pushbutton, and keep it pressed until the reading is complete.

- Continue to keep the button pressed and wait until the reading will be stable, settling time is higher for high resistance values, for resistances over 1GΩ you have to wait at least 10 seconds.



Material under test