

User Manual

Surface Resistance Meter SRM[®]200

Part No.: 7100.SRM200.K



■ Scope of Supply

- Surface resistance meter SRM®200
- Connecting cable 1 m
- Alligator clip
- USB-data cable type A / mini
- Conductive carrying case
- User manual available for download (www.warmbier.com)
- Calibration certificate „German / English“

■ Description

The SRM®200 is used to easily check the surface resistance and the discharge resistance of electrostatically conductive and dissipative materials.

The measured values are shown on the LCD display and can be saved.

The device displays the temperature and relative humidity for each measurement.

The built-in bar electrodes with conductive rubber on the back of the device are used to contact the object to be measured. External electrodes can be connected for measurements in accordance with IEC 61340-2-3, IEC 61340-4-5 and IEC 61340-5-3.

■ Technical Data

Power supply:	Rechargeable Lithium Battery 3.6V, 900 mAh R6 (AA)
	Charged via USB interface
Operating conditions:	+ 15 to + 40 °C, up to 75 % rel. humidity, noncondensing
Storing conditions:	- 10 to + 50 °C, up to 85 % rel. humidity, noncondensing
Connectors:	2 banana sockets - short version (15 mm)
Resistance measuring range:	10 ³ - 10 ¹² Ω
Temperature measuring range:	0 - 50 °C +/- 1 °C
Humidity measuring range:	10 - 90 % r.F. +/- 5 %
Memory:	9801 measuring values
Test voltage (open-circuit):	100 V
Dimensions:	145 x 80 x 35 mm (L x W x H)
PC interface:	USB 2.0
Case:	ABS
Weight:	290 g

Measuring range	Display range	Resolution	Accuracy
10 ³ Ω	1x10 ³ - 9x10 ³	1 kΩ	10 % reading
10 ⁴ Ω	1x10 ⁴ - 9x10 ⁴	10 kΩ	10 % reading
10 ⁵ Ω	1x10 ⁵ - 9x10 ⁵	100 kΩ	10 % reading
10 ⁶ Ω	1x10 ⁶ - 9x10 ⁶	1 MΩ	10 % reading
10 ⁷ Ω	1x10 ⁷ - 9x10 ⁷	10 MΩ	10 % reading
10 ⁸ Ω	1x10 ⁸ - 9x10 ⁸	100 MΩ	10 % reading
10 ⁹ Ω	1x10 ⁹ - 9x10 ⁹	1 GΩ	10 % reading
10 ¹⁰ Ω	1x10 ¹⁰ - 9x10 ¹⁰	10 GΩ	25 % reading
10 ¹¹ Ω	1x10 ¹¹ - 9x10 ¹¹	100 GΩ	25 % reading
10 ¹² Ω	1x10 ¹²	1 TΩ	25 % reading

■ Warning

The tester must **not** be used in potentially explosive atmospheres!
Discharge flashovers or measurements on electrostatically charged, insulating or live materials must be avoided!
Use of the device in energy systems is **not** permitted!



■ Charging and replacing the battery

The charge status of the battery is permanently shown on the display.
Connect the device to the computer to recharge the battery in good time.
If the battery is faulty, the device will no longer switch on.
To replace the battery, remove the two screws from the battery compartment cover on the back of the device and replace the battery with the same type.
Ensure that the polarity is correct.

■ Trouble shooting

Problem	Cause	Remedy
No function	Battery discharged	Connect to computer to charge the battery
No function even after longer charging time	Battery defect or deeply discharged	Replace battery
No function after battery replacement, red LED inside the battery case is on	Wrong polarity	Insert battery in correct polarity
Conductive rubber defect	Wear	Replace contact rubber

■ Calibration

We recommend a calibration cycle of 2 years.

■ Spare parts + Accessory

Part-No.	Description
7100.SRM200.RUB	Conductive rubber (set of 2 pieces)
7100.SRM200.AKKU	Lithium rechargeable battery
7100.SRM200.L.USB	USB data cable type A / mini

■ Warranty

We grant a guarantee of **12 months** if handled correctly in accordance with the user manual.
This does not apply to the rechargeable battery.

The warranty expires in the event of mechanical damage to the SRM®200 and/or unauthorized opening of the device!

■ Description of the operating and display elements

1. Sockets for external probes
2. LCD display
3. LED of the resistance range

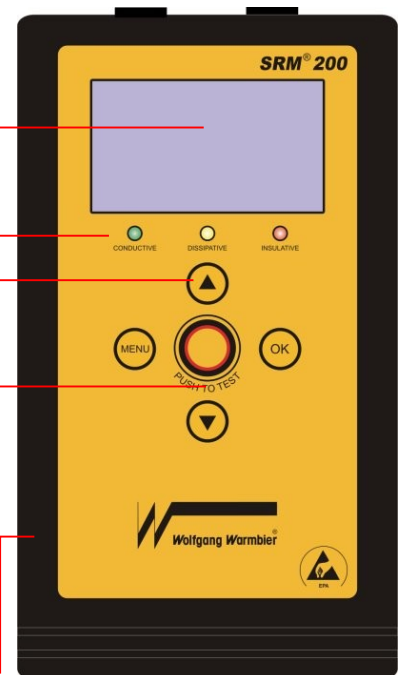
LED	Resistance range	Definition
Green	$< 1 \times 10^4 \Omega$	Electrostatic conductive
Yellow	$\geq 1 \times 10^4 \Omega - 9 \times 10^{10} \Omega$	Electrostatic dissipative
Red	$\geq 1 \times 10^{11} \Omega$	Electrostatic insulating

4. Control buttons

Button	Function
MENU	- Open menu - Return from sub-menu
OK	- Confirm or change value
▼	- Increase value - Scroll down in menu
▲	- Decrease value - Scroll up in menu

Simultaneously pressing ▲ ▼ turns the instrument off.

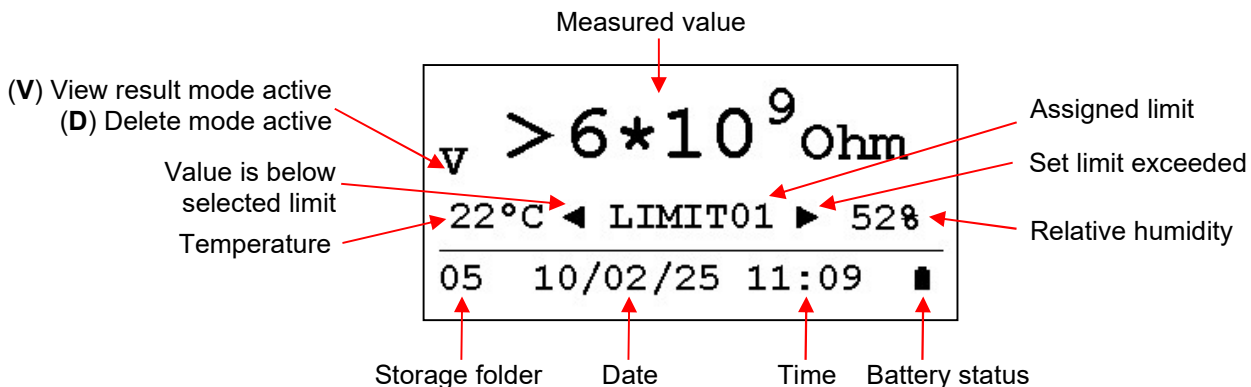
5. Button "PUSH TO TEST": Switch the unit on, start measurement
6. USB connector for battery charger and PC connection



■ Overview of the menu structure

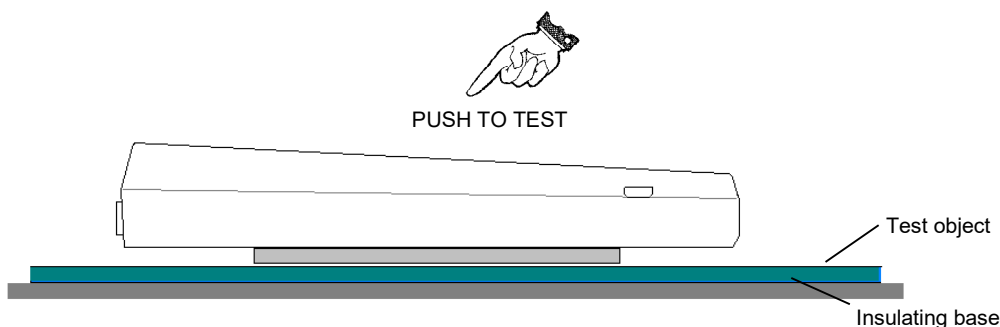
View results	Display measurement results
Delete results	Delete measurement data
Delete all data	Delete all measurement data
Limit	Display or change limit values (max. 19)
Folder name	Display or change folder names (max. 99) <i>Folder names can be entered more convenient by using the PC software.</i>
Timeout	Turn-off delay time
Temperature	Change temperature between °C and °F
Date	Adjust date and time
Calibration	Display calibration date and software version
Language	Language selection German / English

■ Overview LCD Display



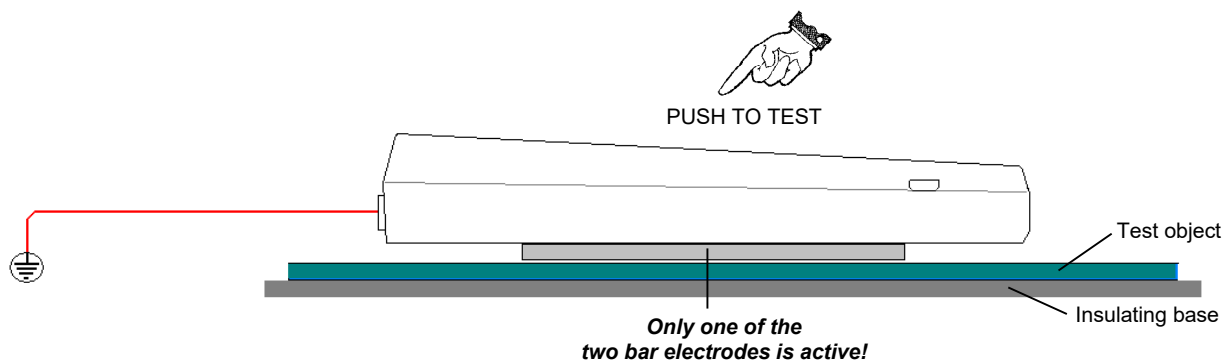
■ Measurement of the surface resistances

- To measure the surface resistance of an object, hold the device on the surface and press the button "PUSH TO TEST" until a stable measured value is shown on the display.
- If no limit has been assigned, the coloured LEDs also show the resistance range. If a limit has been set, the limit arrows on the display indicate when the range has been exceeded or undershot.
- ▼▲ selects the storage folder; **OK** saves the current measured value in the selected folder.



■ Measurement of the resistance to ground

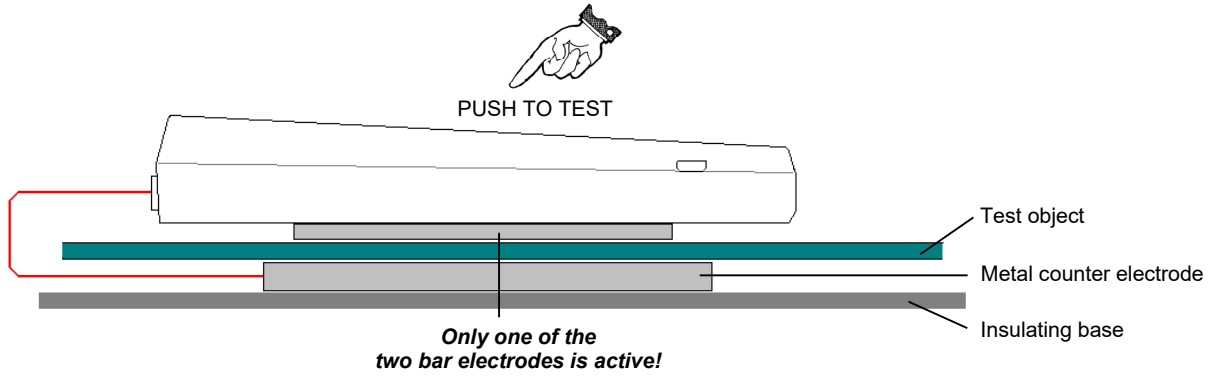
- To measure the leakage resistance, plug the earthing cable supplied into one of the two sockets on the device. This disconnects the respective integrated bar electrode from the measuring circuit.
- Connect the alligator clip of the other end of the earthing cable to "protective earth" or an "earthing point".
- Hold the test device on the surface and press the button "PUSH TO TEST" until a stable measured value is shown on the display.



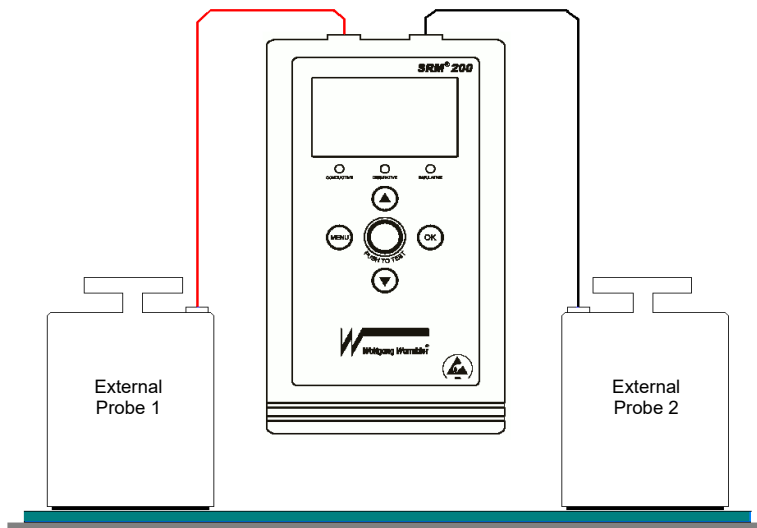
■ Further measurements with external electrodes

By connecting external electrodes, a volume resistance or point-to-point resistance can also be measured.

- Measurement of the volume resistance R_v



- Measurement of the point-to-point-resistance R_{p-p}



■ Measurement storage

The evaluation software can be used to transfer the stored measured values to a PC for further processing. The following functions are available:

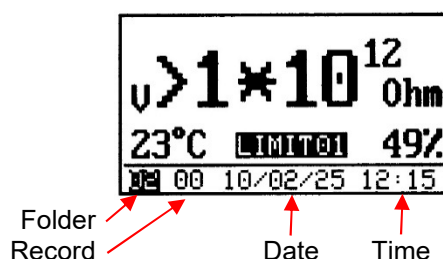
- Receive measurement data from the device
- Store and export measurement data
- Print measurement data as a report
- Labeling and setting the limits
- Labeling of the measurement folders
- Setting the date and time

■ Functions

The following settings can be made on the device. However, most of the functions can be operated much more conveniently using the PC software.

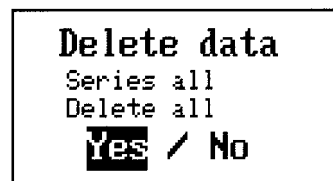
■ Show saved measurement datas

- MENU - press button
- View results - select
- OK - confirm
- ▼▲ - select folder (1-99)
- OK - confirm folder
- ▼▲ - select record (1-99)



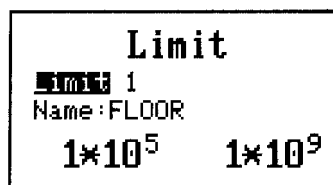
■ Delete data

- MENU - press button
- Delete results - select
- OK - confirm
- ▼▲ - select folder (1-99)
- OK - confirm folder
- ▼▲ - select record (1-99)
- OK - confirm to delete
- ▼▲ - select "Yes"
- OK - delete value
- MENU - back to menu

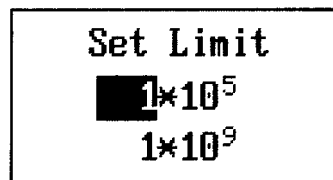


■ Set Limit

- MENU - press button
- Limit - select limit
 - OK - select limit (1-19)
- ▼ - down to name
 - OK - enter name for limit
- ▼ - down to values



- OK - change values
 - ▼▲ - increase/decrease
 - OK - next value
- MENU - back to limit
- MENU - back to menu



■ Folder name

MENU - press button
Folder Name - select
▼▲ - select folder to change
OK - enter text
 ▼▲ - select character
 OK - insert character
 MENU - back to folder names
MENU - back to menu

```
Folder name
1 2 3 4 5 6 7 8 9 0 A
Ä B C D E F G H I J K
L M N O Ö P Q R S T U
Ü V W X Y Z c Ä End
FOLDER 1
```

■ Timeout

MENU - press button
Timeout - select timeout
 OK - change value
MENU - back to menu

```
Limit
Order Name
Timeout: 30s
Temperatur °C
Datum
```

■ Temperature

MENU - press button
Temperature - select temperature
OK - change between °C or °F
MENU - back to menu

```
Folder Name
Time out 30s
Temperature °C
Date
Calibration
```

■ Date

MENU - press button
Date - select date
OK - change date
 ▼▲ - increase/decrease value
 OK - accept value
MENU - back to menu

```
Date
10/02/25
12:15:06
```

■ Calibration

Calibration date and firmware version display.

MENU - press button
Calibration - select calibration
OK - display
MENU - back to menu

```
Calibration
10/02/25
Firmware v2.11
```

■ Language

MENU - press button
Language - select language
OK - change language
MENU - back to menu

```
Time out 30s
Temperature °C
Date
Calibration
Language English
```


■ Device return and environmentally compatible disposal

This instrument complies with IEC 63000:2016 (Restriction of the use of certain hazardous substances [RoHS]) and with the requirements according to category 9 of the ElectroG (monitoring and control instruments).

We identify our electrical and electronic devices in accordance with WEEE 2012/19/EU and ElektroG with the symbol shown to the right per DIN EN 50419.



These devices may not be disposed of with the trash.
Please contact our service department regarding the return of old devices.

The rechargeable battery, which is no longer efficient, must be disposed of properly in accordance with the applicable national regulations.

Batteries or rechargeable batteries may contain harmful substances or heavy metal such as lead (Pb), cadmium (Cd) or mercury (Hg). The symbol shown to the right indicates that batteries or rechargeable batteries may not be disposed of with the trash, but must be delivered to collection points specially provided for this purpose.

