20044 Microohmmeter

32000 points   100nΩ – 3200Ω

► *Numerical and graphical representation of the measure*

► *Language selectable between Italian and English*

► *32000 measuring points / 4 measurements per second*

► *7 ranges from 3200Ω to 3200μΩ (from 100mΩ to 10nΩ of resolution)*

► *Choice of automatic or manual range measurement*

► *Colour touch screen, 2.8" 320x240 pixels*

► *Bar graph*

► *Choice and display of the extent of measurement filtering*

► *Auto Shut Off selectable*

► *Backlight adjustable between 10% and 100%*

► *The secondary measurement offers 7 different auxiliary measurements of resistance and resistivity compensated and not compensated with temperature based on different materials and settings by the user*

► *Absolute and percentage relative measurement referred both to a reference measurement and to a set value*

► *Minimum and maximum measurements*

► *Hold and autohold of the measure*

► *Indication of the battery charge status*

► *Automatic saving of all parameters when switching off*

► *Operation with 5Ah lithium battery*

► *Automatic shutdown in case of low battery*

The microohmmeter **20044** is a small instrument with great performance, capable of reaching the exceptional resolution of 0.1μΩ on the lower range of 3200μΩ. It is the size of a normal handheld multimeter with a weight of only 300g and fits comfortably in your shirt pocket. It is powered by a 5000mAh lithium battery that allows an autonomy of up to about 60 hours with a maximum recharge of 6-10 hours.

Although designed for field service, the measurement of 32000 points guarantees more than enough precision even for the normal production and / or laboratory environment in an easy-to-use and easy-to-handle instrument in an unusual look.

A lot of information is present on the main window, together with the measurement, but by accessing other windows it is possible to set and select the desired operating conditions and the parameters concerning the secondary measurement. All these settings are automatically saved when turned off and recalled when turned on, including the language selected between Italian and English.

It is also possible to view the measurement in graphical form of 240 points of unlimited duration with an acquisition every 0.5 seconds and vertical sensitivity selectable between 1 point/div and 3200 points/div.

To set and select the parameters necessary for the calculation of the secondary measurement, some windows are accessible, each dedicated to a particular type of data.

This is the opening window that appears when the instrument is turned on. Here the measurement is displayed in numerical and bar graph form, any secondary measurement and all useful auxiliary information is grouped, including the setup settings. There are also five buttons for setting/quick selection of some functions.

Furthermore from this main window it is possible to access the other five windows where you can set the parameters necessary for the calculation of the desired secondary measurement.

The measurement can also be represented in the form of a graph, being able to set the vertical sensitivity and the offset so as to obtain the desired representation by centering it in the virtual display.

With 2 acquisitions per second you can see 240 acquisitions displayed, equivalent to 2 minutes, while the automatic scrolling of the graph allows a continuous and unlimited representation.

In addition to the measurement in numerical form, the minimum and maximum values acquired are also displayed.

In the window concerning the temperature parameters it is possible to set the ambient and final temperature, a temperature coefficient of your choice or select the coefficient of a predefined material.

These parameters are used to compensate the measurement as a function of temperature.

When the resistivity or resistance per meter calculation is needed, the parameters set in this window are used.

Together with the temperature parameters it is possible to perform the thermal compensation.

For relative measurements of both absolute and percentage type, the parameter set in the window shown above is used as the default reference value.

The same measurements can also be performed using the measurement immediately prior to activating the option.

Panel 1 (radio button list):
- ◯ None
- ◯ Rated voltage across the specimen
- ◯ Ohm/m non-temperature compensated
- ◯ Ohm/m temperature compensated
- ◉ R*S/l (resistivity) non-temperature compensated
- ◯ R*S/l (resistivity) temperature compensated
- ◯ Resistance temperature compensated
- ◯ Resistance temperature compensated reported to norm EN 60228-2005-10

Secondary Measure   Exit

Once the necessary parameters have been set or selected, it is possible to choose the type of secondary measurement desired, which will be represented together with the main measurement.

Panel 2 (settings):
- ■ Buzzer   ■ Auto Hold
- ◯ Italiano   ◉ English
- ◯ 10 min
- ◯ 20 min
- ◉ 30 min   Auto Shut Off (ASO)
- ◯ No

Backlight = 89%

Max autonomy (Current loop open): 26h

Setup   Exit

This window allows you to set the operating conditions of the instrument according to your preferences or needs.

Panel 3 (parameter entry):
Parameter name: **Final temperature**
Range: 0.0 <-> 150.0°C

212.5 °C

Actuale value: 50.0 °C

Value greater than the highest limit

0 1 2 3
4 5 6 7
8 ← 9

Save Cancel

The parameter entry window has an identical structure for all windows, but for each parameter it indicates its name, range of validity and current value, reporting any incorrect entry of values.

TECHNICAL DATA

Power supply	3.7V 5000mAh rechargeable lithium cell
Battery autonomy	From 14h to 60h depending on the range selected and the status of the backlight
Maximum charging time	10 hours
Representation	On color touch display 320x240 pixels 2.8 inches
Language	Italian and English
Point of measure	32000
Display refresh rate	4 Hz
Ranges	$3200,0\mu\Omega$, $32,000m\Omega$, $320,00m\Omega$, $3200,0m\Omega$, $32,000\Omega$, $320,00\Omega$, $3200,0\Omega$
Ranges selection	Automatic / manual
Resolution	$100n\Omega$, $1\mu\Omega$, $10\mu\Omega$, $100\mu\Omega$, $1m\Omega$, $10m\Omega$, $100m\Omega$
Measurement accuracy	±(0,05%+ 2 digit)
Measure current	1A, 100mA, 10mA, 1mA, 100μA, 10μA
Filter	1, 2, 4, 8, 16, 32, 64 misure
Graphical representation	Yes, from 240x200 points of unlimited duration
Compensation power cable / Reset	Yes
Compensation with temperature	Yes, based on the ambient and final/reference temperatures and on settable or predefined thermal coefficients
Other resistance measures	Yes, resistivity and ohm/m, also compensated with temperature
Relative measures	Yes, in absolute and percentage value respect to a measure or a reference value
Auto shutdown	Yes, after 10, 20 or 30 minutes or never Forced automatic shutdown with low battery
Backlight adjustment	Yes, between 10% and 100%
Buzzer	Can be activated/deactivated
Hold of the measure	Manual and automatic. The latter can be activated/deactivated
Weight	320 gr. approximately
Dimension	159x78x34mm (W x H x D)