

**20040** is a microohmmeter specifically designed for high-current measurements for testing of high power contactors. With a sturdy plastic case watertight easily transportable and weighing less than 9Kg, is able to deliver current up to 300A and measure resistive elements comprised between  $1200m\Omega$  and  $10n\Omega$ .

The interface to the operator is constituted by a smart display 4.3" 480x272 pixels with touch that allows the entire management of the instrument in a very simple, comprehensive and intuitive, but especially new for this class of instrument, in a environment very similar to the Windows.

- ▶ 12000 measuring points / 2 measurements per second
- ► 5 ranges from  $1200m\Omega$  to  $120\mu\Omega$  (from  $100 \mu\Omega$  to  $10 n\Omega$  of resolution)
- settable measuring currents up to 300A in steps of 5A
- measurement times can be set in various ways / values
- *smart color display with resistive touch*
- save up to 200 measurements each with: ohmic value, voltage seen on Rx, current measurement, power dissipation of Rx, date and time of the saving data with resolution of the second and message up to 180 characters
- ► language: Italian and English
- > alert windows with various detailed signaling messages in case of incorrect settings or selections
- bar graph of 240 points
- backlight adjustable from 20% to 100%
- acoustic signal activable/deactivable
- measure hold activable/deactivable
- reading data and setting via optocoupled USB
- *•* only two commands: one to read all the data and one to read saved measures and notes

The main window, in addition to indicating the measure also in bar graph mode and provide keys for selecting the desired range, setting and saving data, provide other useful information such as the voltage across the unknown resistance and the power dissipated by it, the current measurement, the elapsed time of the measurement or the time remaining at its end, depending on the selection of functional mode, as well as the number of saved measurements. There is also a bar graph bicolor (green superiorly for properly positive values and red lowerly for negative values) that helps give a visual indication of the measure due to its 240 points of resolution.

In the window **Record** lists the measures saved by the **Save Measure** key together with auxiliary measures and time and date. The scroll of the saved measures can be possible by means of the bar to the side that directly touching the list and sliding a finger. The presence of an asterisk indicates that the measure also has a message, or note, up to a maximum of 180 characters, which you can view, edit, delete or modify using a QWERTY keyboard that has all the characters and normal editing keys.

The measuring current reaches the predetermined value with an increase of about 50A / second, so as to avoid excessive peak currents in the device under test. Appropriate acoustic and visual signals indicate if the current is increased, decreased, has settled to the set value or the current circuit is opened.



	Misura eseguita c/o il Centro Energie Alternative ENEA di Frascati per la verifica della relazione conducibilita' elettrica/temperatura del litio fuso in funzione delle impurezze								
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Re	Record Exit						
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1	D	10,400m0hm	3068mV   295A   905,1W	15:49:20	02/11/13		/ Edit
	9 ×	10,150m0hm	2994mV   295A   883,2W	15:48:55	02/11/13		
	в	9,900m0hm	2920mV   295A   861,4W	15:48:40	02/11/13		Delete
-	7	3,700m0hm	1092mV   295A   322,1W	15:47:43	02/11/13		Data
	6	6,400m0hm	1888mV   295A   557,0W	15:47:31	02/11/13		
	5	5,850m0hm	1726mV   295A   509,2W	15:47:24	02/11/13		Delete
	4	10,750m0hm	3171mV   295A   935,4W	15:47:14	02/11/13		All
:	3	1005,0m0hm	3618mV   3,60A   13,02W	15:44:16	02/11/13		



Main and setup windows, window with list of saved measurements, keyboard and alerts messages, all in an environment similar to Windows.

## **TECHNICAL DATA**

Power supply     90-260Vac 47-63Hz     10AT (230Vac) or 20AT (110Vac)       Power requirement     1600VA max     Representation       Brightness backlight     280 cd/m² adjustable from 20% to 100%       Points of measure     12000       Display refresh rate     2 Hz       Range     120.00µΩ, 120.00mΩ, 120.00mΩ, 120.00mΩ, 120.00mΩ       Range selection     manual       Resolution     10nΩ, 1µΩ, 10µΩ, 1µΩ, 10µΩ     0µΩ       Measurement accuracy     ± (1% + 5 dgt)     (range 120.00µΩ)       ± (1% + 5 dgt)     (range 120.00µΩ)     ± (1% + 5 dgt)     (range 120.00µΩ)       Measure current     120.00µΩ     → 300A     120.00µΩ     → 300A       120.00µΩ     → selectable from 30 to 300A in step of 5A     120.00mΩ     → selectable from 10A to 30A in step of 5A       1200.0mΩ     → selectable from 10A to 30A in step of 5A     1200.0mΩ     → selectable from 10A to 30A in step of 5A       1200.0mΩ     → selectable from 10A to 30A in step of 5A     1200.0mΩ     2x5m     50mm²       Rational resistance overall of 8mΩ)     2x5m     2mm²     (nominal resistance overall of 8mΩ)     2x5m       Second from framal resistance overal					
Representation     smart touch display 4.3* 480x272 pixels with 16 million colors       Brightness backlight     280 cd/m² adjustable from 20% to 100%       Points of measure     12000       Display refresh rate     2 Hz       Range     120.00µΩ, 1200.0µΩ, 12.000µΩ, 120.00µΩ, 120.00µΩ       Range selection     manual       Resolution     10nΩ, 100nΩ, 1µΩ, 10µΩ, 10µΩ, 10µΩ, 120.00µΩ, 12.000mΩ e 120.00µΩ)       ±(1% + 3 dgt)     (range 1200.0µΩ, 12.000mΩ e 120.00mΩ)       ±(2% + 10 dgt)     (range 1200.0µΩ, 12.000mΩ e 120.00mΩ)       ±(2% + 10 dgt)     (range 1200.0µΩ, 12.000mΩ e 120.00mΩ)       ±(2% + 10 dgt)     (range 1200.0µΩ)       ±(2% + 10 dgt)     (range 120.0µΩ)       Measure current     120.00µΩ → selectable from 30A to 300A in step of 5A       120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A       120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ       120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ       120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ       120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ       120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ	Power supply	90÷260Vac 47-63Hz	10AT (230Vac) or 20AT (110Vac)		
Brightness backlight   280 cd/m² adjustable from 20% to 100%.     Points of measure   12000     Display refresh rate   2 Hz     Range   120.00µΩ, 120.00µΩ, 120.00mΩ, 120.00mΩ     Resolution   10nΩ, 10nΩ, 1µΩ, 10µΩ, 10µΩ, 10µΩ     Measurement accuracy   ±(1% + 5 dgt)   (range 120.00µΩ)     ±(1% + 5 dgt)   (range 120.00µΩ)   ±(20.00µΩ)     ±(2% + 10 dgt)   (range 120.00µΩ)   ±(20.00mΩ)     ±(2% + 10 dgt)   (range 120.00mΩ)   ±(20.00mΩ)     ±(2% + 10 dgt)   (range 120.00mΩ)   ±(20.00mΩ)     Measure current   120.00µΩ → selectable from 30A to 300A in step of 5A     120.00mΩ → selectable from 30A to 300A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → 3,6A   1500W approximately   (connection cables including)     Power cables available on request   2x5m 25mm²   (nominal resistance overall of 4mΩ)     2x10m 75mm²   (nominal resistance overall of 42mQ)   2x3m 50mm²     2x10m 25 mm²   (nominal resistance overall of 6mΩ)   2x3m 50 mm²     2x10m 75mm²   (nominal resistance overall of 6mΩ)   2x3m 50 mm²     2x10m 75mm²   (nominal resistance overall of 16mΩ)   2x3m 50 sm²	Power requirement	1800VA max			
Points of measure   12000     Display refresh rate   2 Hz     Range   120.00μΩ, 1200.0μΩ, 120.00mΩ, 1200.0mΩ, 1200.0mΩ     Range selection   manual     Resolution   10nΩ, 10nΩ, 1μΩ, 10μΩ, 10μΩ, 100μΩ     Measurement accuracy   ±(1% + 5 dqt)   (range 120.00μΩ)     ±(2% + 10 dgt)   (range 120.00μΩ)   ±(2% + 10 dgt)     Measure current   120.00μΩ → 300A   selectable from 30A to 300A in step of 5A     120.00mΩ → selectable from 30A to 300A in step of 5A   120.00mΩ → selectable from 30A to 300A in step of 5A     120.00mΩ → selectable from 30A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 30A to 300A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 30A to 300A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 30A to 30A in step of 5A   120.00mΩ → selectable from 30A to 30A in step of 5A     120.00mΩ → selectable from 30A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 30A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     1	Representation	smart touch display 4.3" 480x272 pixels with 16 million colors			
Display refresh rate   2 Hz     Range   120.00µΩ, 1200.0µΩ, 12.000mΩ, 120.00mΩ, 1200.0mΩ     Range selection   manual     Resolution   10nΩ, 100nΩ, 1µΩ, 10µΩ, 10µΩ, 100µΩ     Measurement accuracy   ±(1% + 5 dgt)   (range 120.00µΩ)     ±(1% + 3 dgt)   (range 1200.0µΩ)   ±(2% + 10 dgt)     Measure current   120.00µΩ → selectable from 30A to 300A in step of 5A     120.00µΩ → selectable from 30A to 30A in step of 5A   selectable from 30A to 30A in step of 5A     120.00µΩ → selectable from 30A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00µΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   1200.0mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   1200.0mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in step of 5A     120.00mΩ → selectable from 10A to 30A in step of 5A   120.00mΩ → selectable from 10A to 30A in s	Brightness backlight				
Range   120.00μΩ, 1200.00μΩ, 120.00mΩ, 1200.0mΩ     Range selection   manual     Resolution   10nΩ, 10nΩ, 10μΩ, 10μΩ, 10μΩ, 100μΩ     Measurement accuracy   ±(1% + 5 dgt)   (range 1200.0μΩ), 12.000mΩ e 120.00mΩ)     ±(1% + 3 dgt)   (range 1200.0μΩ), 12.000mΩ e 120.00mΩ)     ±(1% + 3 dgt)   (range 1200.0μΩ), 12.000mΩ e 120.00mΩ)     ±(2% + 10 dgt)   (range 1200.0μΩ)     ±(2% + 10 dgt)   (range 1200.0μΩ)     ±(2% + 10 dgt)   → selectable from 30A to 300A in step of 5A     120.00mΩ →   selectable from 30A to 300A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →   selectable from 10A to 30A in step of 5A     120.00mΩ →	Points of measure	12000			
Range selection   manual     Resolution   10πΩ, 100πΩ, 1μΩ, 10μΩ, 10μΩ, 100μΩ     Measurement accuracy   ±(1% + 5 dgt)   (range 120.0μΩ), 12.000mΩ e 120.00mΩ)     ±(1% + 3 dgt)   (range 1200.0μΩ), 12.000mΩ e 120.00mΩ)     ±(2% + 10 dgt)   (range 1200.0μΩ)     ±(2% + 10 dgt)   (range 1200.0μΩ)     ±(2% + 10 dgt)	Display refresh rate	2 Hz			
Resolution   10nΩ, 100nΩ, 1µΩ, 10µΩ, 100µΩ     Measurement accuracy   ±(1% + 5 dgt)   (range 120.00µΩ, 12.000mΩ e 120.00mΩ)     ±(1% + 3 dgt)   (range 120.00µΩ, 12.000mΩ e 120.00mΩ)     ±(1% + 10 dgt)   (range 120.00µΩ)     ±(1% + 10 dgt)   → 300A     120.00µΩ   → selectable from 30A to 300A in step of 5A     120.00µΩ   → selectable from 10A to 30A in step of 5A     120.00µΩ   → selectable from 10A to 30A in step of 5A     120.00µΩ   → selectable from 30A to 30A in step of 5A     120.00µΩ   → selectable from 30A to 30A in step of 5A     120.00µΩ   → selectable from 10A to 30A in step of 5A     120.00µΩ   → selectable from 30A to 30A in step of 5A     120.00µΩ   → selectable from 30A to 30A in step of 5A     120.00µΩ   → selectable from 30A to 30A in step of 5A     120.00µΩ   → selectable from 30A to 30A in step of 5A     120.00µΩ   + selectable from 30A to 30A in step of 5A     120.00µΩ   + selectable from 30A to 30A in step of 5A     120.00µΩ   + selectable from 30A to 30A in step of 5A     120.00µΩ   + selectable from 30A     (connection cables including)   2x5m 50mm²     (nominal resistance overall of 8mΩ) <t< th=""><th>Range</th><th>120.00μΩ, 1200.0μΩ,</th><th>12.000mΩ, 120.00mΩ, 1200.0mΩ</th></t<>	Range	120.00μΩ, 1200.0μΩ,	12.000mΩ, 120.00mΩ, 1200.0mΩ		
Measurement accuracy   ±(1% + 5 dgt) ±(1% + 3 dgt)   (range 120.00μΩ) (range 120.00μΩ)     Measure current   120.00μΩ → 300A     120.00μΩ → selectable from 30A to 300A in step of 5A 120.00mΩ → selectable from 30A to 300A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 30A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A 120.00mΩ → selectable from 10A to 50A in step of 5A     Maximum power dissipation on load (connection cables including)   1500W approximately     Power cables available on request   2x5m 25mm² 2x5m 75mm² (nominal resistance overall of 8mΩ) 2x10m 95mm² (nominal resistance overall of 16mΩ) 2x30m 75 mm² (nominal resist	Range selection	manual			
Measurement accuracy   ±(1% + 5 dgt) ±(1% + 3 dgt)   (range 120.00μΩ) ±(2% + 10 dgt)   (range 1200.0μΩ, 12.000mΩ e 120.00mΩ) ±(2% + 10 dgt)     Measure current   120.00μΩ   →   300A     120.00μΩ   →   selectable from 30A to 300A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   3.6A     Circuit voltage of the current terminals   6V approximately     (connection cables including)   2x5m     Power cables available on request   2x5m     2x5m   75mm²   (nominal resistance overall of 8mΩ)     2x10m   95mm²   (nominal resistance overall of 16mΩ)     2x30m   75 mm²   (nominal resistance overall of 16mΩ)     2x30m   50 m²   (nominal resistance o	Resolution	10nΩ, 100nΩ, 1µΩ, 10	0μΩ, 100μΩ		
$\begin{array}{c} \pm (1\% + 3 \ dgt) & (range s 1200.0 \mu\Omega, 12.000 m\Omega e 120.00 m\Omega) \\ \pm (2\% + 10 \ dgt) & (range 1200.0 m\Omega) \\ \pm (2\% + 10 \ dgt) & (range 1200.0 m\Omega) \\ \hline (range 1200.0 m\Omega) & \rightarrow & selectable from 30A to 300A in step of 5A \\ 120.00 m\Omega & \rightarrow & selectable from 30A to 300A in step of 5A \\ 120.00 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 1200.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 1200.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 1200.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 1200.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & \rightarrow & selectable from 10A to 30A in step of 5A \\ 120.0 m\Omega & 2x5m 50mm^2 & (nominal resistance overall of 8m\Omega) \\ 2x10m 75mm^2 & (nominal resistance overall of 4m\Omega) \\ 2x10m 75mm^2 & (nominal resistance overall of 16m\Omega) \\ 2x30m 75 mm^2 & (nominal resistance overall of 16m\Omega) \\ 2x30m 75 mm^2 & (nominal resistance overall of 16m\Omega) \\ 2x30m 95 mm^2 & (nominal resistance overall of 16m\Omega) \\ 2x30m 95 mm^2 & (nominal resistance overall of 16m\Omega) \\ 2x30m 95 mm^2 & (nominal resistance overall of 16m\Omega) \\ 8easurement time & 10sec, 30sec, 60sec, 90sec, 120sec, 180sec and "NoLimit" \\ Rate of increase / decrease & 50A/sec \\ measuring current & better than 0.5\% & (range from 120.00 \mu\Omega) better than 1.5\% & (range from 120.00 \mu\Omega) \\ perform better than 0.5\% & (range from 120.00 \mu\Omega) \\ perform beasures retention time & no limit \\ Clock/ca$	Measurement accuracy	•			
Measure current   120.0µΩ   →   300A     1200.0µΩ   →   selectable from 30A to 300A in step of 5A     120.00mΩ   →   selectable from 30A to 300A in step of 5A     120.00mΩ   →   selectable from 30A to 300A in step of 5A     120.00mΩ   →   selectable from 10A to 30A in step of 5A     120.00mΩ   →   3,6A     Circuit voltage of the current terminals   6V approximately     Maximum power dissipation on load (connection cables including)   1500W approximately     Power cables available on request   2x5m 25mm²   (nominal resistance overall of 8mΩ)     2x5m 50mm²   (nominal resistance overall of 4mΩ)   2x10m 75mm²   (nominal resistance overall of 16mΩ)     2x10m 95mm²   (nominal resistance overall of 16mΩ)   2x38m 95 m²   (nominal resistance overall of 16mΩ)     2x38m 95 m²   (nominal resistance overall of 16 mΩ)   2x38m 95 m²   (nominal resistance overall of 16 mΩ)     2x38m 95 m²   (nominal resistance overall of 16 mΩ)   2x38m 95 m²   (nominal resistance overall of 16 mΩ)     2x38m 95 m²   (nominal resistance overall of 16 mΩ)   2x38m 95 m²   (nominal resistance overall of 16 mΩ)     2x38m 95 m²   (nominal resistance overall of 16 mΩ)   2x					
$\begin{array}{llllllllllllllllllllllllllllllllllll$		±(2% + 10 dgt)	(range 1200.0mΩ)		
12.000mΩ   →   selectable from 30A to 300A in step of 5A     120.00mΩ   →   3,6A     Circuit voltage of the current terminals   6V approximately     Maximum power dissipation on load (connection cables including)   1500W approximately     Power cables available on request   2x5m   25mm²   (nominal resistance overall of 8mΩ)     2x10m   2x10m   75mm²   (nominal resistance overall of 4mΩ)     2x10m   25m   50mm²   (nominal resistance overall of 4mΩ)     2x10m   25 mm²   (nominal resistance overall of 16mΩ)     2x30m   95mm²   (nominal resistance overall of 16mΩ)     2x30m   95 mm²   (nominal resistance overall of 16mΩ)     2x30m   95 mm²   (nominal resistance overall of 16 mΩ)     2x30m   95 mm²   (nominal resistance overall of 16 mΩ)     2x38m   95 mm²   (nominal resistance overall of 16 mΩ)     2x38m   95 mm²   (nominal resistance overall of 16 mΩ)     2x38m   95 mm²   (nominal resistance overall of 16 mΩ)     2x38m   95 mm²   (nominal resistance overall of 16 mΩ)     2x38m   95 mm²   (nominal resistance overall of 16 mΩ)     Readin	Measure current	120.00μΩ →	300A		
120.00mΩ   →   selectable from 10A to 30A in step of 5A     1200.0mΩ   →   3,6A     Circuit voltage of the current terminals   6V approximately     Maximum power dissipation on load   1500W approximately     connection cables including)   1500W approximately     Power cables available on request   2x5m   25mm²   (nominal resistance overall of 8mΩ)     2x10m   75mm²   (nominal resistance overall of 4,2mΩ)     2x10m   75mm²   (nominal resistance overall of 16mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   76 mm²   (nominal resistance overall of 16 mΩ)     2x30m   95 mm²   (nominal resistance overall of 16 mΩ)     2x30m   92 measurent   better than 0.5% (ranges from 120.00µΩ to		•	•		
1200.0mΩ   →   3,6A     Circuit voltage of the current terminals   6V approximately     Maximum power dissipation on load (connection cables including)   1500W approximately     Power cables available on request   2x5m 25mm² (nominal resistance overall of 8mΩ) 2x10m 75mm² (nominal resistance overall of 4mΩ) 2x10m 95mm² (nominal resistance overall of 4mΩ) 2x10m 95mm² (nominal resistance overall of 16mΩ) 2x20m 50 mm² (nominal resistance overall of 16mΩ) 2x30m 75 mm² (nominal resistance overall of 16 mΩ)     Measurement time   10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"     Rate of increase / decrease measuring current   better than 0.5% (ranges from 120.00µΩ to 120.00mΩ)     Reading accuracy of the current measurement   better than 0.5% (ranges from 120.00µΩ to 120.00mΩ)     Breading accuracy of voltage measurement   better than 0.5% on all ranges     Input impedance voltmeter section   >1MΩ     Saving measures   up to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 characters     Measures retention time   no limit     Clock/calendar   yes, as standard     Battery autonomy clock/calendar   10 years (battery type: CR2032) <th></th> <th></th> <th>•</th>			•		
Circuit voltage of the current terminals   6V approximately     Maximum power dissipation on load (connection cables including)   1500W approximately     Power cables available on request   2x5m 25mm <sup>2</sup> (nominal resistance overall of 8mΩ) 2x10m 75mm <sup>2</sup> (nominal resistance overall of 5,3mΩ) 2x10m 95mm <sup>2</sup> (nominal resistance overall of 4,2mΩ)     Maximum length of power cables usable to 300A 25°C   2x10m 25 mm <sup>2</sup> 2x20m 50 mm <sup>2</sup> (nominal resistance overall of 16mΩ) 2x30m 75 mm <sup>2</sup> (nominal resistance overall of 16 mΩ) 2x30m 75 mm <sup>2</sup> (nominal resistance overall of 16 mΩ) 2x38m 95 mm <sup>2</sup> (nominal resistance overall of 16 mΩ)     Measurement time   10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"     Reading accuracy of the current measuring current   better than 0,5% better than 1,5% (range from 120.00µΩ) to 120.00mΩ)     Reading accuracy of voltage measurement   better than 0,5% on all ranges     Input impedance voltmeter section   >1MΩ     Saving measures   up to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 characters     Measures retention time   no limit     Clock/calendar   yes, as standard     Battery autonomy clock/calendar   10 years (battery type: CR2032)     Language messages   selectable Italian or English     Optocoupled USB connection   with optional USB converter <t< th=""><th></th><th></th><th>•</th></t<>			•		
Maximum power dissipation on load (connection cables including)   1500W approximately     Power cables available on request   2x5m   25m   25mm <sup>2</sup> (nominal resistance overall of 8mΩ) 2x10m     Power cables available on request   2x5m   25m   0mm <sup>2</sup> (nominal resistance overall of 4mΩ) 2x10m     Maximum length of power cables   2x10m   2x10m   (nominal resistance overall of 4mΩ)     usable to 300A 25°C   2x10m   (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     Reading accuracy of the current   better than 0,5%   (ranges from 120.00µΩ to 120.00mΩ)     measurement   better than 0,5%   (range 120.00mΩ)   better than 1,5%     Readi	<u></u>		3,6А		
(connection cables including)     Power cables available on request   2x5m   25mm <sup>2</sup> (nominal resistance overall of 8mΩ)     2x5m   50mm <sup>2</sup> (nominal resistance overall of 4mΩ)     2x10m   75mm <sup>2</sup> (nominal resistance overall of 4mΩ)     2x10m   95mm <sup>2</sup> (nominal resistance overall of 5,3mΩ)     with the sistence overall of 16mΩ)   2x10m   2x0m     usable to 300A 25°C   2x20m   50 mm <sup>2</sup> (nominal resistance overall of 16mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16 mΩ)   2x38m     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16 mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16 mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16 mΩ)     2x38m   95 mm <sup>2</sup> (nominal resistance overall of 16 mΩ)     Measurement time   10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"     Reading accuracy of the current measurement   better than 0,5%   (range 1200.0mΩ)     Measurement   better than 0,5%   (range 1200.0mΩ)     Badieng accuracy of voltage measurement   >1MΩ     Saving measures   up to 200 measures, each with: resistance value, voltage across Rx, me					
2x5m   50mm²   (nominal resistance overall of 4mΩ)     2x10m   75mm²   (nominal resistance overall of 5,3mΩ)     2x10m   95mm²   (nominal resistance overall of 4,2mΩ)     Maximum length of power cables   2x10m   25 mm²   (nominal resistance overall of 16mΩ)     usable to 300A 25°C   2x20m   50 mm²   (nominal resistance overall of 16mΩ)     2x30m   75 mm²   (nominal resistance overall of 16mΩ)     2x30m   75 mm²   (nominal resistance overall of 16mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   95 mm²   (nominal resistance overall of 16 mΩ)     2x30m   03ecc.   1020sec.   120.00μΩ to 120.00μΩ     Reading accuracy of the current   better than 0,5%   (range 1200.0mΩ)   to 120.00μΩ     Beating accuracy of voltage measurement <td< th=""><th></th><th>1500W approximately</th><th>ý</th></td<>		1500W approximately	ý		
2x10m   75mm²   (nominal resistance overall of 5,3mΩ)     2x10m   95mm²   (nominal resistance overall of 4,2mΩ)     Maximum length of power cables   2x10m   25 mm²   (nominal resistance overall of 16mΩ)     usable to 300A 25°C   2x20m   50 mm²   (nominal resistance overall of 16mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (nominal resistance overall of 16 mΩ)     2x30m   75 mm²   (range from 120.00µΩ to 120.00µΩ)     Measurement   better than 0.5%   (range from 120.00µΩ to 120.00µΩ)     better than 0.5%   (range from 120.00µΩ to 120.00µΩ)   better than 0.5%     measuring current   better than 0.5% on all ranges   (nominal resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 characters     Measures retention time   no limi	Power cables available on request	2x5m 25mm <sup>2</sup>	(nominal resistance overall of $8m\Omega$ )		
2x10m95mm²(nominal resistance overall of 4,2mΩ)Maximum length of power cables usable to 300A 25°C2x10m25 mm²(nominal resistance overall of 16mΩ) 2x30m2x30m75 mm² (nominal resistance overall of 16 mΩ) 2x30m2x30m75 mm² (nominal resistance overall of 16 mΩ) 2x38mMeasurement time10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"Rate of increase / decrease measuring current50A/secReading accuracy of the current measurementbetter than 0,5% better than 1,5%(range from 120.00µΩ to 120.00mΩ) better than 1,5%Reading accuracy of voltage measurementbetter than 0,5% on all rangesInput impedance voltmeter sectionSaving measuresup to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 charactersMeasures retention time Dol imitno limitClock/calendar10 years (battery type: CR2032) Language messagesselectable Italian or English Optocoupled USB connectionwith optional USB converterWeight Dimension8,85 Kg approximately Dimension		2x5m 50mm <sup>2</sup>	(nominal resistance overall of $4m\Omega$ )		
Maximum length of power cables usable to 300A 25°C2x10m 25 mm² (nominal resistance overall of 16mΩ) 2x20m 50 mm² (nominal resistance overall of 16mΩ) 2x38m 95 mm² (nominal resistance overall of 16 mΩ) 2x38m 95 mm² (nominal resistance overall of 16 mΩ)Measurement time10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit" Bate of increase / decrease measuring currentReading accuracy of the current measurementbetter than 0,5% better than 1,5% (range 1200.0mΩ)Reading accuracy of voltage measurement better than 0.5% on all rangesInput impedance voltmeter sectionSaving measures>1MΩMeasures retention time Clock/calendaron limit yes, as standardBattery autonomy clock/calendar10 years (battery type: CR2032) selectable Italian or English Optocoupled USB connectionOptocoupled USB connectionwith optional USB converter WeightWeight Dimension8,85 Kg approximately L0x325x175mm (W x H x D)			(nominal resistance overall of 5,3m $\Omega$ )		
usable to 300A 25°C2x20m 50 mm² (nominal resistance overall of 16mΩ) 2x30m 75 mm² (nominal resistance overall of 16 mΩ) 2x38m 95 mm²Measurement time10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"Rate of increase / decrease measuring current50A/secReading accuracy of the current measurementbetter than 0,5% better than 1,5%(ranges from 120.00µΩ to 120.00mΩ) better than 1,5%Reading accuracy of voltage measurementbetter than 0,5% better than 0.5% on all ranges(range 1200.0mΩ)Input impedance voltmeter section>1MΩSaving measuresup to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 charactersMeasures retention timeno limitClock/calendaryes, as standardBattery autonomy clock/calendar10 years (battery type: CR2032)Language messagesselectable Italian or EnglishOptocoupled USB connectionwith optional USB converterWeight8,85 Kg approximatelyDimension410x325x175mm (W x H x D)		2x10m 95mm <sup>2</sup>	(nominal resistance overall of $4,2m\Omega$ )		
2x30m 75 mm²   (nominal resistance overall of 16 mΩ)     2x38m 95 mm²   (nominal resistance overall of 16 mΩ)     2x38m 95 mm²   (nominal resistance overall of 16 mΩ)     Measurement time   10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"     Rate of increase / decrease measuring current   50A/sec     Reading accuracy of the current measurement   better than 0,5% (ranges from 120.00µΩ to 120.00mΩ)     Better than 1,5% (range 1200.0mΩ)   better than 0.5% on all ranges     Input impedance voltmeter section   >1MΩ     Saving measures   up to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 characters     Measures retention time   no limit     Clock/calendar   yes, as standard     Battery autonomy clock/calendar   10 years (battery type: CR2032)     Language messages   selectable Italian or English     Optocoupled USB connection   with optional USB converter     Weight   8,85 Kg approximately     Dimension   410x325x175mm (W x H x D)	•	_	(nominal resistance overall of $16m\Omega$ )		
2x38m 95 mm²(nominal resistance overall of 16 mΩ)Measurement time10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"Rate of increase / decrease measuring current50A/secReading accuracy of the current measurementbetter than 0,5% better than 1,5%(ranges from 120.00µΩ to 120.00mΩ) better than 1,5%Reading accuracy of voltage measurementbetter than 0,5% on all ranges(range 1200.0mΩ)Input impedance voltmeter section>1MΩSaving measuresup to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 charactersMeasures retention timeno limitClock/calendaryes, as standardBattery autonomy clock/calendar10 years (battery type: CR2032)Language messagesselectable Italian or EnglishOptocoupled USB connectionwith optional USB converterWeight8,85 Kg approximatelyDimension410x325x175mm (W x H x D)	usable to 300A 25°C	-	· · · · · · · · · · · · · · · · · · ·		
Measurement time   10sec, 30sec, 60sec, 90sec, 120sec, 150sec, 180sec and "NoLimit"     Rate of increase / decrease measuring current   50A/sec     Reading accuracy of the current measurement   better than 0,5% (ranges from 120.00µΩ to 120.00mΩ)     Beading accuracy of voltage measurement   better than 0,5% on all ranges     Input impedance voltmeter section   >1MΩ     Saving measures   up to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 characters     Measures retention time   no limit     Clock/calendar   yes, as standard     Battery autonomy clock/calendar   10 years (battery type: CR2032)     Language messages   selectable Italian or English     Optocoupled USB connection   with optional USB converter     Weight   8,85 Kg approximately     Dimension   410x325x175mm (W x H x D)		•	,		
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Input impedance voltmeter section   >1MΩ     Saving measures   up to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 characters     Measures retention time   no limit     Clock/calendar   yes, as standard     Battery autonomy clock/calendar   10 years (battery type: CR2032)     Language messages   selectable Italian or English     Optocoupled USB connection   with optional USB converter     Weight   8,85 Kg approximately     Dimension   410x325x175mm (W x H x D)	measurement	better than 1,5%	(range 1200.0mΩ)		
Saving measuresup to 200 measures, each with: resistance value, voltage across Rx, measuring current, power dissipation of Rx, date, time and eventual records up to 180 charactersMeasures retention timeno limitClock/calendaryes, as standardBattery autonomy clock/calendar10 years (battery type: CR2032)Language messagesselectable Italian or EnglishOptocoupled USB connectionwith optional USB converterWeight8,85 Kg approximatelyDimension410x325x175mm (W x H x D)	Reading accuracy of voltage measurement	better than 0.5% on all ranges			
measuring current, power dissipation of Rx, date, time and eventual records up to 180 charactersMeasures retention timeno limitClock/calendaryes, as standardBattery autonomy clock/calendar10 years (battery type: CR2032)Language messagesselectable Italian or EnglishOptocoupled USB connectionwith optional USB converterWeight8,85 Kg approximatelyDimension410x325x175mm (W x H x D)	Input impedance voltmeter section	>1MΩ			
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Optocoupled USB connectionwith optional USB converterWeight8,85 Kg approximatelyDimension410x325x175mm (W x H x D)	Battery autonomy clock/calendar	10 years (battery type	e: CR2032)		
Weight     8,85 Kg approximately       Dimension     410x325x175mm (W x H x D)	Language messages	selectable Italian or English			
Dimension     410x325x175mm (W x H x D)	Optocoupled USB connection	with optional USB converter			
	Weight	8,85 Kg approximately			
Working temperature range-20°C ÷ +50°C	Dimension	410x325x175mm (W x H x D)			
	Working temperature range	-20°C ÷ +50°C			
Storage temperature range -30°C ÷ +70°C	Storage temperature range	-30°C ÷ +70°C			