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Data Sheet 5.85-21/1

Resistance Meter

Application

The resistance meter is designed for highly accurate measurements of very low resistances. It is capable to deliver direct current into the test object.

Description

Measurements can be made with a selectable current level. Winding resistance meters are specified for inductive loads and include safety functions for de-energizing the transformer core to protect user, test object and measuring equipment.

Measurement results are available on both screen and interface port. All measured data can be stored and additionally be printed on the optional internal printer.

Advantages

The handling of the resistance meter is user-friendly: once the test object is connected to the device most measurements can be executed by just one simple interaction with the measuring equipment.

Table 1: Technical Data

Technical Data	unit	WR100-12 R	WR50-12 R	WR50-12	WR14-12 R	WR14-12	Micro Centurion II	Micro Junior II	Mjöllner 200
Output									
Voltage	V	0 to 50	0 to 50	0 to 50	0 to 30	0 to 30			<5
Test Current	A	0.025 to 100	0.025 to 50	0.025 to 50	0.025 to 15	0.025 to 15	10 to 200	0.001 to 10	5 to 200A
Performance									
Measurement Range	Ω	0 to 100k	0 to 100k	0 to 100k	0 to 100k	0 to 100k	0 to 5	0 to 400k	0.1*10 ⁻⁶ to 0.9999
Accuracy	% Rdg.	±0.1 ±5*10 ⁻⁸ Ω (@100A)	±0.1 ±5*10 ⁻⁸ Ω (@50A)	±0.1 ±5*10 ⁻⁸ Ω (@50A)	±0.1 ±1*10 ⁻⁷ Ω (@15A)	±0.1 ±1*10 ⁻⁷ Ω (@15A)	±0.1 ±1*10 ⁻⁸ Ω (@200A)	±0.1 ±1*10 ⁻⁷ Ω (@10A)	
Accuracy	Ω								±2*10 ⁻⁶ (@>50A, R<1mΩ)
Resolution	digits	5	5	5	5	5	5	5	-
Features									
Intended Use		Laboratory	Laboratory	Mobile	Laboratory	Mobile	Mobile	Mobile	Mobile
Charges inductive loads		Yes	Yes	Yes	Yes	Yes	-	-	-
Protection circuitry		Yes	Yes	Yes	Yes	Yes	-	-	-
Discharge indicator		Yes	Yes	Yes	Yes	Yes	-	-	-
Emergency STOP button		Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
DC current adjustable		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Temperature channels		3	3	3	3	3	1	1	-
Display		Color LCD, Touch screen	Color LCD, Touch screen	Color LCD, Touch screen	Color LCD, Touch screen	Color LCD, Touch screen	LCD	LCD	LCD+LED
Memory		>10000 results	>10000 results	>10000 results	>10000 results	>10000 results	<2000 results	>2000 results	<100 results
Interface		RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, Centronics	RS232	USB
Internal printer		-	-	Yes	-	Yes	Yes	Yes	Yes
Rugged case		-	-	Yes	-	Yes	Yes	Yes	Yes
Battery operation		-	-	Yes	-	Yes	Yes	Yes	Yes
Dimension and weights									
Length x Width x Height	mm	436 x 490 x 310	436 x 490 x 177	521 x 432 x 216	436 x 395 x 177	470 x 357 x 176	432 x 521 x 216	410 x 337 x 178	486 x 392 x 192
Weight	kg	22	17	19	10	10	15	6	14
Normal operating conditions									
Rated power supply voltage	V (AC)	100 to 240	100 to 240	100 to 240	100 to 240	100 to 240	100 to 240	100 to 240 (charger)	100 to 120, 200-240
Power supply frequency	Hz	50 to 60	50 to 60	50 to 60	50 to 60	50 to 60	50 to 60	50 to 60 (charger)	50 to 60
Maximum required input power	kW	<3.0 (2PH+N)	<1.5	<1.5	<1.0	<1.0	<1.1	-	<1.5

Technical Data	unit	WR100-12 R	WR50-12 R	WR50-12	WR14-12 R	WR14-12	Micro Centurion II	Micro Junior II	Mjöllner 200
Environmental conditions									
Temperature	°C	-10 to 60	-10 to 60	-10 to 60	-10 to 60	-10 to 60	-10 to 60	-10 to 60	-20 to 50
Humidity (non condensing)	% r.H.	10 to 90	10 to 90	10 to 90	10 to 90	10 to 90	10 to 90	10 to 90	10 to 90
Altitude	m	<2000	<2000	<2000	<2000	<2000	<2000	<2000	<2000
Accessories									
Current and potential test lead set								Yes	
Length	m	10	10	10	10	10	5	-	3
Wire cross section	mm ²	16/6	16/6	16/6	16/6	16/6	-	-	35
Number of channels		2	2	2	2	2	1	1	1
Software									
Data Exchange		-	-	-	-	-	-	Yes	-
Optional Accessories									
Resistance Meter Extension cable set									
Length	m	15	15	15	15	15	-	-	10
Wire cross section	mm ²	16/6	16/6	16/6	16/6	16/6	-	-	35
Number of channels		2	2	2	2	2	-	-	1
Temperature Probe		See ¹⁾	See ¹⁾	See ¹⁾	See ¹⁾	See ¹⁾	See ¹⁾	-	See ¹⁾
Software									
Heat Run Test		See ²⁾	See ²⁾	See ²⁾	See ²⁾	See ²⁾	-	-	-
Device Control									See ³⁾
Kelvin clip set		-	-	-	-	-	MCO 101	MJO 201	
Remote control		-	-	-	-	-	-	-	See ⁴⁾

¹⁾ To be used for temperature correction and heat run test.

²⁾ Performs a timer controlled measurement during the cooling curve of a transformer after the transformer has been heated.

³⁾ Makes it easy to manage/save all test results in a simple way. All information, meta-data of the test object (for example of a circuit breaker) and the test results are stored together and can easily be transferred to Microsoft® Excel for further analysis.

⁴⁾ Much of the functionality can be remotely controlled (for example "start/stop", "setting test current"), so that the test equipment can stay on the ground while the test cables are connected high up to the test object.