



Measure HV switches and transformers with one device

Product features

- measurements of resistive objects with current up to 100/200 A
- measurements of induction objects up to 10 A
- measurements of objects earthed on both sides (i.e. main joints of HV switches)
- measurement with one- or both-way current flow
- high immunity to outside interference
- measurements temperature of windings
- automatic compensation temperature of objects measured
- a state of art interface with a touch screen and expanded memory
- cooperation with a printer and a 2D barcode reader
- WiFi, USB and LAN communication
- IP67
- it can work in an environment where electromagnetic interferences of 400 kV occur

Application

MMR-6xxx micrometers series are devices with a state of art design with unprecedented approach to measuring small resistances. The instruments allow to measure resistive objects with a high current and have a unique in his measurement class module for inductive current objects up to 10 A.

Device capabilities

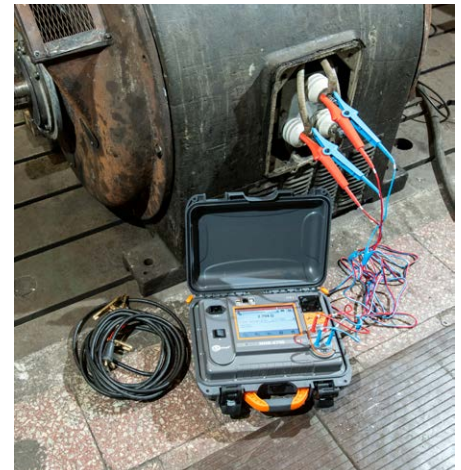
Sonel microhmmeter MMR-6xxx series thanks to the use of special algorithms, measuring functions and a stabilized, non-pulsing measurement current allow user to work in difficult conditions. Possibility of use measurement current up to 200 A and a high power source allows you to measure the contacts of the HV switch with basic uncertainty from 0.25%.

Simplicity of readings

The MMR-6xxx microhmmeter is equipped with readable, touch screen, 5-inch colored display with a resolution of 800x480 pixels for convenience of readings measurement results.

Help system

The use of a large, readable display allowed for use helpful appetent drawings how to use the meter.



Measurements of resistive components

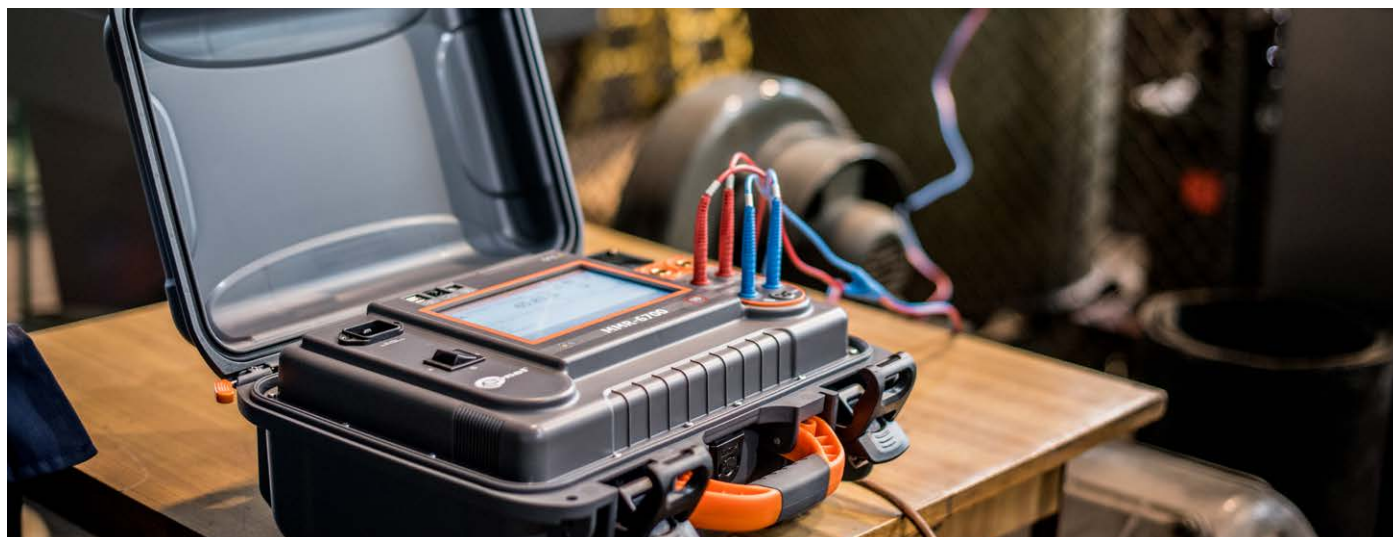
Range	Resolution	Accuracy	Test current / Voltage
0.0...9999.9 $\mu\Omega$	0.1 $\mu\Omega$	$\pm(0,25\% + 2 \text{ digits})$	100 A < I $\leq$ 200 A/* (200 mV)
0.0...9999.9 $\mu\Omega$	0.1 $\mu\Omega$		50 A < I $\leq$ 100 A (200 mV)
1.0000...1.9999 m Ω	0.0001 m Ω		20 A < I $\leq$ 50 A (200 mV)
0.0...9999.9 $\mu\Omega$	0.1 $\mu\Omega$		10 A < I $\leq$ 20 A (160mV)
1.0000...7.9999 m Ω	0.0001 m Ω		10 A (20 mV)
0...9999.9 $\mu\Omega$	0.1 $\mu\Omega$		10 A (200 mV)
1.0000...1.9999 m Ω	0.0001 m Ω		10 A / 1 A (2 V / 200 mV)
2.000...19.999 m Ω	0.001 m Ω		1 A / 0.1 A (2 V / 200 mV)
20.00...199.99 m Ω	0.01 m Ω		0.1 A (2 V)
200.0...999.9 m Ω	0.1 m Ω		10 mA (2 V)
1.0000...1.9999 Ω	0.0001 Ω		1 mA (2 V)
2.000...19.999 Ω	0.001 Ω		
20.00...199.99 Ω	0.01 Ω		
200.0...1999.9 Ω	0.1 Ω		

/* MMR-6700 only

Measurements of inductive components

Range	Resolution	Accuracy	Test current
0...9999.9 $\mu\Omega$	0.1 $\mu\Omega$	$\pm(0.25\% \text{ m.v.} + 2 \text{ digits})$	10 A
1.0000...1.9999 m Ω	0.0001 m Ω		10 A
2.000 ...19.999 m Ω	0.001 m Ω		10 A / 1 A
20.00...199.99 m Ω	0.01 m Ω		1 A / 0.1 A
200.0...999.9 m Ω	0.1 m Ω		0.1 A
1.0000...1.9999 Ω	0.0001 Ω		10 mA
2.000...19.999 Ω	0.001 Ω		1 mA
20.00...199.99 Ω	0.01 Ω		
200.0...1999.9 Ω	0.1 Ω		

for measurements on inductive objects output voltage $\leq 5 \text{ V}$



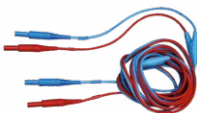
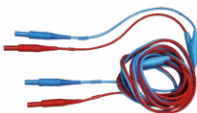
"m.v" - measured value

Technical specification

housing protection level acc. to EN 60529	closed cover	IP67
	open cover	IP40
power supply for $I \leq 10$ A measurements	Li-Ion battery 7.2 V 8.8 Ah	
mains supply	MMR-6500	100 V...265 V / 50 ...60 Hz, 10 A
	MMR-6700	100 V...265 V / 50 ...60 Hz, 16 A
battery charging time	ca. 3.5 h	
maximum resistance for current of 10A	200 mΩ	
current pre-setting accuracy	±10%	
measurement time	resistance mode, with bidirectional current flow	7-15 s
	inductive mode (depends on object resistance and inductance)	10 s or more
dimensions	401 x 307 x 175 mm 15.8" x 12.1" x 6.9"	
meter weight	MMR-6500	ca. 8.2 kg ca. 18.1 lbs
	MMR-6700	ca. 8.7 kg ca. 19.2 lbs
operating temperature	-10°C...+50°C 14°F...122°	
humidity	20%...90%	
display	800 x 480 pixels	
communication	USB, LAN, Wi-Fi	



Standard accessories

	Current carrying test lead 3 m black I1 (200 A, 25 mm²) WAPRZ003BLI1		Double-wire test lead 3 m (10 A / 25 A) U1/I1 WAPRZ003DZBBU11		Test lead 3 m blue 1 kV U1 (banana plugs) WAPRZ003BUBBU1
	Current carrying test lead 3 m black I2 (200 A, 25 mm²) WAPRZ003BLI2		Double-wire test lead 3 m (10 A / 25 A) U2/I2 WAPRZ003DZBBU212		Test lead 3 m blue 1 kV U2 (banana plugs) WAPRZ003BUBBU2
	ST-3 temperature probe WASONT3		2x Kelvin clamp, 1 kV, 25 A WAKROKELK06		2x crocodile clip, black, 1 kV, 32 A WAKROBL30K03
	USB transmission cable WAPRZUSB		Mains cable with IEC C19 plug WAPRZZAS1	 	Case L-4 WAFUTL4 Factory calibration certificate

Optional accessories

	Current carrying test lead 6 m / 10 m / 15 m black I1 (200 A, 25 mm²) WAPRZ006BLI1 WAPRZ010BLI1 WAPRZ015BLI1		Double-wire test lead (10 / 25 A) U1/ I1 6 m / 10 m / 15 m WAPRZ006DZBBU111 WAPRZ010DZBBU111 WAPRZ015DZBBU111		Test lead 6 m / 10 m / 15 m blue 1 kV U1 (banana plugs) WAPRZ006BUBBU1 WAPRZ010BUBBU1 WAPRZ015BUBBU1
	Current carrying test lead 6 m / 10 m / 15 m black I2 (200 A, 25 mm²) WAPRZ006BLI2 WAPRZ010BLI2 WAPRZ015BLI2		Double-wire test lead (10 / 25 A) U2 / I2 6 m / 10 m / 15 m WAPRZ006DZBBU212 WAPRZ010DZBBU212 WAPRZ015DZBBU212		Test lead 6 m / 10 m / 15 m blue 1 kV U2 (banana plugs) WAPRZ006BUBBU2 WAPRZ010BUBBU2 WAPRZ015BUBBU2
	ST-1 temperature probe WASONT1		Kelvin vice with cables WAZACKEL1		Double pin Kelvin probe - standard pins / thick pins WASONKEL20GB WASONKEL20GB2
	C-5A current clamp (Φ=39 mm) 1000 A AC/DC WACEGC5AOKR		Barcode scanner 2D (USB) WAADACK2D		D2 portable USB report / barcode printer (Sato) WAADAD2
	Label roll - black on white for D2 printer (SATO) WANAKD2		Ribbon for D2 printer (SATO) WANAKD2BAR		RJ45 LAN cable WAPRZRJ45
	L-7 Backpack WAFUTL7		Calibration certificate with accreditation		