Winding Resistance and Low Resistance Meter

MMR-650

index: WMUSMMR650

TOUCH SCREEN

IP67
closed housing

IP54
open housing

CAT III
600 V

CAT IV
300 V

Measure winding resistance and low resistance with MMR-650

Product features

- measurement of winding resistance (inductive objects including amorphous core transformers)
- measurement of very low resistance
- transformer core demagnetization function
- automatic temperature compensation function (temperature probe)
- function of determining the temperature of a motor under load
- high immunity to disturbances

Application

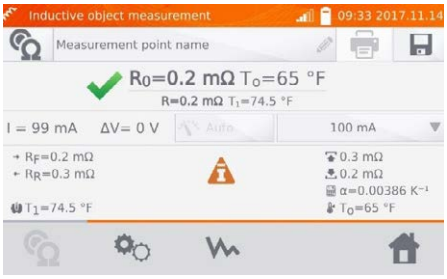
The MMR-650 winding resistance and low resistance meter is designed to measure very low very low resistance of both windings - including amorphous core transformers - and resistive objects. This product is made to be used in power plants, railways and maintenance companies to measure resistance of:

- windings of power transformers and motors,
- breakers, contacts,
- earthing conductors, equipotential bondings,
- welded and soldered connections,
- bolted connections,
- and other resistive and inductive objects.

MMR-650 can be also utilized on production lines (eg. at the final production control stage).

Device capabilities

The MMR-650 winding resistance and low resistance meter provides an innovative combination of a high-performance measuring device with a modern user interface and advanced data management system. Wireless data transmission, enhanced system of 2D codes and ability to print labels to identify test items, all contribute to bringing new quality of work and allow the user to perform a wide range of measurements.



Easy readout

The MMR-650 winding resistance and low resistance meter is equipped with a readable colour touchscreen that, due to its 800 x 480 pixel resolution, provides both high comfort of interacting with the interface and high readability of the measurement results.

Durable and practical casing

In response to the customers needs the MMR-650 microohmmeter has been designed to operate in difficult environmental conditions. A unique casing with the IP67 ingress protection rating ensures that the device is both waterproof and dustproof.

Resistance measurement

Range	Resolution	Test current	Accuracy
0 to 999.9 µΩ	0.1 µΩ	10 A	±(0.2% m.v. + 2 digits)
1.0000 to 1.9999 mΩ	0.0001 mΩ		
2.000 to 19.999 mΩ	0.001 mΩ		
20.00 to 199.99 mΩ	0.01 mΩ	10 A / 1 A	
200.0 to 999.9 mΩ	0.1 mΩ	1 A / 0.1 A	
1.0000 to 1.9999 Ω	0.0001 Ω		
2.000 to 19.999 Ω	0.001 Ω	0.1 A	
20.00 to 199.99 Ω	0.01 Ω	10 mA	
200.0 to 1999.9 Ω	0.1 Ω	1 mA	

“m.v.” - measured value

Technical specification

insulation type according to EN 61010-1		double,
measurement category acc. to EN 61010-2-030		III 600 V
ingress protection according to EN 60529	with closed housing	IP67
	with open housing, powered from the battery pack, installed plugs	IP54
	with open housing, powered from mains and/or without plugs	P40
protection against external voltage		up to 600 V AC for 10 s
power supply to battery charger		90 V...265 V 50 Hz...60 Hz 2 A
battery charging time		ca. 3.5 h
number of measurements (of resistive objects) with 10 A current performed when powered from the battery pack		700 to 800 depending on the ambient temperature
maximum wire resistance for 10 A current		300 mΩ
accuracy of measuring current setting		±10%
time of performing the resistance measurement	with selected resistive object type and bidirectional current flow	3 s
	with selected inductive object type, dependent on the resistance and inductance of the object	5 s or more
dimensions		318 x 257 x 152 mm 12.5” x 10.1” x 6.0”
meter weight		ca. 3.5 kg ca. 7.7 lbs
operating temperature		-10°C...+50°C 14°F...122°F
charger operating temperature		0°C...45°C 32°F...113°F
storage temperature		-20°C...+60°C -4°F...+140°F
humidity		20%...90%
reference temperature		23°C ± 2°C 73.4°F ± 3.6°F
reference humidity		40%...60%
temperature coefficient		±0.01% of $^{d.v.}/_{°C}$ ± 0.1 $^{digit}/_{°C}$
time to AUTO-OFF		5 to 45 minutes or option not active, depending on the setting
TFT graphic display		800 x 480 pixels
interface standard		USB, LAN, Wi-Fi
quality standard		design and manufacturing are ISO 9001 compliant
the product meets the EMC requirements (emission for industrial environment) according to		EN 61326-1:2013 and EN 61326-2-2:2013
compliance with FCC Rules		Class A digital device

“d.v.” - displayed value

Standard accessories

Double pin Kelvin probe (2 pcs.)

WASONKEL20GB

Kelvin crocodile (2 pcs)

WAKROKELK06

10 ft (3 m) double-wire cable U2I2

U1/I1
WAPRZ003DZBBU1I1

U2/I2
WAPRZ003DZBBU2I2

temperature probe ST-3

WASONT3

IEC C13 power plug

WAPRZ1X8BLIECUSA

L-11 carrying case

WAFUTL11

Li-Ion rechargeable battery 7.2 V

WAAKU27

USB cable

WAPRZUSB

Factory calibration certificate

Optional accessories

Double-wire cable (10 / 25 A) U1/ I1 6 m / 10 m / 15 m

WAPRZ006DZBBU1I1
WAPRZ010DZBBU1I1
WAPRZ015DZBBU1I1

Double-wire cable (10 / 25 A) U2 / I2 6 m / 10 m / 15 m

WAPRZ006DZBBU2I2
WAPRZ010DZBBU2I2
WAPRZ015DZBBU2I2

33 ft (10 m) double-wire test lead (Kelvin crocodile clip / banana plug)

WAPRZ010DZBKEL

Kelvin vice with cables

WAZACKEL1

Test lead 82 ft (25 m) for measuring low resistance and testing lightning protection of wind turbines

WAADAPRZ025BDP

Test lead 164 ft (50 m) / 246 ft (75 m) / 328 ft (100 m) for measuring low resistance and testing lightning protection of wind turbines

WAADAPRZ050BDP
WAADAPRZ075BDP
WAADAPRZ100BDP

D2 portable USB report / barcode printer (Sato)

WAADAD2

label roll – black on white for D2 printer (SATO)
WANAKD2

ribbon for D2 printer (SATO)
WANAKD2BAR

ST-1 temperature probe

WASONT1

barcode scanner 2D (USB)

WAADACK2D

LAN cable (RJ45)

WAPRZRJ45

Calibration certificate with accreditation