

Professional insulation testing with powerful diagnostic tools

MI 3209 TeraOhmLT 10kV

High Voltage Insulation / Continuity / Earth



The MI 3209 TeraOhm LT 10kV is a portable insulation resistance tester for insulation testing with DC voltages of up to 10 kV. Boasting excellent IP protection (IP65) and being both mains and battery powered, it is at home in even the most demanding working environments.

MEASURING FUNCTIONS

- Insulation measurement;
- Diagnostic test (PI, DAR, DD);
- Step voltage test;
- Withstanding voltage test (DC) up to 10 kV;
- Voltage and frequency measurement up to 550 V TRMS.

KEY FEATURES

- Measurement range of insulation resistance up to 10 TΩ.
- Adjustable test voltage in steps of 50 V (50 V ... 1 kV) and 100 V (1 kV ... 10 kV).
- Programmable timer.
- Capacitance measurement.
- Charging rate for capacitive load < 3 s / μF at 10 kV.
- Automatic discharge of test object after

completion of measurement.

- Guard terminal.
- High voltage breakdown detection.
- Auto adjustment function.
- Measurement results in numerical and graphical form.
- PC software HVLink PRO for downloading and analysing of the test results and test report printing (optional).
- Isolated RS-232 and USB communication ports.
- High quality accessories including shielded test leads in standard set.
- High EM interferences protection: input AC current noise rejection (1 mA∞600 V) and additional averaging of the result (5, 10, 30, 60).
- CAT IV / 600 V.
- Mains and rechargeable battery power supply.

APPLICATION

- Testing of power transformers;
- Measuring transducers in distribution networks;
- Insulation resistance testing of rotating machinery and cables;
- Production line periodic testing and maintenance;
- Troubleshooting and analysis of all kinds of insulation problems;
- Testing of high voltage generators;
- Testing of surge arrestors.

STANDARDS

Electromagnetic compatibility

- EN 61326 class A

Safety

- EN 61010-1 (instrument)
- EN 61010-2-030
- EN 61010-2-033
- EN 61010-031 (accessories)

TECHNICAL SPECIFICATION

FUNCTION	Measuring range	Resolution	Accuracy
Insulation resistance @ 10 kV	0.01 MΩ ... 9.99 MΩ	10 kΩ	±(5% of reading + 3 digits)
	10.0 MΩ ... 99.9 MΩ	100 kΩ	±(5% of reading + 3 digits)
	100 MΩ ... 999 MΩ	1 MΩ	±(5% of reading + 3 digits)
	1.00 GΩ ... 9.99 GΩ	10 MΩ	±(5% of reading + 3 digits)
	10.0 GΩ ... 99.9 GΩ	100 MΩ	±(5% of reading + 3 digits)
	100 GΩ ... 999 GΩ	1 GΩ	±(5% of reading + 3 digits)
	1.0 TΩ ... 9.9 TΩ	100 GΩ	±(15% of reading + 1 digits)
Test voltage	0 V ... 999 V	1 V	±(5% of reading + 3 digits)
	1.00 kV ... 9.99 kV	10 V	
	10.0 kV ... 14.0 kV	100 V	
Insulation leakage current	1.00 mA ... 5.00 mA	10 μA	
	100 μA ... 999 μA	1 μA	
	10.0 μA ... 99.9 μA	100 nA	±(5% of reading + 3 digits)
	1.00 μA ... 9.99 μA	10 nA	
	100 nA ... 999 nA	1 nA	
	10.0 nA ... 99.9 nA	100 pA	
	0.00 nA ... 9.99 nA	10 pA	±(10% of reading + 0.15 nA)
Dielectric absorption ratio (DAR)	0.01 ... 9.99	0.01	±(5% of reading + 3 digits)
	10.0 ... 100.0	0.1	
Polarization index (PI)	0.01 ... 9.99	0.01	±(5% of reading + 2 digits)
	10.0 ... 100.0	0.1	
Dielectric discharge (DD)	0.01 ... 9.99	0.01	±(5% of reading + 2 digits)
	10.0 ... 100.0	0.1	
Voltage AC/DC	5.0 ... 49.9 V	0.1 V	±(2% of reading + 2 digits)
	50 ... 550 V	1 V	
Frequency	10 Hz ... 500 Hz	0.1 Hz	±(0.2% of reading + 1 digits)
Capacitance	20.0 nF ... 999 nF	1 nF	±(5% of reading + 3 digits)
	1.00 μF ... 9.99 μF	10 nF	
	10.0 μF ... 50.0 μF	100 nF	
Nominal mains power supply	100-240 V _{AC} , 45-65 Hz, 100 VA (CAT II / 300 V)		
Battery power supply	12 V _{DC} (3.4 Ah lead-acid)		
Battery operation time	> 3 h continuous testing of 100 MΩ load @ 10 kV > 5 h continuous testing of 100 MΩ load @ 5 kV		
Display	320 x 240 dots matrix display with backlight		
Degree of protection	IP 65 (case closed)		
Overvoltage category	CAT IV / 600 V		
COM port	RS-232, USB		
Dimensions	345 x 160 x 335 mm		
Weight	6.5 kg (with battery and accessories)		

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ORDERING INFORMATION



Standard set MI 3209

- Instrument MI 3209 TeraOhmLT 10 kV
- 10 kV shielded test lead, 2 m, 2 pcs (black, red)
- 10 kV crocodile clip, 2 pcs (black, red)
- Guard test lead, green, 2 m
- Crocodile clip, green
- Mains cable
- Handbook "Guide to modern insulation testing" on storage media
- Instruction manual on storage media
- Calibration certificate

OPTIONAL ACCESSORIES

Photo	Order No.	Acc. description
	S 2029	10 kV shielded test lead, 8 m, 2 pcs (black, red)
	S 2030	10 kV shielded test lead, 15 m, 2 pcs (black, red)
	A 1539 BLK 2M5	10 kV shielded test lead with large black HV test clip, 2.5 m
	A 1639 RED 2M5	10 kV test lead with large red HV test clip, 2.5 m
	A 1655 2M5	Guard test lead, 2.5 m
	A 1744	Large HV test probe with 2m shielded cable and banana connectors
	S 1539 5M	Set 10 kV test leads with large HV test clip, 5 m
	S 1539 10M	Set 10 kV test leads with large HV test clip, 10 m
	S 1539 15M	Set 10 kV test leads with large HV test clip, 15 m
	A 1275	PC SW HVLink with USB & RS-232 cable